UNIVERSITY OF MALAWI

Calendar
2016-2018

Note: This edition of the Calendar is, as far as possible, up to date when published, but the issues covered by the Calendar are subject to change from time to time. Those who need up-to-date information should make specific enquiry to the University Registrar.

The University reserves the right to make changes in regulations, modules, fees, etc. at any time before or after a candidate's admission without notice.

The Chancellor of the University of Malawi

His Excellency Professor Arthur Peter Mutharika

President of The Republic of Malawi

Table of Contents

UNIVERSITY OF MALAWI'S MOTTO, VISION AND MISSION vi
UNIVERSITY'S LEGAL ADVISOR, AUDITORS, BUILDING CONSULTANTS vii
BUILDING CONSULTANTS vii
UNIVERSITY OFFICE AND COLLEGE ADDRESSES vii
UNIVERSITY COUNCIL AND SENATE COMMITTEES 1
UNIVERSITY OF MALAWI STAFF LIST 9
UNIVERSITY OFFICE 9
CHANCELLOR COLLEGE 12
FACULTY OF HUMANITIES 16
FACULTY OF LAW 21
FACULTY OF SCIENCE 22
FACULTY OF SOCIAL SCIENCE 26
COLLEGE OF MEDICINE 30
FACULTY OF MEDICINE 31
FACULTY OF BIOMEDICAL SCIENCES AND HEALTH PROFESSIONS 34
FACULTY OF PUBLIC HEALTH AND FAMILY MEDICINE
TEACHING STAFF 40
FACULTY OF NURSING 41
FACULTY OF MIDWIFERY, NEONATAL & REPRODUCTIVE HEALTH STUDIES 44
POLYTECHNIC 46
ADMINISTRATION 46
LIBRARY 47
FACULTY OF APPLIED SCIENCES 47
FACULTY OF COMMERCE 53
FACULTY OF EDUCATION AND MEDIA STUDIES 56
FACULTY OF ENGINEERING 58
HISTORICAL AND CONTEXTUAL BACKGROUND OF THE UNIVERSITY 63
COLLEGES 63
RESEARCH CENTRES 66
UNIVERSITY OF MALAWI LIBRARY REGULATIONS 69
ACADEMIC DRESS 74
GENERAL STUDENT INFORMATION 76

APPLICATION PROCEDURE 77
GENERAL ELIGIBILITY REQUIREMENTS 78
ADMISSION ARRANGEMENTS 79
ADMISSIONS INTO LAW PROGRAMMES 79
FEE (FINANCIAL CONTRIBUTION) STRUCTURE 80
AWARDS, PRIZES AND SCHOLARSHIPS 81
STUDENTS' AFFAIRS 82
UNIVERSITY OF MALAWI ALUMNI ASSOCIATION 83
CHANCELLOR COLLEGE 86
BASIC FIRST DEGREE STRUCTURE 86
PROGRAMME DETAILS BY SCHOOL/FACULTY 87
SCHOOL OF EDUCATION 87
PROGRAMME DETAILS 90
Bachelor of Education in Biological Sciences 90
Bachelor of Education in Chemistry (with Physics as minor) 109
Bachelor of Education in Chemistry (with Biology as minor) 124
Bachelor of Education in Chemistry (with Mathematics as minor) 141
Bachelor of Education in Computer Sciences 157
Bachelor of Education in Physics (with Mathematics as minor) 176
Bachelor of Education in Physics (with Chemistry as minor) 191
Bachelor of Education in Physics (with Computer Science as minor) 196
Bachelor of Education Generic 198
Department of Curriculum and Teaching Studies (CATS) 199
Department of Educational Foundations 203
FACULTY OF HUMANITIES 222
Undergraduate Programmes Details 222
Department of African Languages and Linguistics 223
Department of Classics 235
Department of English 241
Department of Fine and Performing Arts 252
Department of French 274
Department of Language and Communication Skills 282
Department of Philosophy 302

Department of Theology and Religious Studies 318
FACULTY OF LAW 326
FACULTY OF SCIENCE 333
Undergraduate Programmes 333
Postgraduate Programmes 334
Department of Biological Sciences 335
Department of Chemistry 347
Department of Computer Sciences 363
Department of Geography and Earth Sciences 403
Department of Human Ecology 430
Department of Mathematical Science 438
Department of Physics 478
Faculty Programmes 506
FACULTY OF SOCIAL SCIENCE 519
Undergraduate Programmes 519
Postgraduate Programmes 520
Department of Economics 520
Department of History 533
Department of Political and Administrative Studies 540
Department of Psychology 560
Department of Sociology 569
Department of Population Studies 609
COLLEGE OF MEDICINE 616
FACULTY OF MEDICINE 616
Undergraduate programmes 616
Postgraduate programmes 616
FACULTY OF MEDICINE 617
Undergraduate programmes 617
Postgraduate Programmes 688
BIOMEDICAL SCIENCE AND HEALTH PROFESSIONS 722
Undergraduate programmes 722
Department of Pharmacy 729
Department of Physiotherapy 736

SCHOOL OF PUBLIC HEALTH AND FAMILY MEDICINE 756
Department of Health Systems and Policy 756
Department of Community Health 762
Postgraduate Programmes 763
KAMUZU COLLEGE OF NURSING..... 780
KCN Programs 780
Faculties, Programmes and Modules 781
Integrated Programmes 782
Bachelor of Science in Nursing and Midwifery 782
FACULTY OF NURSING 789
Department of Basic Studies 789
Department of Community and Mental Health Nursing 793
Department of Medical/Surgical Nursing.....811
Department of Clinical Nursing..... 842
FACULTY OF MIDWIFERY, NEONATAL AND REPRODUCTIVE HEALTH STUDIES842
Department of Midwifery 842
Department of Clinical Studies..... 863
THE POLYTECHNIC..... 869
FACULTY OF APPLIED SCIENCES..... 869
Diploma Programmes 869
Undergraduate programmes..... 869
Postgraduate Programmes 869
FACULTY OF BUILT ENVIRONMENT 869
Undergraduate Programmes 870
FACULTY OF COMMERCE 870
Undergraduate Programmes 870
Postgraduate Programmes 870
FACULTY OF EDUCATION AND MEDIA STUDIES 870
Undergraduate Programmes 870
Postgraduate Programmes 871
FACULTY OF ENGINEERING..... 871
Diploma Programmes 871
Undergraduate Programmes 871

Postgraduate Programmes 872
FACULTY OF POSTGRADUATE STUDIES AND RESEARCH 872
FACULTY OF APPLIED SCIENCES 873
Department of Physics and Biomedical Sciences 873
Postgraduate Prodgrammes 907
Department of Environmental Health 914
Postgraduate Programmes 928
Department of Computing and Information Technology 932
Department of Mathematics and Statistics 964
FACULTY OF BUILT ENVIRONMENT 976
Bachelor of Science in Architectural Studies 976
Department of Land Economy and Quantity Surveying 983
Department of Land Surveying and Physical Planning 1031
FACULTY OF COMMERCE 1055
Department of Accountancy 1055
Department of Business Administration 1083
Department of Management Studies 1117
Postgraduate Programmes 1156
FACULTY OF EDUCATION AND MEDIA STUDIES 1161
Department of Language and Communication 1161
Department of Technical Education 1191
FACULTY OF ENGINEERING 1232
Department of Civil Engineering 1232
Department of Civil Engineering 1242
Department of Electrical Engineering 1269
Postgraduate Programmes 1394
Department of Mechanical Engineering 1406
Undergraduate Programmes 1406

UNIVERSITY OF MALAWI'S MOTTO, VISION AND MISSION

MOTTO

Knowledge Lights Wisdom

VISION

To be the centre of excellence in higher education for sustainable development of Malawi and the region.

MISSION

To advance knowledge and to promote wisdom and understanding by engaging in teaching, research, consultancy, public and community engagement and by making provision for the dissemination, promotion and preservation of learning responsive to the needs of Malawi and to global trends.

UNIVERSITY'S LEGAL ADVISOR, AUDITORS, BUILDING CONSULTANTS

LEGAL ADVISOR

KALEKENI KAPHALE LAWYERS

Top Floor, Imtrust House, Haile Sellasie Road
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e-mail: kalekenikaphale@yahoo.com

AUDITORS

GRAHAM CARR & CO
7th Floor Delamere House
Victoria Avenue
P.O. Box 1411
Blantyre, MALAWI

BUILDING CONSULTANTS

MESSRS NORMAN & DAWBARN

P.O. Box 1046
Blantyre, MALAWI

UNIVERSITY OFFICE AND COLLEGE ADDRESSES

Communications to University Office and Constituent Colleges should be addressed as follows:

University Registrar

University of Malawi
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Zomba , MALAWI.
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Website: www.unima.mw

The Principal

Chancellor College
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Website: www.cc.ac.mw

The Principal

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The Principal

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The Principal

The Polytechnic
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Email: principal@poly.ac.mw
Website: www.poly.ac.mw

UNIVERSITY COUNCIL AND SENATE COMMITTEES

The following is the Membership to University Council and Senate Committees for 2017:

Council Members

Dr James H.A. Maida,	-	Chairman
Mrs Videlia Mluwira	-	Vice Chairperson
Mr Limbani Nsapato	-	Representative, Alumni Association
Mrs Betty Mahuka	-	Co-opted Councillor
Professor Moira Chmombo	-	Co-opted Councillor
Professor Lewis Mughogho	-	Councillor
Professor Stuart Ligomeka	-	Comptroller of Statutory Corporation
Mr Chauncy Simwaka	-	Budget Director for Secretary to Treasury
Mr Mike Majabula	-	Department of Human Resources Management and Development
Dr Ken Ndala	-	Secretary to Education, Science and Technology
Prof. John Kalenga Saka	-	Vice-Chancellor
Dr Benedicto W. Malunga	-	University Registrar
Prof. Grant Kululanga	-	Principal, Polytechnic
Prof. Richard Tambulasi	-	Principal, Chancellor College
Dr Mercy Pindani	-	Principal, Kamuzu College of Nursing
Dr Mwapatsa Mipando	-	Principal, College of Medicine
Dr Lewis Eneya	-	Senate Rep. on Council, Chancellor College
Dr Benard Thole	-	Senate Rep. on Council, Polytechnic
Dr Chisomo Msefula	-	Senate Rep. on Council, College of Medicine
Dr Getrude Mwalabu	-	Senate Rep. on Council, Kamuzu College of Nursing
Mr Tiwonge Sikwese	-	UMSU Rep. on Council
Ms Temweka Gondwe	-	UMSU Rep. on Council

Senate Representatives to Council (4)

Dr. Benard Thole	-	The Polytechnic
Dr. Levis Eneya	-	Chancellor College
Dr. Getrude Mwalabu	-	Kamuzu College of Nursing
Dr. Chisomo Msefula	-	College of Medicine

UMSU Representatives to Council (2)

Ms Temweka Gondwe	-	College of Medicine
Mr. Fiskan Movete Nkhoma	-	Chancellor College

By invitation:

Kalekeni Kaphale Lawyers	-	University Legal Advisor
University Finance Officer	-	University Office
University Internal Auditor	-	University Office
University Registrar	-	Secretary, University Office
Deputy University Registrar	-	Secretary, University Office

SENATE

Vice-Chancellor	-	Chairperson
Pro Vice-Chancellor	-	University Office
Principal	-	Chancellor College
Principal	-	College of Medicine
Principal	-	Kamuzu College of Nursing
Principal	-	Polytechnic
Dr. B. Thole	-	Dean of Applied Sciences
Dr. C. Msefula	-	Dean of Biomedical Sciences and Health Profession
Mr. R.L. Chilipunde	-	Dean of Built Environment
Mr. S. Chintengo	-	Dean of Commerce
Dr. S. Chiziwa	-	Dean of Education
Dr. M. Kamwaza	-	Dean of Education and Media Studies
Dr. T. Mkandawire	-	Dean of Engineering
Dr. J. Bakuwa	-	Dean of Humanities
Dr. G. Kamchedzera	-	Dean of Law
Prof. N. Mkandawire	-	Dean of Medicine
Dr. U. Kafulafula	-	Dean of Midwifery, Neonatal and Reproductive Health
Prof. K. Phiri	-	Dean of Public Health and Family Medicine
Dr. G. Mwalabu	-	Dean of Nursing
Dr. L.K. Eneya	-	Dean of Science
Dr. P. Kapulula	-	Dean of Social Science

Dr. K. Wella	-	Chair, Committee of UNIMA College Librarians
Deputy University Registrar	-	Secretary

Faculty Representatives to Senate

Applied Sciences	-	Mr. C. Tenthani
Biomedical Sciences and Health Profession	-	Prof. J. Chisi
Built Environment	-	Mrs. G. Khumalo
Commerce	-	Mr. F. Banda
Education and Media Studies	-	Mr. M. Kanyang'wa
Education	-	Dr. N. Mbano
Engineering	-	Dr. I. Ngoma
Humanities	-	Dr. S. Kankuzi
Law	-	Mr. C. Banda
Midwifery, Neonatal and Reproductive Health	-	Dr. L. Kumbani
Public Health and Family Medicine	-	Dr. B. Mbewe
Nursing	-	Dr. M. Nyando
Science	-	Dr. V. Ndolo
Social Science	-	Dr. A. Chiweza
Student Representative	-	Mr. Sikwese

APPOINTMENTS COMMITTEE

Prof. John Kalenga Saka	-	Chairperson
Mr Mike Majabula	-	DHRMD
Mr Phiko Kavinya	-	DSC
Prof. Grant Kululanga	-	Principal, Polytechnic
Prof. Richard Tambulasi	-	Principal, Chancellor College
Dr Mwapatsa Mipando	-	Principal, College of Medicine
Dr Mercy Pindani	-	Principal, Kamuzu College of Medicine
Prof. Nyengo Mkandawire	-	Senate Rep. on Council
Prof. Lewis Mughogho	-	Councillor
Prof. Moira Chimombo	-	Co-opted, Councillor
Ashanie Gawa	-	For: University Registrar, Secretary

ACADEMIC COURSES/ACADEMIC PLANNING COMMITTEE

Vice Chancellor	-	Chairperson
Vice Principal	-	Chancellor College
Vice Principal	-	College of Medicine
Vice Principal	-	Kamuzu College of Nursing
Vice Principal	-	Polytechnic
Deputy Dean	-	Faculty of Applied Sciences
Dr. J. Mwalija	-	Deputy Dean of Biomedical Sciences and Health Profession
Deputy Dean	-	Faculty of Built Environment
Deputy Dean	-	Faculty of Commerce
Dr. M. Salanjira	-	Deputy Dean of Education
Mr. V. Chikoti	-	Deputy Dean of Education and Media Studies
Deputy Dean	-	Faculty of Engineering
Dr. T. Lipenga-Garnet	-	Deputy Dean of Humanities
Ms. T. Chome	-	Deputy Dean of Law
Dr. A. Phiri	-	Deputy Dean of Medicine
Dr. A. Kazembe	-	Deputy Dean of Midwifery, Neonatal and Reproductive Health
Dr. J. Phuka	-	Deputy Dean of School of Public Health and Family Medicine
Mr Anthony Sefasi	-	Deputy Dean of Nursing
Dr. C. Mikeka	-	Deputy Dean of Science
Mrs. L. Senganimalunje	-	Deputy Dean of Social Science
Dr. K. Wella	-	Chair, Committee of UNIMA College Librarians
Deputy University Registrar	-	Secretary

Senior Academic College Representatives (ACC/APC)

Chancellor College	-	Dr. J.J. Namangale
College of Medicine	-	Dr. P. Kayange
Kamuzu College of Nursing	-	Mr W. Chikazinga
Polytechnic	-	Dr. S. Masangwi

COMMITTEE ON UNIVERSITY TEACHING AND LEARNING

Principal	-	Kamuzu College of Nursing-Chairperson
Dr. S. Chiziwa	-	Chancellor College CUTL Chair
Dr. K. Wella	-	Chair, Committee of UNIMA College Librarians
Mrs R.C. Ngalande	-	Kamuzu College of Nursing CUTL Chair
Dr. E. Kaphesi	-	Polytechnic CUTL Chair
Mr. A. Kasambara	-	Representative, Faculty of Applied Sciences
Dr. E. Thomson	-	Biomedical Sciences & Health Professions
Mr. R. Muheya	-	Representative Faculty of the Built Environment
Mrs. E. Mfutso Brngo	-	Representative, Faculty of Commerce
Mrs. S. Namalima	-	Representative, Faculty of Education & Media Studies
Mr. G. Salima	-	Representative, Faculty of Engineering
Mr. J.Bisika	-	Representative Faculty of Education
Dr. M. Kamanga	-	Representative, Faculty of Humanities
Mr. C. Banda	-	Representative, Faculty of Law
Dr. W. Mulwafu	-	Representative, Faculty of Medicine
Midwifery Representative	-	Faculty of Midwifery, Neonatal and Reproductive Health
Mr. J. Mfuni	-	Representative, Faculty of Nursing
Dr. C. Mangani	-	Representative, Public Health and Family Medicine
Mrs. M. Kumwenda	-	Representative, Faculty of Science
Dr. J. Tizifa	-	Representative, Faculty of Social Science
Dr. A.M. Chauma	-	Head, Curriculum and Teaching Studies
Assistant Registrar (Academic)	-	Secretary

JOINT UNIVERSITY INFORMATION AND COMMUNICATION TECHNOLOGY COMMITTEE (ICT) AND LIBRARY

Prof. R. Tambulasi	-	Chairperson
Dr L. Eneya	-	Chancellor College ICT Chairperson
Dr. M. Mallewa	-	College of Medicine ICT Chairperson
Dr. N. Chitera	-	Polytechnic ICT Chairperson

Mr. F. Mtemangombe	-	Representatice, Faculty of Education
Dr. Y. Ndasauka	-	Representative, Faculty of Humanities
Mr. L. Bande	-	Representative, Faculty of Law
Dr. K. Munthali	-	Representative, Faculty of Science
Mr. J. Chingwalu	-	Representative, Faculty of Social Science
Dr. A. Msusa	-	Representative, Faculty of Medicine
Dr. B. Kumwenda	-	Representative, Faculty of Biomedical Sciences and Health Professions
Dr. A. Kumitawa	-	Representative, Faculty of Public Health & Family Medicine
Mr. A. Lipunga	-	Representative, Faculty of Commerce
Mr. J. Jimu	-	Representative, Faculty of Education and Media Studies
Mr. B. Kasowanjete	-	Representative, Faculty of Built Environment
Mr. G. Nyirenda	-	Representative, Faculty of Applied Sciences
Mr. A. Vweza	-	Representative, Faculty of Engineering
College Librarian	-	Chancellor College
College Librarian	-	KCN
College Librarian	-	College of Medicine
College Librarian	-	Polytechnic
Mr. S. Dindi	-	ICT Director, Chancellor College
Mr. C. Gremu.	-	ICT Director, College of Medicine
Mr. C. Maere	-	ICT Director, Kamuzu College of Nursing
Mr. V. Funsani	-	ICT Director, Polytechnic

Senior Assistant Finance Officer, University Office

Assistant Registrar (Communication), **Secretary**

UNIVERSITY RESEARCH AND PUBLICATIONS COMMITTEE

Prof A Mtenje	-	Pro Vice-Chancellor, Chairperson
Dr. W. Mulwafu	-	Dean, Postgraduate Studies & Research, CC
Dr. B. Gombachika	-	Dean, Postgraduate & Research, KCN
Prof. Lampiao	-	Dean of Postgraduate Studies & Research, COM
Dr P. Mhagama	-	Dean of Postgraduate Studies & Research, P
Dr. M. Katundu	-	Chairperson of RPC, Chancellor College

Dr. A. Muula	-	Chairperson of RPC, College of Medicine
	-	Chairperson of RPC, Kamuzu College of Nursing
	-	Chairperson of RPC, Polytechnic
Prof. M. Bengo	-	Chairperson Research and Ethics Committee, COM
Dr. D Maluwa Banda	-	Director, Centre for Education Research and Training (CERT)
Dr. W. Mkochi	-	Director, Centre for Language Studies (CLS)
Prof. B. Chinsinga	-	Director, Centre for Social Research (CSR)
Dr. J. Namangale	-	Coordinator, Natural Resources Environment Centre (NAREC)

University Finance Officer
Representative, National Commission for Science and Technology (NCST)
Assistant Registrar (Academic), **Secretary**

SENATE APPEALS COMMITTEE

Prof. W.C. Chirwa	-	Chancellor College, Chair.
Prof. W. Stones	-	College Medicine
Prof. J. Mfutso-Bengo	-	College of Medicine
Prof. S.S. Chiotha	-	Chancellor College
Prof. E.W. Chirwa	-	Chancellor College
Prof. L.B. Dzimbiri	-	Chancellor College
Prof. P.K. Kishindo	-	Chancellor College
Prof. P.J. Kishindo	-	Chancellor College
Prof. E. Kayambazinthu	-	Chancellor College
Prof. J. Khomba	-	Polytechnic
Prof. B.J. Uledi-Kamanga	-	Chancellor College

University Registrar (Secretary)

POSTGRADUATE COMMITTEE

Prof. W. Mulwafu	-	Dean, Postgraduate Studies & Research, CC
Prof. F. Lampiao	-	Dean, Postgraduate Studies & Research, COM
Dr. A. Chimwaza	-	Dean, Postgraduate Studies & Research, KCN
Dr. P. Mhagama	-	Dean, Postgraduate Studies & Research, P
Mr. L. Majawa	-	Repressentative, Faculty of Built Environment

Mr. K. Gondwe	-	Representative, Faculty of Applied Sciences
Dr. R. Bakuwa	-	Representative, Faculty of Commerce
Dr. M. Mwabumba	-	Representative, Faculty of Development Studies
Dr. E. Kunkwenzu	-	Representative, Faculty of Education
Dr. M. Juwayeyi	-	Rep., Faculty of Educ.& Media Studies
Dr. S. Kaunda	-	Representative, Faculty of Engineering
Dr. G. Kayange	-	Representative, Faculty of Humanities
Dr. N. Mweso	-	Representative, Faculty of Law
Dr. Neil Kennedy	-	Representative, Faculty of Medicine
	-	Representative, Faculty of Nursing
Mr. W. Chitaukali	-	Representative, Faculty of Science
Dr. B. Dulani	-	Representative, Faculty of Social Science
Dr. K. Wella	-	Chair, Committee of UNIMA College Librarians

Assistant Registrar (Academic), **Secretary**

FINANCE COMMITTEE OF THE UNIVERSITY COUNCIL

Mrs Videlia Mluwira	-	Chairperson
Mr Chauncy Smwaka	-	For Secretary to Treasury, Director of Budget
Mr Stewart Ligomeka	-	Comptroller, Statutory Corporation
Mr K. Nsandu	-	For Secretary for Education
Mrs Betty Mahuka	-	Co-opted, Councillor
Dr Levis Eneya	-	Senate Rep. on Council
Mr Chimtengo	-	Senate Rep. on Council
Prof. Richard Tambulasi	-	Principal, Chancellor College
Professor Grant Kululanga	-	Principal, Polytechnic
Dr Mwapatsa Mipando	-	Principal, College of Medicine
Dr Mercy Pindani	-	Principal, Kamuzu College of Nursing
Prof. J. Saka	-	Vice-Chancellor
Mr Henry Chiwaya	-	UFO – For: University Registrar, Secretary

AUDIT COMMITTEE OF THE UNIVERSITY COUNCIL

Chairman of Council	-	Dr. James Maida
Secretary for Education	-	Dr. K. Ndala

Secretary to the Treasury	-	Mr. C. Simwaka
Secretary for Public Service Management	-	Mr. M. Majabula
Comptroller of Statutory Corporation	-	Mr. S. Ligomeka
Vice-Chancellor (Ex-Officio)	-	University Office
Principal (Ex-Officio)	-	Chancellor College
Principal (Ex-Officio)	-	College of Medicine
Principal (Ex-Officio)	-	Kamuzu College of Nursing
Principal (Ex-Officio)	-	Polytechnic
Council Representative	-	Dr. L. Eneya
Senate Representatives	-	Dr S. Chiziwa (Chancellor College)
	-	Dr S. Chimtengo (Polytechnic)
Secretariat	-	University Registrar
	-	University Internal Auditor

COMMITTEE FOR THE DEVELOPMENT OF UNIMA STRATEGIC PLAN FOR 2017 – 2027 MEMBERS

Prof. A. Mtenje	-	Pro Vice-Chancellor, University Office, Chairperson
Dr. B.W. Malunga	-	University Registrar, University Office
Prof. L. Dzimbiri	-	Faculty of Social Science, Chancellor College
Dr. L. Eneya	-	Faculty of Science, Chancellor College
Prof. A. Muula	-	Faculty of Public Health and Family Medicine, College of Medicine
Dr. M. Pindani	-	Acting Vice Principal, Kamuzu College of Nursing
Dr. K. Wella	-	Librarian, Kamuzu College of Nursing
Mr C. Mwatsika	-	Faculty of Commerce, Polytechnic
Mr H. Chiwaya	-	University Finance Officer, University Office
Mr S. Masuso	-	University Internal Auditor, University Office
Prof V. Mwapasa	-	Postgraduate Research, College of Medicine
Prof E. L. Kayambazinthu	-	Faculty of Humanities, Chancellor College
Prof S. Sajidu	-	Vice Principal, Chancellor College
Mrs M. Longwe	-	College Registrar, College of Medicine
Dr. M. Mallewa	-	Vice Principal, College of Medicine

Dr. D. Jere	-	Faculty of Nursing, Kamuzu College of Nursing
Dr. E. Sankhulani	-	Faculty of Commerce, Polytechnic
Dr. N. Chitera	-	Vice Principal, Polytechnic
Mr K. Mkandawire	-	Faculty of Commerce, Polytechnic
Prof J. Khomba	-	Faculty of Commerce, Polytechnic
Mrs G. Mwale	-	UWTU, Kamuzu College of Nursing
Mr. M. Namandwa	-	UWTU, Polytechnic
Mrs C. Mnyanga	-	Senior Assistant Registrar, (Planning), **Secretary**

ACADEMIC AND ADMINISTRATIVE STAFF WELFARE COMMITTEE

Dr. A. Gunde	-	Chancellor College Academic Staff Union
Dr. E. Senga	-	College of Medicine A&A Welfare Committee
Ms. Maureen Majamanda	-	Kamuzu College of Nursing Welfare Committee
Dr. A. Mwanyungwe	-	Polytechnic Academic Staff Committee on Welfare

UNIVERSITY OF MALAWI STAFF LIST

Chancellor

His Excellency Prof. Arthur Peter Mutharika

Chairperson of Council

Dr. James Maida

UNIVERSITY OFFICE

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Telephone: (265) 1 524 282/ 060/ 526 622
Fax: (265) 1 524 760/ 1 524 297/ 1 524 031/ 1 524 357
E-Mail: registrar@unima.mw
Website: www.unima.mw

University Administration

Vice Chancellor	Saka, J.D.K.	BSc, BSc (Hons) *Mlw*, PhD *E Anglia*
Pro Vice Chancellor	Mtenje, A.D.	BEd *Mlw*, MA *S. Illinois*, PhD *Lond*
University Registrar	Malunga, B.W.	DipEd, BEd *Mlw*, MEd *Manc*, DBA *Bath*
Deputy University Registrar	Gawa, A.Q.C.	BEd *Mlw*, LLB *Mlw*, MBA *Mlw*

Estates

University Estates Development Officer	Chilumpha, U.K	Bsc Arch. *Mlw*

Finance

University Finance Officer	Chiwaya, H.C.	BSocSc *Mlw*, ACCA Part 1, MBA *Esami*
Senior Assistant Finance Officer	Kasinje D.	BAcc *Mlw, MBA, Esami*
Assistant Finance Officer	Maulana, D.	BAcc *Mlw*, ACCA

Audit

University Internal Auditor	Masuso, S.G.	CIA, FCCA, ACIS, ACMA, CPA (M) Acc), *Mlw*

Planning

Senior Assistant Registrar (Planning)	Mnyanga, C.	BA (PA) *Mlw,* CIMA Foundation, MBA *Mlw*

Sports

Senior Assistant Registrar (Sports)	Chizimba, E.	BEd *Mlw*

Admissions

Assistant Registrar	Machado, F.	BEd *Mlw*, PGDip, MA (Mgmt) *Wits*

Academic

Assistant Registrar	Namagowa, C.	BEd *Mlw*, MA

Communications & Marketing

Assistant Registrar	Vacant

Human Resouce

Assistant Registrar	Vacant

Procurement

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Health Systems & Policy

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Kazanga, I.	BSc,*Mlw* , MSc, PhD,*Dublin*.	Lecturer
Thom-Chisale, L.	BA HRM, MBA, Adv hospital mgt, Dip Nursing	Lecturer
Nyondo-Mipando, L.	BSc *(SA),* MN-CH *(SA),*PhD,*Mlw*	Lecturer
Kalanga, N.	MBBS *Mlw*, MMSc *USA*	Lecturer
Jumbe, V.	BSc humanities,*Mlw*, EMMB *Bergium*, MPH *Mlw*.	Doctoral fellowship
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Calendar 2016-2018

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Phiri. K.	MBBS *Mlw*, MSc, DLSHT *lond*, PhD *l'pool*	Professor
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Maleta, K.	MBBS *Mlw,* PhD,*Tampere*	Professor
Misiri, H.E.	BSocSc *Mlw*, MSc,*Limburgs*	Snr. Lecturer
Muula, A.S.	MBBS *Mlw,* MPH,*Loma Linda,* PhD,*UNC*, CPH *NBPHE*	Professor
Mathanga, D.	MBBS *Mlw,* MPH, PhD,*Mich*	Snr. Lecturer
Kumitawa, A.	BSc, MSc M*lw*	Lecturer
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Family Medicine

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[©]Van Goor, M.	Medical degree, family medicine Specialist *Netherlands*	Lecturer
Nnenula, M.C.	MBBS *Mlw*	Assistant Lecturer

Research Support Centre

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College Registrar	Kambwiri, L.	BSc ICT, MSc (ICT) *Mlw*
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E-learning Officer	Konyani, B	BSc (CompSc) *Mlw*, MCP (Microsoft)

LIBRARY

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TEACHING STAFF

Dean of Postgraduate Studies:	Gombachika, B.	DipN, MRN, MRM, BSc(NursEd) *Mlw,* MPhil HealthSc (Nurs), *Bergen*, PhD (Nurs), *Oslo*

FACULTY OF NURSING

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Basic Studies

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Mandalazi, P.	BSc *Mlw,* MSc *Aberd*	Lecturer
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Mbendera, K. I.	BEd *Mlw,* MEd *Manc,* PhD *Alberta*	Lecturer
©Mfuni, Joseph, H.C.	BEd *Mlw*, MEd, *Botswana*	Snr. Lecturer
Muocha, M.L.	BA (SocSc/Theol) *American Baptist,* MSc (Psy) *Tenn State*,	Lecturer
Ngwale, M.	DipEng, BSc (Tech Ed) *Mlw,* M.Phil(MathsEd.) *Lough*, Dip LSHTM (MedStat), MSc (MedStat) *Lond* PhD(HealthSc) *KwaZulu Natal*	Snr. Lecturer
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Kabuluzi, E. S.	DipN, BSc(NursEd), MRN, MRM, *Mlw,* MSN *UCT* PhD *Manchester*	Lecturer
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FACULTY OF MIDWIFERY, NEONATAL & REPRODUCTIVE HEALTH STUDIES

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Kumbani, L. C.	DipNurs, MRM, BSc (NursEd) *Mlw,* MSN *Wits*, PhD *Oslo*	Associate Prof.
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College Chaplain	M'banga, P.E.	DipTheo *ZTC*, BA(Theo),*Mlw,* MTheo,*Toronto*

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FACULTY OF APPLIED SCIENCES

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Computing and Information Technology

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[F]Kaunda, A.	Bcom(BusInfo) (Hons), Bcom(Info) *UNISA,* MSc(Info) *Mlw*	Lecturer
Mussa, P.	BSc *Mlw*	Asst Lecturer
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Environmental Health

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Mathematics and Statistics

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*Kamndaya, M.S.W.	BEd, MSc *Mlw*	Lecturer
Kankuzi, B.	BSc,*Mlw*, MSc(ComputSc) *Botswana,* PhD(ComputSc) *Eastern Finland*	Lecturer
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Kosamu, I.	DipLabTech, BSc *Mlw,* MSc *Delft*	Associate Prof
*Tsakama, M.	DipLabTech, BSc,*Mlw,* MSc(FoodSc*)*	Senior Lecturer
Tenthani, C.	BSc(EST)*Mlw* ,(Renewable Energy), *Makerere*	Senior Lecturer
Kaonga, C.	BSc (EST), MSc (EnvSc) *Mlw,* PhD (Environ Sc) *Hiroshima*	Senior Lecturer
Chamba, M.	BEd, MA(pub Hlth) *Mlw,* PhD(Food Nutrition & Safety) *Jiangnan*	Senior Lecturer
Chirembo, D.	BSc, BSc (Hons), MSc,*Mlw*	Lecturer
*Utembe Phiri, W.	BSc, BSc (Hons),*Mlw,* MSc (Env),*Malaysia*	Lecturer
*Mapoma, H.	BSc,*Mlw,* MSc(EnvSanitation), *Belgium*	Lecturer
Kapenda, L.	BSc(EleEng), MSc(EleEng),*USA*	Lecturer
[F]*Kawaye, F.	BSc (EST) *Mlw,* MSc(EnvMgnt), *Queeslands*	Lecturer
*Tembo, D.	BEd, MSc (Applied Chem), *Mlw*	Lecturer
[F]Ngomwa, T.	BSc *Mlw,* MSC(Genetics) *Bruswick*	Lecturer
[F]Banda, G.	BSc *Mlw,* MSc (Phys &Biochem Sc) *Merbune*	Lecturer
*Ching'anda, C.	Bsc (EnvSc &Tech),*Mlw*, MSc (FoodSc), *Michigan*	Lecturer
[F]Katengeza, E.W.	BSc(EnvSc & Tech) *Mlw*, Msc(Medc Phys), *Surrey*	Lecturer
[F]Mlowa, T.	BSc(EnvSc & Tech) *Mlw*	Asst Lecturer
[F]Chimimba, U.	BSc(EnvSc & Tech) *Mlw*	Asst Lecturer
Kachaje, O.	BSc(EnvSc & Tech) *Mlw*	Staff Associate
Chisanu, L.	BSc(EnvSc & Tech) *Mlw*	Staff Associate
[F]Mawenda	BSc(Chemistry) *Mlw*	Staff Associate
Moyo, R.	BEd Mlw	Staff Associate
Kamwachale, M.S.R.	Dip(IndLabTech), BSc(EnvSc & Tech) *Mlw*	Demonstrator

FACULTY OF BUILT ENVIRONMENT

Dean	Chlipunde, R.L.	QS Tech Part I & II & G, BSc (Construction Econs) BSc (Qnty Surv), MSc (Built Env), *Nelson Mandela*

Architecture

Bonongwe, F.O.	DipArch, BArch *Mlw,* MSc *Tokyo*	Lecturer &Head of Dept
Gundasi, K.	BSc *Mlw,* RIBA	Snr. Lecturer
De Maat, R.	MSc(BuildEng) *Netherlands*	Lecturer
Musopole, S.	DipArch *Mlw,* DEPAPrep, DEPAPostgrad. *France*	Lecturer
[F]Khumalo, G.	Dip, BArch *Mlw,* MSc(Housing) *Wits*	Lecturer
[+++]Namaona, T.	DipArch, BArch *Mlw*, MSc(Arch)	Lecturer
Chirwa, K.F.	DipArch, BArch *Mlw*	Asst. Lecturer
Malithano, M.	DipArch, BArch *Mlw*	Staff Associate
Ngwira, F.	BArch, *Mlw*	Staff Associate
Sambo, W.	BArch, *Mlw*	Staff Associate

Quantity Surveying

Banda, M.G.	Higher Cert(Bus), Cert(Property Evaluation), BBA MSc,*Hill*	Lecturer & HOD
Chilipunde, R.L.	QS Tech Part I & II*C&G*, BSc (ConstructionEcons),BSc(Qnty Surv), MSc(BuiltEnv) *Nelson Mandela*	Snr. Lecturer&Head of Dept
Zuka, S.	Cert ICT, Cert HRL, BEd, MA(Dev Std),*Mlw,* MA(UrbanPlanning), *Reading*	Snr. Lecturer
Nkosi, L.	BSc(Urban Estate Mgnt),*Westminster*, BSc *Mlw*, PG(Valuation Practice) *Malasia*, MA(Real Estate) *Pretoria*	Lecturer
Chiotcha, C.I.M.	QS Tech Part I & II*C&G*,BSc(ConstructionEcons) BSc(Qnty Surv), MSc(BuiltEnv), *Nelson Mandela*	Lecturer
*Mbewe, P.	BSc (CivEng) *Mlw,* MSc *Stellenbosch*	Lecturer
[F]Sukasuka, G.	Cert (QntySurv), BSc (QntySurv),MSc(QntySurv), *Glassgow*	Lecturer
Phula, M.	BEd *Mlw*, MSc *Royal Agriculture College*	Lecturer
Chiwaya, K.T.	BSc(Qnty surv), BSc(Constrn Econs),*Nelson*	Asst. Lecturer
*Khambadza, P.	BSc(QntySurv) *Mlw*	Asst. Lecturer
Namangale, D.	BSc (Land Mgnt) *Mzuzu*	Staff Associate
[F]Kaima, A.K.	BSc(QntySurv) *Mlw*	Staff Associate
Simukonda, W.	BSc(QntySurv) *Mlw*	Staff Associate
Dziwe, A.	BSc(QntySurv) *Mlw*	Staff Associate
Jumbe, C.	BSc(Land Surv) *Mlw*	Staff Associate
Kafodya, D.	BSc(Land Surv) *Mlw*	Staff Associate
Nakutepa, J.	Dip Photogrammetry, Dip Geoinformatics *ITC-Netherlands,* Cert(Digital mapping) *AOC-RSA,* BSc,*Mlw*	Instructor

Land Surveying

[F]Msasa, C.	Dip(GeoInfo), MSc(GeoInfomatics),*Netherlands*	Lecturer &Head of Dept
Chikhwenda, E.J.W.	BSc (Surv), MSc *Lond,* PhD *Vienna,* MSIM, (Registered Land Surveyor)	Snr. Lecturer
Kacheche, B.	BSc *Mlw,* MA *Nair,* PGDip, RIPA *UK*	Snr. Lecturer
Nkwanda, P.	BSc, MSc *Mlw*	Snr. Lecturer
Liuma, F.M.	BSc (Hons),PGDip (Photogrammetry), *Lond,* (Registered Land Surveyor)	Lecturer
Kasowanjete, B.	BEd *Mlw*, MSc, *Heriot-WATT*	Lecturer
Chilinde, G.	BEd, MSc *Mlw*, MSc *Dortmont*	Lecturer
Banda, F.K.	DipEd, BSc *Mlw,* MSc *Twente*	Lecturer
Mamiwa, D.	Dip(Edu), BSc *Mlw,* MSc (IntPlanning&Sust UrbanMgnt),*Reading*	Lecturer
Majawa, L.	Cert (Geo-spatial db dev& mgnt using GIS), BEd, MA(urbanMgnt & Dev),*Erasmus*	Lecturer
Muheya, R.B.	HigherNatlDip(Geogl Info Sys),*East London*, Cert(Intro to ArcGIS)*GMS*,Cert(Geo-info for land reform in southern Africa,*Namibia*, Cert(Surv & cartography),*NRC*	Lecturer
Chilembwe, H.	BSc(Land Surv) *Mlw*	Staff Associate
*Kapiseni, M.	BSc *Mlw*	Staff Associate
*Kapachika, C.	BSc(Land Surv) *Mlw*	Staff Associate
Soko, M.	BSc(Land Surv) *Mlw*	Staff Associate
Suya, R.	BSc(Land Mgnt),*Mzuzu*	Staff Associate
[F]Mphamba, C.	BSc(Land Surv),*Mlw*	Staff Associate

FACULTY OF COMMERCE

Dean	Chimtengo, S.	BAcc *Mlw*,MA(Supply Chain Mgnt) Bolton, ACCA,

Accountancy

Chidule, C.	BAcc,*Mlw,*MBA, CIMA	Lecturer &Head of Dept
Lipunga, A.	BAcc,*Mlw,* ACCA	Snr. Lecturer
[F]Hanif, R.	Bacc,*Mlw*, MA(supplyChain Mgnt),*Bolton*, CIMA	Snr. Lecturer
Mkandawire, K.	BAcc, ACCA, CPA,*Mlw,* MBA	Snr. Lecturer
Mussa, M.	DipBusStud, BAcc, *Mlw*, MBS,*Ireland,*	Lecturer
[+]Chimpesa, E.E.W.	BAcc,*Mlw,* MBS,*Ireland,* CIMA	Lecturer
[F]Kumwenda, J. J.	DipBusStud, BAcc, *Mlw*, ACCA	Lecturer
Chimtengo, S.	BAcc,*Mlw*, MA(Supply Chain Mgnt), *Bolton* ACCA	Lecturer
Kamanga, A.	BBA *Mlw,* MBA *Texas*	Lecturer
Majanga, B.	BAcc *Mlw,* MA(Fin & Control) *Amity*	Lecturer
*Sambakunsi, M.K.	BAcc *Mlw ACCA*	Lecturer
[F]Mussa, E.	BAcc *Mlw*, ACCA	Lecturer

Business Administration

Banda, F.M.	BSocSc, MA (Econs) *Mlw*	Lecturer &HOD
Mataya, C.	Dip(Econs) *Oslo*, BSc(Agric),*Mlw*, MSc(AgricEcons)Florida, PhD(AgricEcons) *Alberta*	Associate Prof
[F]Bakuwa, R. C.	BA (PubAdmin) *Mlw*, MSc, PhD *Manc*	Associate Prof.
Kaliwo, G.G.	LLB (Hons) *Mlw*	Snr. Lecturer
**Nsiku, N.	BBA *Mlw,* MSc (Int Devt) *Bath*	Lecturer
[F]Mposa, S.	DipEd *Mlw*, DipSecSt, PGDipEd, MA(Ed) *Lond,* MBA *Birm*	Lecturer
*Kanyoma, K.E.	BBA *Mlw,* MBA(SupplyChainMgnt) *Bolton*	Lecturer
[F]Mfutso Bengo, E.	Jur. Assessar ^ MA	Lecturer
Mumba, S.	LLB (Hons) *Mlw,* LLM *RSA*	Lecturer
Mmeta, M.	LLB(Hons) *Mlw,* LLM *Cape Town*	Lecturer
Maoni, R.B.	Dip(regional Trade Policy) *Swaziland*, BSocSc, MA (Econs) *Mlw*	Lecturer
Dzimbiri, G.	MA(PubAdmin), BA(HRM), BEd,*Mlw*	Lecturer
[F]Fiwa, G.	Dip(Bus Std), BBA *Mlw*, Grad Dip(Marketing) *CIM*,MA(Comm Mgnt), *strath*	Lecturer
Ng'oma, U.	Prof Postgraddip(Marketing) CIMA, ProfDip(Marketing) CIMA, BBA ,*Mlw*	Lecturer
[F]*Sambakunsi, C.	BBA *Mlw*	Asst Lecturer
*Kwakwala, L.C.	LLB(Hons),*Mlw*	Asst Lecturer
*Namakwa, C.D.	BBA *Mlw,* CIMA	Asst Lecturer
[F]Sesani, L.	BBA *Mlw*	Asst Lecturer
[F]Masamba, J. N.	Dip(BusAdmin&SecMgnt), BA(HRM),*Mlw*	Asst Lecturer
Sauti, R.	LLB *Mlw*	Staff Associate

Management Studies

Mwatsika, C.	BBA,*Mlw*, MA,*Salford*	Lecturer &Head of Dept
Kamwachale Khomba, J.	Dip Bus Stud, BCom, CPA *Mlw*, MBA *Sask*, FCMA *UK,* PhD *RSA*	Professor
Mwenifumbo, A.A.	BSocSc *Mlw*, MCom *Strath,* MCIM, MBIM,*UK*	Snr. Lecturer
Sankhulani, E.J.	BSocSc, UCE *Mlw,* MABA *Lanc*, PhD *Sask*	Snr. Lecturer
*Kaunda, S.G.	BSocSc,*Mlw*, MCom,*Stath,* MCIM, MBIM,*UK*	Lecturer
Chilima, E.	BSocSc , MBA *Mlw*	Lecturer
Chithenga, A.	Cert in Associate of Chartered Institute of Bankers, MBA(Banking Mgnt),*Exter*, ACCA	Lecturer
Mipande, F.	LLB, LLM,*Mlw*	Lecturer
Kaumba, A.	BSc (Agric-Agric Econs), Ma (Econs),*Mlw*	Lecturer

Management Development Centre

Director	+Chimpesa, E.E.W.	BAcc *Mlw,* MBS *Ireland,* CIMA

FACULTY OF EDUCATION AND MEDIA STUDIES

Dean	FKamwaza, M.	BA, MA(Applied Ling) *Mlw,* PhD(Comm) *Victoria*
Deputy Dean	Chikoti, V.L.	BA, MA *Mlw*

Language and Communication

Rashid, S.	BA (HumanScCom), MA(HumaScCom) *Malaysia*	Lecturer &Head of Dept
Chikasanda, V.K.M.	DipEng, BSc(TechEd),*Mlw*, MEd, *Botswana,* PhD,*Waikato*	Snr. Lecturer
*Chimpololo, A.	BA *Mlw*, MA *Otago*	Snr. Lecturer
F+++Bwanali, C.	BA (Ed) ,*Gezira*, MA *Gazi*	Lecturer
FNg'ombe, A.	BSocSc *Mlw*, PGDip, MA (EDC) *Lond*	Lecturer
+Mhagama, P.M.	BEd *Mlw,* MA *Pretoria,* PhD *Leicester*	Lecturer
FBoby, G.	BEdMEd *Mlw*	Lecturer
+Nazombe, M.	BA (Hons), MEd *Mlw*	Lecturer
Chikoti, V.L.	BA, MA *Mlw*	Lecturer
*Nsanja, G.W.	BEd *Mlw,* MA *Leeds*	Lecturer
Juwayeyi, M.	BA *ABC*, MA *Mississipi*, PhD *Georgia*	Lecturer
F*Magela, C.	BEd *Mlw*, MA (AppdLinguistics) *New Zealand*	Lecturer
+Ndalama, L.V.	BEd, MA *Mlw*	Lecturer
Tsisti, C.	BA (Journ), MA(Political Sc),*Mlw*	Lecturer
Ngwira, F.F.	BEd,*Mlw*, MEd (Devl & Edu Psychology), *China*	Lecturer
F*Kadzakumanja, G.	BA *Mlw*	Asst Lecturer

Journalism and Media Studies

Manjawira, E.	BA (Journalism) *Mlw,* MA *Rhodes*	Lecturer & Head of Dept
[+]Chikunkhuzeni, F.	DipEd, BEd, PGDip(ComStud) *Mlw*, MA *Rhodes,* PhD,*Conventry -UK*	Snr. Lecturer
Mwanyungwe, A.	BSocSc *Mlw,* MA (Econs), *Free State*	Lecturer
[F]Kasamale, T. C.	BA (Comm&Broadcasting),*North Carolina,* MA,*Bircham*	Lecturer
*Ntaba, J.	Dip(Journ), BA (Journ),*Mlw,* MA, *Rhodes*	Lecturer
Mlenga, J.	BSocSc,*Mlw*, MA Global Journ),*Sweden*, MA(Human Rights Practice),*Norway*	Lecturer
Kanyang'wa, M.	BA (Journalism) *Mlw,* MA(Pol.Sc) *Mlw*	Lecturer
*Kapiri, F.	Dip(Jou.), BA (Jou.) *Mlw,* MA, *Rhodes*	Asst Lecturer
[F]Amidu, A. S.	BSc (Mass Comm) *Uganda*	Asst Lecturer
Jimu, J,	BA (Journalism) Mlw, MA (Pol.Sc) Mlw	Lecturer

Technical Education

[F]Mtemang'ombe, D.	BSc(TEd) *Mlw*, MSc(Sc & Maths Edu) *Curtin*	Lecturer &HOD
*Kufaine, N.D.	FTC Diploma, LCCI, BEd(TEd) *Mlw,* Med *Wit* PhD	Snr. Lecturer
Alide, Y.	DipTechEd, BSc(TEd),*Mlw,* Med,*Brunel*	Lecturer
Chikasanda, V.K.M.	DipEng, BSc(TechEd),*Mlw*, Med,*Botswana,* PhD,*Waikato*	Associate Prof.
Chigwe, C.S.	DipEng, BSc(Eng),*Mlw*	Lecturer
*Moloko, H.B.	DipEng, BSc(TEd),*Mlw*, MSc,*Wales,* MBA,*Mlw* PhD	Lecturer
[F]Sankhulani, L.	DipEd,*Mlw*, BEd, MEd,*Brandon*, PhD *Sask*	Lecturer
[F]Namalima, S.	BA *Mich,* MA (Ed) *Virginia*	Lecturer
*Ndenguma, D.D.	DipEng, BSc(TechEd) *Mlw,* MA(Applied Sc-Mechanics),*Pretoria*	Lecturer
*Mgawi, R.K.	FTC Diploma, BEd (TEd),*Mlw,* MA *Bolton*	Lecturer
[F]*Nyirenda, L.	BSc(TEd) *Mlw*	Asst Lecturer
*Mnelemba M	BSc (MechEng) *Mlw*	Staff Associate
Molande, E.A.	BSc(TEd) *Mlw*	Staff Associate
[F]Gondwe, J. D.	BSc(TEd) *Mlw*	Staff Associate

FACULTY OF ENGINEERING

Dean	[F]Mkandawire, T.	DipEng, BSc,*Mlw*, MSc *Oklahoma*, PhD

Calendar 2016-2018

Civil Engineering

[F]Mwale, F. D.	DipEng, BSc *Mlw,* MSc *IIIHE Netherlands,* PhD *Heriot-Watt*	Senior Lecturer & HOD
[+]Kululanga, G.K.	BSc *Mlw,* MSc, PhD *Lough,* MASCE, MIE	Professor
Chavula, G.M.S.	BSc *Mlw*, MSc *N'cle*, PhD,*Minnesota*	Associate Prof.
[F]Mkandawire, T.	DipEng, BSc *Mlw*, MSc *Oklahoma,* PhD	Associate Prof.
[+]Ngoma, I.	DipEng, BSc *Mlw*, MSc *L'pool*, PhD,*Pisa,* MMIE, MASCE	Snr. Lecturer
Kanyoza, A.	DipEng, BSc *Mlw,* MPhil *Strath*	Lecturer
Msukwa, T.T.	DipEng, BSc *Mlw*, MPhil *Strath*	Lecturer
Zuzani, P.N.	BSc (Eng) *Mlw,* MSc(Water Resource Eng) *Katholieke*	Lecturer
Chisala, M.	BSc *Mlw*, MSc *Nebraska*	Lecturer
Msadala, V.	BSc(Eng),*Mlw,* MSc(*Water Eng)* PhD S*tellnbosch*	Lecturer
Kafodya, I.	BSc (Eng),*Mlw,* MSc *Harbin-China*	Lecturer
*Haundi, T.	BSc (CivEng) *Mlw*	Staff Associate
*Makuluni, P.	BSc (CivEng) *Mlw*	Staff Associate

Electrical Engineering

Nyirenda, E.J.	BSc (EEng),*Mlw,* MSc (Energy Aided Eng)	Lecturer & HOD
**Gombachika, H.S.H.	DipEng, BSc (EEng) *Mlw*, MSc (EEng), *SUNY at Buffalo,* PhD *Surrey*	Associate Prof
Gamula, G.	BSc (Eng) *Mlw,* MSc *Oldenburg,* PhD *China*	Snr. Lecturer
Tembo, K.	DipEng, BSc(Eng) *Mlw,* MSc *Strathclyde*	Lecturer
[F]*Phiri, E.	BSc(Eng) *Mlw, PGDSc(EleEng),* MSc (Energy Stud)	Lecturer
*Bakolo, R.S.	BSc (EEng),*Mlw,* MSc (EleEng), *Stellenbosch*	Lecturer
Vweza, A.O.	BSc *Mlw,* MSc (Electronic Eng), *South Korea*	Lecturer
Mafuta, T.M.	BSc (EEng) *Mlw*, MPhil *Strath*	Lecturer
Msosa, C.	BSc(Mech Eng) *Mlw*, MSc(Eng) *Huazgong – China*	Lecturer
Chipofya, M.	BSc (EEng),*Mlw*, MEng(Electronics & Info Eng), *Chombuk*	Lecturer
Kamwendo, L.	Cert(InfoTech), BSc,*Mlw* MSc(S/ware Devnt), *Huddersfield*	Lecturer
*Nkoloma, M.S.	BSc (EEng) *Mlw*	Asst. Lecturer
*Chadza, A.	BSc (EEng) *Mlw*	Asst. Lecturer
Gwayi, I.	BSc(EleEng) *Mlw*	Staff Associate
*Mwenecho, C.	BSc(EleEng) *Mlw*	Staff Associate
Msonda, R.J.	BSc(EleEng) *Mlw*	Staff Associate
Phiri, J.C.	BSc(EleEng) *Mlw*	Staff Associate
*Chinamale, Y.	BSc(ComputSc) *Daystar-kenya*	Staff Associate

[F]Namaona, T.	BSc(EleEng) *Mlw*	Staff Associate
Mbewe, S.A.	BSc(EleEng) *Mlw*	Staff Associate
Kaliwo, A.	BSc(EleEng) *Mlw*	Staff Associate
Chimono, C.	BSc(EleEng),*Mlw*	Staff Associate

Mechanical Engineering

Mkandawire, B.	BSc (Eng) *Mlw,* Adv PGDip(Maint. Eng& Mngnt) *Germany* MSc(Eng), PhD (Electric power Energy Sys),*Kwazulu Natal*	Snr. Lecturer & HOD
Chinyama, M.P.M.	DipEng, BSc *Mlw*, MSc *Warw*, PhD,*Lond*	Snr. Lecturer
Ben, N.T.	DipEng *Mlw,* HND, BSc,*CNAA*, MSc, PhD, *Lough*	Snr. Lecturer
Gondwe, K.J.	BSc(Eng) *Mlw*, M.Eng *Okland*	Snr. Lecturer
Kaunda, S.	Dip (MechEng), BSc (Eng) *Mlw,* MSc *Ghana,* PhD(Renewable Energy),*Dar es Salaam*	Snr. Lecturer
Mughogho, U.	Dip (MechEng), BSc (Eng),*Mlw*, MSc (Eng), *Cape Town*	Snr. Lecturer
Zembere, S.	OND (MechEng),*Mlw*, HND(MechEng) *Huddersfield* ,BSc (MechEng),*Piny*, MSC (MechEng)*CUA*	Snr. Lecturer
Maruwo, W.B.	DipEng, BSc *Mlw,* MSc *Lough*	Lecturer
Ngwalo, G.	DipEng *Mlw*, BSc (Hons) ,*CNAA*, MSc *Manc*	Lecturer
Salima, G.M.	CGLI Part III, HND (BTECH), BSc *Mlw,* MSc,*Zimbabwe*	Lecturer
Ng'anjo, S.G.H.P.	CGLI Part III, FTC, MSc(Eng),*Australia*	Lecturer
Chinombo, M.	BSc *Mlw*	Asst Lecturer
Mphande, B.C.	Cert(Fabric & Welding) *C&G,* BSc(MechEng),*Mlw*, BSc(MechEng) ,*Uk*	Staff Associate
Mvula, C.	BEng(EngMgnt),*Mlw*, BSc(MechEng) *Strathclyde* MSc(Energy Tech-Mech Eng)*Makelele-*	Lecturer
Nyirenda, G.	BSc (Mech Eng),*Mlw*	Staff Associate
[F]Mkandawire, N.	BSc (Mech Eng),*Mlw*	Staff Associate
Banda, T.	BSc (Mech Eng),*Mlw*	Staff Associate
Likandawe, L.	Cert in Mechanical Eng Technician Pt1 &2 C&G, BSc (Mech Eng),*Mlw*	Demostrator

Mining Engineering

Kuotcha, W.S.	DipEng, BSc *Mlw,* MSc,*IIIHE Netherlands* PhD, *Strath*	Snr. Lecturer & HOD
Chisambi, J.	BSc *Mlw*, MSc *Twente*	Lecturer
Ghambi, S.	BSc(Civ Eng) *Mlw*	Staff Associate
Matsimbe, J.	BSc(Civ Eng) *Mlw*	Staff Associate
Samson, A.	BSc(Civ Eng) *Mlw*	Staff Associate
Kumwenda, J.	BSc *Mlw*	Staff Associate

Continuing Education Centre

Director	+Chikunkhuzeni, F.	DipEd, BEd, PGDip(ComStud) *Mlw*, MA,*Rhodes*, PhD

Malawi Transportation Technology Transfer Centre

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	(265) 1874944 Direct
Fax	(265) 1 870 578
	(265) 1 874944
Email	ingoma@poly.ac.mw
Website	www.poly.ac.mw/centers/t2c/

Director	+Ngoma, I.	BSc *Mlw*, MSc *L'pool*, PhD *Pisa*

Water, Sanitation, Health and Appropriate Technology Development (WASHTED) Centre

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Director	+Masangwi, S.	BSc

HISTORICAL AND CONTEXTUAL BACKGROUND OF THE UNIVERSITY

The idea that Malawi should have a University was first conceived soon after the country got its independence in 1964. At Government's request, the educational needs of the country were surveyed by the American Council on Education and the then British Inter-University Council on Higher Education Overseas. In October 1964, the University of Malawi was founded under the University of Malawi (Provisional Council) Act, which was later replaced by the University of Malawi Act of 1974. The Act was further amended in 1998 and in 2011 Section 10(l)k was further amended to delink Bunda College of Agriculture which is now part of the Lilongwe University of Agriculture and Natural Resources (Luanar).

Teaching started on 29th September 1965 at the newly established campus which used to be an Asian Secondary School in Blantyre. Only 90 students were enrolled. By 1967, the then Institute of Public Administration at Mpemba, the Soche Hill College of Education, the Polytechnic, all these in Blantyre, and Bunda College of Agriculture in Lilongwe were incorporated as constituent colleges of the University of Malawi. Except Bunda College and the Polytechnic, the other colleges moved to Zomba in 1973 to form the now Chancellor College campus. Kamuzu College of Nursing became the fourth constituent college in September 1979 and the College of Medicine in Blantyre became the fifth constituent college when it was established in 1991.

In addition to the colleges, the University of Malawi has research centres. These are: Centre for Social Research; Centre for Language Studies; Centre for Educational Research and Training; Gender Studies Unit; College of Medicine Research Centre; Nursing, Midwifery and Health Sciences Research Centre; Management Development Centre; Continuing Education Centre; Centre for Water, Sanitation, Health and Appropriate Technology Development; Transport Technology Transfer Centre; and Commercial Technical Services Centre.

At present, there are over 10,000 students pursuing certificate, diploma and degree programmes in the University. Undergraduate students are admitted to the University after obtaining their Malawi School Certificate of Education (equivalent to the British 'O' level [GCE]). Students apply through the National Council for Higher Education which oversees the harmonised selection process for all public universities in the country. The University of Malawi also admits 'A' level, International Baccalaureate, National Senior Certificate (NSC) and Advanced Subsidiary (AS) candidates. It also runs Mature Entry Programmes to cater for students with diplomas and/or module related work experience. There are various postgraduate certificate and degree programmes on offer.

COLLEGES

CHANCELLOR COLLEGE

Chancellor College is located in Zomba in the Eastern Region of Malawi. The College has over 237 members of academic and administrative staff who are in post and an enrolment of over 3000 students.

The college has one school and four faculties, namely: School of Education, Faculty of Humanities, Faculty of Law, Faculty of Science, and Faculty of Social Science. Departments servicing each faculty are as follows:

(i) Education:	Curriculum and Teaching Studies and Educational Foundations;
(ii) Humanities:	African Languages and Linguistics, Classics, English, Fine and Performing Arts, French, Language and Communication Skills, Philosophy and Theology and Religious Studies;
(iii) Law:	Foundational Law and Practical Legal Studies;
(iv) Science:	Biology, Chemistry, Geography and Earth Sciences, Home Economics, Physics, and Mathematical Sciences;
(v) Social Science:	Economics, History, Psychology, Political and Administrative Studies, Sociology and Population Studies.

The college runs university certificate modules, postgraduate diploma modules; Bachelor's and Honours degree programmes as well as Masters and Doctoral programmes.

COLLEGE OF MEDICINE

The College of Medicine is located in Blantyre along the Mahatma Gandhi Road, in close proximity to Queen Elizabeth Central Hospital, which is the main teaching hospital. The College opened its doors in September 1991. It has a number of annexes at Zomba General Hospital, Kasungu District Hospital, Mangochi District Hospital, Rumphi District Hospital and Lilongwe Central Hospital. At the moment, the college has a total of over 862 students and 223 academic and administrative members of staff in post.

The College of Medicine is the only medical school in Malawi. It has gradually grown from a programme with an intake of 10-15 students per year and a handful of Malawian faculty, to a training institution with an average medical student intake of 60 per year.

The College has two faculties. These are the Faculty of Medicine and Faculty of Biomedical Sciences and Health Professions. The Faculty of Medicine has the following departments: Anaesthesia, Community Health, Medicine, Obstetrics and Gynaecology, Paediatrics, Pharmacy, Surgery, Physiotherapy, Basic Medical Science, Pathology and Mental Health. The Faculty of Biomedical Sciences and Health Professions is comprised of the following departments: Pharmacy, Medical Labotory Science, Physiotherapy and Biomedical Sciences. The College runs several postgraduate programmes both at masters and doctoral levels.

KAMUZU COLLEGE OF NURSING

Kamuzu College of Nursing has two faculties, the Faculty of Nursing and the Faculty of Midwifery, Neonatal and Reproductive Health. The College has two campuses, one in Blantyre within the premises of Queen Elizabeth Central Hospital and at the newly constructed Kameza campus, and another one at Kamuzu Central Hospital in Lilongwe. The College has the responsibility to prepare highly qualified nursing and midwifery personnel. Its programmes prepare graduate nurses and midwifery personnel to contribute to the overall development of a healthy society with a high level of professional ability. The programmes offered by the College provide students with a broad understanding of the scope and nature of contemporary health issues along with relevant knowledge, skills, attitudes and professional behaviour in primary health care as well as leadership and management in health care systems. The graduates are, therefore, prepared to provide a broad range of health-related services in a variety of community and hospital settings.

THE POLYTECHNIC

The Polytechnic was established with the aim of providing technical expertise and developing apprenticeship programmes for Malawi. Initial programmes offered at the College were craft and apprenticeship modules leading to qualifications granted by the City and Guilds of London. In 1967, the Polytechnic became one of the constituent colleges of the University of Malawi offering diplomas and degrees in commerce and engineering.

Over the years, the portfolio of programmes at the Polytechnic has grown to meet the ever-changing demands of the local and global market. The certificate programmes leading to City and Guilds qualifications were replaced by diploma programmes, giving greater latitude for the tailoring of programmes to match local requirements. In addition, more degree programmes in Journalism, Education, ICT, Public Health, Environmental Science, Architecture, Land and Quantity Surveying, and Food Technology were added. Recently, the Office of Postgraduate Studies and Research was created to oversee the development and management of graduate programmes and consolidate research efforts at the college. Consequently, the Polytechnic opened its doors to the first intake of students in the Executive MBA programme in January 2003. The College continues to introduce more postgraduate programmes in varied specialities such as health and behavioral change communication, infrastructure development, mining management, entreprenuerhsip and environmental health, among many others.

The Polytechnic continues to make significant strides towards realizing and maintaining its vision of being *a centre of excellence in the provision of scientific and technological education and training for sustainable development* in a dynamic world. The multidisciplinary nature of the college and professional oriented programmes on offer put the Polytechnic in a unique position to meet multifaceted needs of the country.

The Polytechnic is situated in the heart of the City of Blantyre and is composed of the Faculties of Applied Sciences, Built Environment, Commerce, Engineering and Education and Media Studies. These faculties are serviced by departments as follows:

Applied Sciences:	Computing and Information Technology, Environmental Health, Mathematics and Statistics, Physics and Biochemical Sciences;
Built Environment:	Archtectural Studies, Land Surveying
Commerce:	Accountancy, Business Administration and Management Studies;

Engineering:	Electrical Engineering, Civil Engineering, and Mechanical Engineering.
Education and Media Studies:	Journalism, Media Studies, Language and Communication, and Technical Education.

RESEARCH CENTRES

Centre for Education Research and Training

The Centre for Educational Research and Training (CERT) was established in 1991. CERT was until 1995 a World Bank/Ministry of Education/University of Malawi project. It is now fully administered by the University of Malawi under the Faculty of Education. The functions of CERT include initiating and carrying out research on behalf of the Ministry of Education, Cooperating Partners and Non-Governmental Organisations interested in education and related fields, providing training through collaborative research in qualitative and quantitative research methodologies, report writing, simulation models, data analysis and project evaluation. The Centre's main offices are located at Chancellor College.

Centre for Language Studies

The University of Malawi, on instruction from government, established the Centre for Language Studies (CLS) in 1996. The Centre took over some of the responsibilities and facilities of the dissolved Chichewa Board. CLS is under the Faculty of Humanities at Chancellor College in Zomba. The CLS's main responsibility is to promote and develop Malawian vernacular languages. To achieve this, the Centre conducts research and consultancy in Malawian languages including Chichewa, Chiyao, Chisena, Chilhomwe and Chitumbuka. It also recognises the educational, social, economic and political importance of non-African languages such as English, French, German, Portuguese and Spanish and, therefore, promotes activities related to the study of these languages as well. The Centre's activities include translation and editing of materials in various languages, offering short modules in both Malawian and non-Malawian languages, collaboration with individuals/organisations in the writing of text books and readers in Malawian and non-Malawian languages, publishing (dictionaries: monolingual and bilingual), collaborating with foreign research centres, and supporting academic conferences/seminars in various ways.

Centre for Social Research

The Centre for Social Research has an establishment of 11 academic and administrative staff. It is located in Zomba. Among the activities of the Centre are:

i. Appraising, maintaining and evaluating development activities in Malawi;

ii. Undertaking applied research to generate information on priority problems of the country and channel the information to policy makers and planners;

iii. Training government and other development agency personnel in monitoring, evaluation and research methods techniques;

iv. Promoting the efficient exchange of information and experiences within the field of Social Sciences by organizing local and regional conferences;

v. Collecting/documenting information on social science research and general development on Malawi to be accessible to researchers in Malawi.

Gender Studies Unit

The idea to establish a Gender Studies and Outreach Unit was conceived in 1996 by a group of interested members through consultation with FAWE-Nairobi (Kenya). The Centre was finally established in 1999. The mission of the Unit is to enhance the understanding of gender issues in Malawi and effect attitudinal and behavioural change, with a view to creating a more open society in which men and women are equal partners, participants and beneficiaries of development.

The Unit's activities centre on areas where gender disparities are known to exist. These include:

- Developing and providing a better understanding of gender issues;
- Carrying out and co-ordinating gender-related research and outreach programmes;
- Identifying and documenting existing gender disparities and developing strategies that promote gender equity;
- Facilitating the development of cross-curricular modules and academic programmes on gender;
- Providing support for Malawian men and women who have the potential to influence and effect change towards gender equity;
- Collecting, compiling, documenting and disseminating information on gender issues and innovations in order to promote gender equity;
- Contributing to the development of gender, appropriate policies and practices.

College of Medicine Research Support Centre

The College of Medicine Research Support Centre was established in 2006 to support local researchers in designing and conducting clinical research; to introduce ICH-Good Clinical Practice (GCP) quality research standards; to provide comprehensive training in GCP, research methodology, grant proposal writing, statisticcal analysis and data management. The Centre was also established to manage research grants with the overall goal of developing a research agenda and climate that will allow sustainable and successful competition for international grants and local research that impact local health policy.

Nursing, Midwifery & Health Sciences Research Centre

(insert information)

Continuing Education Centre

The Continuing Education Centre (CEC) was formally constituted as an arm of the University of Malawi by Senate in 2010 primarily to provide life-long education and training, to carry out consultancy in professional development work, and to conduct administrative and academic research. The Centre provides of life-long, demand-driven and flexible professional development and technician training programmes. As such, the CEC acts as the University of Malawi life-long learning facility for education, training, research and consultancy.

The CEC has roots in the Board of Governors, which was established in the late 1960s with the objective of offering professional development courses to working people through evening classes. In 1999, the Centre introduced diploma programmes under the umbrella of the Board of Governors. The Board was, however, dissolved in 2002 and the diplomas were consequently phased out. This resulted in the birth of the Continuing Education Centre, which offered externally-administered qualifications from examining bodies such as the LCCI, Pitman, and City and Guilds (London).

Overall, the Centre has made significant contributions towards the enhancement of the quality of learning to produce diversity of competent and relevant workforce; and towards the expansion of capacity by various socio-economic groups to access technician and professional development programmes using self-generated resources in an unstable economic environment.

- ## Teaching and Learning

The CEC offers a variety of domestic and international certificate, diploma and advanced diploma programmes. A total of twenty-one certificate and diploma programmes for professional and academic qualifications are available through the Centre.

- ## CEC's expanding profile of programmes

The Centre has six new University of Malawi diploma programmes in addition to six existing diplomas it is coordinating. The new diploma programmes are Diploma in Mining Engineering, Diploma in Geological Engineering, Diploma in Metallurgy, Diploma in Electronics and computer engineering, Diploma in Biomedical Engineering and Diploma in Telecommunications and Electronics Engineering. The six existing programmes are Diploma in Industrial Lab Technology, Diploma in Automobile Engineering, Diploma in Mechanical Engineering, Diploma in Fabrication and Welding Engineering, Diploma in Electrical and Electronic Engineering, and Diploma in Civil Engineering.

In addition to University of Malawi programmes the CEC has also introduced two new diploma programmes offered by the ABMA-UK. These are Diploma in Computing and Information Systems and Diploma in Human Resource Management. This brings the total of ABMA Diplomas offered at the Centre to four. Existing ABMA programmes are: Diploma in Business Management and Diploma in Community Development.

The CEC is also an approved Centre for the following City and Guilds programmes: Diploma in Telecommunications and Electronics, Diploma in Automobile Engineering, Diploma in Electrical Engineering, Diploma in Mechanical Engineering, and Diploma in Information Technology.
The Centre is also an approved Centre for City and Guilds to deliver post graduate diplomas in engineering. In addition, the Centre offers a Institute of a Chartered Accountants in Malawi programme, namely: Certificate in Financial Accounting.

Centre for Water, Sanitation, Health, and Appropriate Technology Development (WASHTED)

The overall objective of WASHTED is to contribute towards the attainment of the Millennium Development Goals, and the World Summit on Sustainable Development targets on water and sanitation in Malawi. The Centre therefore aims to build capacity in the field of Water Supply, Sanitation, and Environmental Management. The Centre particularly aims to ensure the following in all areas of its work:

a) Supply of technology which must be village operated and designed;

b) Community Based Management (CBM) to avoid features of donor or government driven systems which have fallen into disrepair for lack of maintenance capacity;

c) Hygiene Education and Sanitation Promotion (HESP) which must be a central element of any water project.

Transport TechnologyTransfer Centre

MALAWI TRANSPORTATION TECHNOLOGY TRANSFER, T^2, CENTRE

The concept of technology transfer centres began in the USA by the Federal Highway Administration (FHWA) through the creation of the Local Technical Assistance Programme (LTAP). It was in 1982 that the first technology transfer centre was established in the USA. Its purpose was to ensure that the results of new research and technologies could be practically implemented in a wide variety of applications.

Today, there are 57 Technology Transfer Centres in the United States that are part of the Local Technical Assistance Programme (LTAP). FHWA has cooperated with more than 25 host countries and multilateral development financing organisations in the establishment of more than 90 technology transfer centers in the Baltic Countries, Finland, Russia, Sub-Saharan Africa and Latin America. These centers improve local and regional access to both American and international technology, information and practices, including institution programme building activities. Their general objective is to identify the needs of the transportation sector within each country and to carry out activities which are aimed at improving the capacity of this sector by disseminating the latest information, providing technological solutions and conducting training.

interventions.

Launch of Malawi T^2 Centre

The Malawi Transportation Technology Transfer Centre (T^2 C) was officially launched on 4th June 2001 by the then Minister of Transport and Public Works, Honorable S.D. Kaliyoma Phumisa, MP. The launch was witnessed by the then University of Malawi Vice Chancellor, Prof James David Rubadiri, and United States of America Ambassador to Malawi at the time, among others. The Centre was established by the Ministry of Transport and Public Works with support from United States Department of Transportation, Federal Highway Administration. Collaborating institutions in Malawi include the National Roads Authority (NRA), the National Construction Industry Council (NCIC) and the University of Malawi – The Polytechnic.

The Centre is located in the Civil Engineering Building at the Polytechnic in Blantyre.

Vision

To be recognised as a leader in the provision of transportation information and technology transfer.

Mission

To make transportation safe and efficient throughout Malawi.

T^2 Centre Services

The programme activities of the T^2 Centre include but are not limited to the following:

- Promoting transportation research and development.
- Compiling and maintaining a mailing list to network all target groups, both local and international.
- Publishing a quarterly newsletter.
- Maintaining a lending library for videos, CD-ROMS, manuals, and other publications and materials.
- Providing an information service.
- Conducting and arranging training, workshops, seminars and conferences.
- Organising exchange visits with other T^2 centres.
- Promoting development of Mathematics and Science interest in primary and secondary schools.
- Conduct special projects including consultancy.
- Conducting self-evaluation programme.

T^2 Centre Customers

- T^2 Centre customers include anyone in the public or private sector with

Transportation responsibilities, including:

- Road authorities/departments
- Transportation professionals
- Academia and researchers.
- Local decision makers and elected officials
- Law enforcement agencies
- Transporters
- Travelling Public
- Private companies

- Contractors and consultants
- Schools, colleges and universities.

ACHIEVEMENTS

The Centre has achieved the following:

Advanced Diploma in Transport Operations Management Development

The Centre was central in the development of the e-learning Advanced Diploma in Transport Management course. The course was developed with the support from the Washington State University through their Centre to Bridge the Digital Divide. The course was approved by Senate and has graduated students for a number of years. The course has brought the transport sector into closer collaboration with the university.

Hosting of 3rd Africa Transportation Technology Transfer Conference in 2007

The hosting of international conferences brings publicity to the country and promotes tourism. The Malawi Government bid to host the 3rd Africa Transportation Technology Transfer Conference from 23rd to 25th May in 2007 through the Centre. The Centre was organising secretariat and the conference was a great success. The conferences are held every two years and SADC countries have so far hosted the conferences.

Malawi Transport Indicators

The Centre developed transport indicators in 2005 through funding from Sub-Saharan Africa Transport Programme. The indicators were the first of its type in Malawi. The indicators have proved useful to transport professionals.

Unpaved Roads Surfacing Materials

The Centre has studied the best options for surfacing of unpaved roads with funding from the Roads Authority. The study included quarry dust, cement, lime and eco-roads an enzyme based binder.

Development of Dynamic Cone Penetrometer, DCP, Manual

The Centre has been part and parcel of transport sector developments, including the development of the Dynamic Cone Penetrometer Manual which is an innovative way to design new paved roads.

Current and Future Projects

The Centre is currently discussing with the Roads Authority and Africa Community Access Programme of DFID on long term projects including monitoring of road sections build with innovative practices such DCP design method. The proposals have been submitted to the two institutions. The other activity

underway is the establishment of a dedicated roads research centre.

The Polytechnic Information and Communication Technology Centre

The objective of the Polytechnic Information and Communication Technology Centre is to provide information and communications technology services and support to the Polytechnic community. Every staff member, student and authorised visitor or affiliate is provided with ICT services to facilitate activities associated with The Polytechnic. The ICT Services are funded through a combination of a central budget allocation to the ICT Centre and through IT budgets allocated within Faculties and Departments.

ICT Services are grouped in 6 portfolios: standard IT services, application services, hosting services, professional services, compliance and prudential, and strategy and planning. The Polytechnic Information and Communications Technology committee has responsibility for the governance of ICT services within the college. That responsibility includes governance of the portfolio of services offered by the ICT Centre.

The Malawi Polytechnic, through its membership with Malawi Research and Education Network (Maren), is to interconnect to MAREN backbone across Malawi and globally to support researchers, educators and innovators collaborate. The interconnection is to offer highest levels of capacity and security that Polytechnic research and education users need through IaaS cloud services.

UNIVERSITY OF MALAWI LIBRARY REGULATIONS

A. LIBRARY MEMBERSHIP

1. All registered students of the University of Malawi, and Pre-Medical students for the duration of their modules.
2. All Senior Staff of the University of Malawi and their spouses.
3. Members of the University Council.
4. Members of the Clerical Technical and Support Staff of the University of Malawi who have been recommended in writing by the Registrar's Department.
5. Non-members of the University of Malawi who make an application to the College Librarian and who may be allowed to use the Library at the College Librarian's discretion and who pay a minimum annual non-refundable fee as determined by the College Library Committee depending on location and programmes, and whose membership is supported by a written guarantee from their employers and have an acceptable identity card.
6. Members of the public who, at the discretion of the College Librarian, may use the Library for reference.

B. BORROWING FROM THE LIBRARY

1. All persons entitled to borrow items from the Library, and wishing to do so, must first complete a membership registration card.
2. Authorised borrowers are allowed to borrow as follows:

(a) Chancellor College

CTS Staff	4
Undergraduate Students	6
Graduate Students	10
Senior Staff	20
External	2

(b) College of Medicine

CTS Staff	4
Pre-Medical Students	6
Undergraduate Students	6
Elective Students	2
Graduate Students	10

Interns	2
Senior Staff	20
External	2

(c) Kamuzu College of Nursing

CTS Staff	4
Undergraduate Students	6
Part-Time Students	6
Senior Staff	20
External	2

(d) Polytechnic

CTS Staff	5
Undergraduate Students	7
Graduate Students	7
Part-Time Students	5
Senior Staff	20
External	3
Part-Time Lecturers	10

3. Library materials shall be borrowed upon production of an acceptable identification.
4. Unbound periodicals shall not be removed from the Library.
5. Bound periodicals may only be borrowed by Senior Staff for a period of two (2) days.
6. Books placed on Reserve (Short Loan) may be borrowed:-
   (a) For two (2) hours at a time, for consultation in the Library only.
   (b) For overnight loan from two (2) hours prior to closing and up to no more than two (2) hours after opening the following day.
7. Reference books shall not be removed from the Library.
7. Some Library collections which are appropriately marked "NOT TO BE TAKEN AWAY" or "MALAWIANA" or "THESIS" shall not be removed from the Library, except under very special circumstances and at the discretion of the College Librarian.

C. GENERAL RULES

1. All readers must enter and leave the Library through the Main Entrance.
2. Entrance into the Library building shall be upon production of an acceptable identification.
3. The following should not be taken into the Library: bags, brief cases, hats, top coats, umbrella, radios, walkman cassette players, musical equipment of any kind, and any other items as may be determined by the Librarian. However, leaving such items at the library's entrance as is the practice in some libraries is at owner's risk.
4. Smoking, eating and drinking in the library are prohibited. This includes entering the Library while drunk. Cell phones should be put on the "silent" mode.
5. Library Guards and other Library Staff have the right to inspect any Library user within the Library building at any time.
6. All publications, including personal books being taken out of the Library, must be shown to the Guard on duty at the 'EXIT' desk who will check the date labels of all outgoing Library books and other materials before they are taken out.
7. No person who already has any overdue materials from the Library may borrow a publication item from the Library.
8. Leaving of personal valuable items such as calculators, laptops, money purses, watches etc shall be at the owner's risk.
9. Booking of reading spaces in the Library is not accepted. Library staff are mandated to remove books and other materials used for such purposes.
10. Movement of Library stock of materials from proper areas to other areas for selfish ends will incur severe punishment, based on the Librarian's discretion.
11. All Library users will be responsible for any item appearing in their reader's ticket /or Library Account.
12. Library Reader's tickets are not transferable, i.e. they cannot be used at any other Library apart from the home Library, nor by any other users.
13. The Librarian reserves the right to withdraw or refuse Library facilities to any one who contravenes the Library Regulations.
14. The Librarian reserves the right to restrict some services to certain categories of users.

D. OFFENCES

1. Any person who removes any Library item or any part thereof from the Library without permission shall be guilty of theft.
2. Any person who receives or retains any Library material which he or she knows, or ought to know, or has reason to believe to have been stolen from the Library, shall be guilty of an offence.
3. Any person who mutilates, marks or disfigures any Library materials shall be guilty of an offence.
4. Any person who makes noise in the Library or acts in any manner that disturbs Library users shall be guilty of an offence.

E. PENALTIES

(a) If the person who is guilty of the offences specified in paragraphs 1 and 2 above is a student of the University of Malawi, he or she shall be liable to dismissal from the University in addition to any other penalty which may be imposed by the College Disciplinary Committee.

(b) If the person who is guilty of the offences specified in paragraphs 1 and 2 above is a member of staff of the University of Malawi, the case shall be reported to the College Disciplinary Committee for its action.

(c) If the person who is guilty of the offence specified in paragraph 2 above is not a member of staff or a student of the University of Malawi, he or she shall be banned from membership of the Library for such a period as the college Principal, on recommendation of the College Librarian, may determine.

(d) If the person who is guilty of the offence specified in paragraph 3 above is a student of the University of Malawi, he or she will be liable to dismissal, in addition to payment for the full cost of the item, including handling charges. However, the Principal may impose a lesser penalty depending on facts of the case.

(e) If the person is guilty of the offence specified in paragraph 3 above is a member of staff of the University of Malawi, the matter will be referred in the College Disciplinary Committee for appropriate disciplinary action.

(f) If the person who is guilty of the offence specified in paragraph 3 it an outsider, the Principal of the College shall impose an appropriate penalty on recommendation of the College Librarian

(g) Any person who is guilty of the offence is paragraph 4 above, shall be liable to suspension from the use of the Library for a minimum of three months in addition to any other penalties which may be imposed by the Principal.

F. FAILURE TO RETURN BORROWED MATERIALS ON TIMES AND DATES DUE

1. Any person who fails to return any item in general circulation shall pay a fine as determined by the College Library Committee, per item per day until the item is returned or the person indicates that he or she has lost it.
2. Any person who loses any library item shall pay for the full cost of replacement of the lost item, including 25% handling and other incidental charges.
3. Any person who fails to return to the Library any Library item which has been duly recalled within four days from the date on which the recall is made shall pay a fine as determined by the College Library Committee.
4. Any person who fails to return any short loan/reserve item shall be required to pay a fine per item per hour as determined by the College Library Committee.

G. MISCELLANEOUS

1. Any Library user who loses his or her Identity Card may be issued with replacement card provided that he or she pays for the replacement cost as determined by the College Library Committee.
2. Examination results of any student who owes money to the University of Malawi as a result of a fine or fines imposed under these Regulations shall be withheld until such a fine or fines are paid in full.
3. The fines provided for under these Regulations are subject to revision by the University of Malawi Library Committee from time to time, provided that Library users shall be notified of any such revisions through a public notice.
4. These Regulations supersede any other Library rules in force in the University of Malawi, whether general or specific.

ACADEMIC DRESS

Gowns

1. *Undergraduate*

   Style: Cambridge undergraduate, but without sleeves; knee-length with facings.

   Colour: Black with maroon v-shaped yoke and maroon facings.

2. *Diploma and Bachelor*

   Style: Dublin Bachelor (12).

   Colour: Black with yoke and maroon facings.

3. *Master*

   Style: Fort Hare Bachelor with cord between armholes and edge of sleeves.

   Colour: Black with Maroon yoke, cords, and facings.

4. *Doctor*

   Style: Oxford Doctor (40).

   Colour: Maroon with facings of alternate two-inch horizontal bars of black velvet and black satin, and velvet cuffs with a narrow band of black satin superimposed.

Hoods

1. *Undergraduate*

   Nil.

2. *Diploma*

   Nil.

3. *Bachelor*

   Style: Oxford burgeon (44)

   Colour: Black with the colour linings as determined by the appropriate Faculty:

	Faculty	Colour
Chancellor College:	Education	Saffron
	Humanities	Jade
	Law	Amethyst
	Science	Nasturtium
	Social Science	Adonis Blue Satin

	Faculty	Colour
Polytechnic	Applied Sciences	Gold 114 Lining
	Built Environment	Guardsman Red Satin
	Commerce	Empire Blue
	Engineering	Guardsman Red Satin
	Education & Media Studies	Saffron

Kamuzu College of Nursing

White

College of Medicine

Medicine Deep Red

Master

Style: Cambridge (48)

Colour: Black with maroon lining

Doctor

Style: Cambridge (48)

Colour: Black with maroon lining

Caps

1. Undergraduate

Nil.

2. Diploma

Nil.

3. Bachelor

Style: Mortar Board (61)

Colour: Black

4. *Master*

Style: Mortar Board (61)

Colour: Black with maroon tassels

5. *Doctor*

Style: Doctor's bonnet (62)

Colour: Black with gold cold and tassels

Councillors' Robes

Style: Dublin in Bachelor with maroon velvet yoke facings and edge of the sleeves with gold ribbon lining on facings and yoke.

Colour: Black

1. Chancellor's Robe

Black silk damask with facings, flat collar, and top of the sleeves in yellow silk edged with gold lace. Square-edged long sleeved with three gold lace frogs and knots above the armhole, and with gold rosettes surrounded by six gold bars below the armholes. The armholes and front sleeves edged in a gold lace.

2. Chancellor's Cap

Black silk velvet mortarboard, with gold lace bullion tassel.

GENERAL STUDENT INFORMATION

1. Introduction

The University of Malawi offers a variety of study opportunities. We offer a range of undergraduate and postgraduate study options. At present, there are over 10,000 students on degree, diploma and certificate programmes. This includes masters and doctoral students.

The 2015/2016 academic year intake saw the phasing out of the **University Entrance Examinations (UEE)**, an aptitude test that aimed at predicting a candidate's ability to apply the knowledge acquired in secondary school in order to succeed at tertiary level. The Senate Committee recommended to Council to stop administration of UEE because cases of cheating at Malawi School Certificate of Education (MSCE) were reduced, MSCE was seen as a good indicator to predict the performance of students in colleges and selection of students for admission to the University of Malawi was already largely dependent on the performance of students at MSCE.

University of Malawi students are classified into three groups as follows based on their entry status or type of study: Undergraduate students, mature entry students and postgraduate students.

2. Categories of eligible candidates

(i) Undergraduate students

To qualify for this category, candidates with MSCE or its equivalent qualifications must submit their applications to the National Council for Higher Education (NCHE). Admission into the above category is limited by classroom space. University accommodation is offered to students through application.

(ii) Mature entry students

These are students normally admitted straight into the second or third year of various degree programmes provided they possess diplomas or comparable qualifications. Prospective mature entry students are required to apply through the University Office.

(iii) Postgraduate Students

Postgraduate students undertake various graduate programmes after completing their undergraduate programmes. Prospective postgraduate students should apply directly to the colleges offering the programmes of their interest.

APPLICATION PROCEDURE

1. MATURE ENTRY APPLICATION PACKAGE

A complete application package MUST **include the following:**

a. **Copies of all relevant degrees**/diplomas/certificates/academic transcripts which have been indicated on the application form. **These must be duly certified as true copies of the originals by a recognised Commissioner of Oaths.**

b. Original proof of availability of funds for training i.e. official sponsorship letter or bank statements of the applicant.

c. Copy of a bank deposit slip showing the name of the applicant and the amount of application fee paid.

d. Curriculum vitae (CV) with names and contact details of three traceable referees.

e. A clear specification of a programme applied for as well as the candidate's preferred mode of delivery.

f. **Official reference letter(s) from the current and/or previous employer(s) showing proof of at least 2 years relevant work experience.**

Special Entry Requirements

a) Candidates with a National Senior Certificate (NSC) must have a minimum score of 60% in four designated NSC subjects, including English Language obtained in the current and two preceding years.

b) Candidates with an Advanced Subsidiary (AS) Certificate must have at least grade 'C' in four AS-Level recognised subjects and one IGCSE credit including English Language obtained in the current and two proceding years.

c) Candidates with A-Level qualifications must have passed at least three relevant subjects with an aggregate of not less than 9 points obtained in current and two proceding years. A-level grades are interpreted as follows: A*=6, A=5, B=4, C=3, D=2, E=1.

d) Candidates with an International Baccalaureate (IB) must have a minimum of 30 points obtained in the current and two proceding years.

Candidates with NSC, AS-Level, A-Levels and IB certificates are required to submit their applications to the National Council of Higher Education.

All candidates who were withdrawn from the University of Malawi or any comparable institution on academic grounds and those already registered with the University of Malawi or any comparable university as residential or non-residential students <u>are not eligible for admission.</u>

APPLICATION PROCEDURE FOR PROSPECTIVE UNDERGRADUATE STUDENTS

The National Council for Higher Education each year advertises for places in all public universities. The call for application is done as soon as the Malawi School Certificate of Education Examinations (MSCE) are released. More details can be obtained from the address below:

National Council for Higher Education

Private Bag B371, Lilongwe 3

Telephone: 01 755 884

Physical Address

NCHE House, Area 47 Sector 2,

Near Chitukuko Petroda Filling Station,

Lilongwe

E-mail: ceo@nche.ac.mw; info@nche.ac.mw

Website: www.nche.ac.mw

GENERAL ELIGIBILITY REQUIREMENTS

(i) General Requirements

a. Applicants must have a Malawi School Certificate of Education (MSCE)/International General Certificate of Secondary Education (IGCSE) or other internationally recognised qualifications comparable to 'O' level certificate with at least six credit passes **including English Language** obtained in a current and two preceding years.

- The following is the University of Malawi adaptation of IGCSE (O-Level) results for admission purposes: A*= 1; A = 2; B = 3; C = 5; D = 7; EFG = 8.
- **The following is the University of Malawi adaptation of A Level results for admission purposes: A*= 6; A = 5; B = 4; C = 3; D = 2; E = 1.**
- Candidates who fail to satisfy the university entry requirements in two preceding years to the current year but successfully improved their grades after re-sit for up to a maximum of four subjects in the current year and one preceding year may use their supplementary statements for accumulating credits. **Please note that applicants cannot use grades from two independent certificates**.

  Candidates are placed in various faculties using specific faculty requirements and bearing in mind the candidates' choice of programmes. However, candidates who do not compete successfully in the programmes of their choice may be redirected to other programmes.

KEY

a. *GCSE* = *General Certificate of Secondary Education*

b. *HIGCSE* = *Higher International General Certificate of Secondary Education*

c. *AS* = *Advanced Subsidiary*

d. *NSC* = *National Senior Certificate*

ADMISSION ARRANGEMENTS

a) All successful candidates are admitted on a non-residential basis and are responsible for their own accommodation and meals.

b) Candidates who would like to be accommodated on campus will have to apply for the same and if accepted, pay the College for their accommodation and meals.

c) Because Colleges do not have the capacity to accommodate all selected students on campus, allocation of college accommodation is done based on respective college criteria.

ADMISSIONS INTO LAW PROGRAMMES

Applications and enquiries for the Bachelor of Laws (Honours) Degree and Diploma in law are sent to the Registrar at Chancellor College using the following Address:

Registrar,

Chancellor College
P.O. Box 280,
Zomba .
Telephone 01 524 222, Fax: 01 524 046.
E-mail: registrar@chanco.unima.mw

Inquiries for the Law programme can also be sent to the Dean of Law using the following details:

Dean of Law

Chancellor College

P.O. Box 280,

Zomba.

Telephone 01 524 222

E-mail: law@chanco.unima.mw

FEE (FINANCIAL CONTRIBUTION) STRUCTURE

Below is the fee structure per annum as specified by Colleges for various fee paying programmes and the fees are subject to change anytime.

(a) Chancellor College

(i) Undergraduate Non-Residential Programmes: **MK350, 000.00**

(ii) Undergraduate Mature Entry Programmes (Malawians) : **MK850, 000.00**

SADC : USD 3, 400.00

Non SADC : USD 5,700.00

(b)College of Medicine

(i) Undergraduate Non-Residential Programmes: **MK550, 000.00**

(ii) Undergraduate Mature Entry Programmes (Malawians) : **MK1, 350,000.00**

SADC : USD 5,722.58

Non SADC : USD 8,722.50

(c) Kamuzu College of Nursing

(i) Undergraduate Non-Residential Programmes: **MK400, 000.00**

(ii) Undergraduate Mature Entry Programmes (Malawians): **MK1, 350,000.00**

(d) Polytechnic

(i) Undergraduate Non-Residential Programmes: **MK400, 000.00**

(ii) Undergraduate Mature Entry Programmes (Malawians) : **MK900, 000.00**

SADC : USD 1, 200.00

Non SADC : USD 2,000.00

STUDENTS' AFFAIRS

Dean of Students

Every College administration has a Dean of Students office whose mandate is to handle students' welfare issues. The Office is assisted by an Assistant Registrar (Student Welfare).

Accommodation and Meals

All University students are admitted on a non-residential basis. Government sponsored students are provided with a monthly stipend to cater for accommodation and meals.

Student Health

Every college has a clinic where a fully trained Chief or Senior Nursing Sister is in charge, assisted by two or more nursing sisters, clinical officers or medical assistants. In case of Chancellor College a part-

time doctor may also be in attendance, while the Polytechnic by virtue of its location is in a position to take advantage of the services offered at the nearby Queen Elizabeth Central Hospital. All cases of minor ailments are treated by the college clinics while serious cases are referred to Zomba General Hospital, Queen Elizabeth Central Hospital or Lilongwe Central Hospital, as the case may be. With the introduction of the University of Malawi Medical Scheme in 2009, all students are covered by the scheme and can attend clinics selected by the scheme from time to time.

Student Advisors and Personal Tutors

Every student is allocated a personal tutor as soon as they register. The personal tutor has the responsibility of monitoring the academic progress of the student under their care, calling the students for interview at least twice a semester and dealing with personal problems as they arise. A student, therefore, needs not wait for the personal tutor to call before getting help. If the personal tutor cannot help they will suggest the appropriate person to help the student.

Discipline

Every student who has been admitted to the University of Malawi becomes subject to governing students' rules and regulations prescribed by the University Senate from time to time. **While the University acknowledges and respects the rights of students, it also expects that these rights would be accompanied by a high sense of responsibility.** A copy of the rules is given to each student when they first enrol and it is the duty of every student to ensure that they are fully aware of the implications of the College rules. Ultimate responsibility for discipline within a College, and for the conduct of its students, rests with the Principal who may, in extreme cases, recommend to the Vice-Chancellor that a student be suspended or expelled. The College Students' Disciplinary Committee is the body that hears cases of indiscipline and makes appropriate recommendations to the Principal.

Students' Goverment

Every College has a Students' Union whose Representative Council (SRC) comprises students elected by the whole student body of the College concerned. Every student in the University is a member of the Students Union of their College, and is also a member of the University of Malawi Students Union (UMSU), a body whose sphere of competence cuts across those of College Unions. Students pay subscription frees annually.

The students' Representative Council is responsible for overseeing various aspects of students' affairs in liaison with the Dean of Students office.

UNIVERSITY OF MALAWI ALUMNI ASSOCIATION

The Association has been inactive for a while. However, an executive committee of the Association has now been put in place.

Goal

The main goal of the Alumni Association is to support and strengthen financial sustainability, governance and academic/professional excellence of the University of Malawi.

Objectives

The objectives of the Association are to:

1. Provide a platform for networking, opportunities for collaborating with the industry and to bring the university closer to the community.
2. Offer advice and ideas on issues affecting university policy on students' affairs, management and research.
3. Engage in activities such as:
   - Mobilising resources for the University (e.g. acquire books for the university libraries, hold annual alumni fun fares and other fund raising events etc;
   - Collecting membership contributions;
   - Initiating partnerships with local organisations;
   - Carrying out income generating activities.

The University of Malawi would like members of Unima Alumni to contribute to the development of the University so that it continues to provide relevant world class education, research and services for the development of Malawi and the region.

Registration

For purposes of sustainability, a UNIMA Alumni secretariat has been established and shall be coordinated by the University Finance Officer. All members of the UNIMA Alumni are requested to sign up to the secretariat so that they are included on the association's mailing list.

Alumni Discussion Forum

This is a platform where all registered members of the Unima Alumni discuss different topical issues affecting their Alma Mater. Any member can be part of this discussion group provided they sign up for membership.

Note

1. All past students of the University of Malawi and any other interested individuals can become members.
2. The Executive Committee shall be elected every 2 years

Details on registration, registration fees and any other information can be obtained from the address below:

The University Finance Officer
University Office
P.O. Box 278, Zomba, Malawi
Tel: +265 (0) 1 526 622
Email: ufo@unima.mw

UNIVERSITY OF MALAWI CALENDAR OF COMMITTEES FROM JULY 2017-JUNE 2019

JULY 2017-DECEMBER 2017

		Jul-17			Aug-17			Sep-17			Oct-17			Nov-17			Dec-17
			Tue	1	Central Office Retreat												
			Wed	2								Wed	1				
			Thu	3								Thu	2	Finance Committee			
			Fri	4		Fri	1	UNIMA Management Meeting				Fri	3		Fri	1	CUTL
Sat	1		Sat	5		Sat	2					Sat	4		Sat	2	
Sun	2		Sun	6		Sun	3		Sun	1		Sun	5		Sun	3	
Mon	3		Mon	7		Mon	4		Mon	2	Central Office Meeting	Mon	6		Mon	4	
Tue	4		Tue	8		Tue	5		Tue	3		Tue	7		Tue	5	
Wed	5		Wed	9	Joint ICT/Library Committee	Wed	6		Wed	4		Wed	8	Graduation	Wed	6	
Thu	6	Public Holiday	Thu	10		Thu	7		Thu	5		Thu	9		Thu	7	
Fri	7	Central Office Meeting	Fri	11	CUTL	Fri	8		Fri	6	Inaugural Lecture	Fri	10	Audit Committee	Fri	8	
Sat	8		Sat	12		Sat	9		Sat	7		Sat	11		Sat	9	
Sun	9		Sun	13		Sun	10		Sun	8		Sun	12		Sun	10	
Mon	10	Council-Extraordinary	Mon	14	UNIMA Management Meeting	Mon	11		Mon	9		Mon	13	Central Office Meeting	Mon	11	Central Office Meeting
Tue	11		Tue	15		Tue	12		Tue	10		Tue	14	Joint ICT/ Library Committee	Tue	12	
Wed	12		Wed	16	Senate Meeting	Wed	13		Wed	11	UNIMA Management (SLT)	Wed	15		Wed	13	Senate Meeting
Thu	13		Thu	17		Thu	14		Thu	12		Thu	16	APC/ACC	Thu	14	

Fri	14	UNIMA Management/ SP Meeting	Fri	18		Fri	15		Fri	13	Students Affairs Committee	Fri	17		Fri	15	
Sat	15		Sat	19		Sat	16		Sat	14		Sat	18		Sat	16	
Sun	16		Sun	20		Sun	17		Sun	15		Sun	19		Sun	17	
Mon	17		Mon	21		Mon	18		Mon	16	Public Holiday	Mon	20		Mon	18	
Tue	18		Tue	22		Tue	19		Tue	17		Tue	21		Tue	19	
Wed	19	Central Office Management	Wed	23		Wed	20	Council	Wed	18		Wed	22		Wed	20	
Thu	20	APC/ACC	Thu	24		Thu	21		Thu	19	Research Dissemination Conf.	Thu	23		Thu	21	
Fri	21		Fri	25		Fri	22		Fri	20	Research Dissemination Conf.	Fri	24		Fri	22	Council
Sat	22		Sat	26		Sat	23		Sat	21		Sat	25		Sat	23	
Sun	23		Sun	27		Sun	24		Sun	22		Sun	26		Sun	24	
Mon	24		Mon	28		Mon	25		Mon	23	Postgraduate Committee	Mon	27		Mon	25	Public Holiday
Tue	25		Tue	29	Joint Audit/Finance Committee	Tue	26		Tue	24		Tue	28		Tue	26	
Wed	26	Graduation	Wed	30	APCC	Wed	27	UNIMA Appointments	Wed	25		Wed	29	Inaugural Lecture-Chanco	Wed	27	
Thu	27		Thu	31		Thu	28	UNIMA Appointments	Thu	26		Thu	30		Thu	28	
Fri	28	Students Affairs Committee				Fri	29		Fri	27					Fri	29	
Sat	29					Sat	30		Sat	28					Sat	30	
Sun	30								Sun	29					Sun	31	
Mon	31	Central Office Retreat							Mon	30							
									Tue	31							

JANUARY 2018-JUNE 2018

		Jan-18			Feb-18			Mar-18			Apr-18			May-18			Jun-18
									Sun	1							
Mon	1	Public Holiday							Mon	2							
Tue	2								Tue	3		Tue	1	Public Holiday			
Wed	3								Wed	4		Wed	2				
Thu	4		Thu	1		Thu	1		Thu	5	APCC	Thu	3	Central Office Meeting			
Fri	5	Central Office Meeting	Fri	2	Joint ICT/Library Committee	Fri	2		Fri	6		Fri	4		Fri	1	
Sat	6		Sat	3		Sat	3		Sat	7		Sat	5		Sat	2	
Sun	7		Sun	4		Sun	4		Sun	8		Sun	6		Sun	3	
Mon	8		Mon	5	Central Office Meeting	Mon	5	Public Holiday	Mon	9	Central Office Meeting	Mon	7	Joint ICT/ Libray Committee	Mon	4	Central Office Meeting
Tue	9		Tue	6		Tue	6		Tue	10		Tue	8		Tue	5	
Wed	10	UNIMA Management (SLT)	Wed	7		Wed	7		Wed	11	Students Affairs Committee	Wed	9		Wed	6	
Thu	11		Thu	8		Thu	8	CUTL	Thu	12		Thu	10	Senate Meeting	Thu	7	
Fri	12	Postgraduate Committee	Fri	9	APCC	Fri	9	Senate Meeting	Fri	13		Fri	11		Fri	8	
Sat	13		Sat	10		Sat	10		Sat	14		Sat	12		Sat	9	
Sun	14		Sun	11		Sun	11		Sun	15		Sun	13		Sun	10	
Mon	15	Public Holiday	Mon	12		Mon	12	Central Office Meeting	Mon	16		Mon	14		Mon	11	
Tue	16		Tue	13		Tue	13		Tue	17		Tue	15		Tue	12	
Wed	17		Wed	14	Finance Committee	Wed	14		Wed	18		Wed	16	Finance Committee	Wed	13	
Thu	18	Students Affairs Committee	Thu	15	Audit Committee	Thu	15		Thu	19	UNIMA Management (SLT)	Thu	17	Audit Committee	Thu	14	CUTL

Fri	19		Fri	16		Fri	16		Fri	20		Fri	18		Fri	15	
Sat	20		Sat	17		Sat	17		Sat	21		Sat	19		Sat	16	
Sun	21		Sun	18		Sun	18		Sun	22		Sun	20		Sun	17	
Mon	22		Mon	19		Mon	19		Mon	23		Mon	21		Mon	18	
Tue	23		Tue	20		Tue	20		Tue	24	Postgraduate Committee	Tue	22		Tue	19	
Wed	24		Wed	21	Graduation	Wed	21	Council	Wed	25		Wed	23		Wed	20	
Thu	25		Thu	22		Thu	22		Thu	26		Thu	24		Thu	21	
Fri	26	UNIMA Appointments	Fri	23		Fri	23		Fri	27		Fri	25		Fri	22	
Sat	27		Sat	24		Sat	24		Sat	28		Sat	26		Sat	23	
Sun	28		Sun	25		Sun	25		Sun	29		Sun	27		Sun	24	
Mon	29		Mon	26		Mon	26		Mon	30	University Appointments	Mon	28	Council	Mon	25	
Tue	30		Tue	27		Tue	27					Tue	29		Tue	26	CTS Appointments Meeting
Wed	31	Graduation	Wed	28	Inaugural Lecture- Chanco	Wed	28					Wed	30	Inaugural Lecture- COM	Wed	27	
						Thu	29					Thu	31		Thu	28	
						Fri	30								Fri	29	
						Sat	31								Sat	30	

Calendar 2016-2018

CHANCELLOR COLLEGE

Chancellor College comprises one school and four faculties: School of Education, Faculty of Humanities, Faculty of Law, Faculty of Science and Faculty of Social Science. The school and each of the four faculties offer both undergraduate and postgraduate programmes.

BASIC FIRST DEGREE STRUCTURE

Most programmes at Chancellor College cover a four-year duration, except where it is stated otherwise. Below are registration details by year of study.

First Year

At Chancellor College students register by faculty. In their first year students are required to take **FIVE** modules, one of which must be Language and Communication Skills. Students are allowed to register for utmost one module outside their faculty.

Students who wish to pursue a degree in law should refer to the specific description of the programme.

Second Year

To proceed to second year, a student should have successfully completed first year modules and a total of 30 credit hours. Usually, first year modules are prerequisites for second year modules. Exceptions are in subjects that commence in second year such as Curriculum and Teaching Studies, and Educational Foundations.

Third Year

Students who have successfully completed second year and are entering third year must register for a total of five modules in third year, normally in the form of two modules from each of any two subjects and a module from a third subject. This is referred to as a 2-2-1 combination. Other possible combinations are 2-1-1-1, 3-1-1, and 3-2. Selection of the 2-1-1-1 combination requires the special approval of the concerned Dean of Faculty and the Principal.

Fourth year

Students who have successfully completed third year and are entering fourth year must take four modules. The most usual combination is 2 modules of each of the two subjects, 2-2 combination. Other possible combinations are 2-1-1 and 4; that is four modules in one subject. Selection of the 4-module combination in one subject requires permission of the Principal in consultation with the Dean concerned.

Professional Courses

Teaching

Over the years, the main route for secondary school teachers is the generic four-year B.Ed. programme. However, from 2017, the School of Education enrols students into specialised programmes. Students who are not registered for any B.Ed. programme but would like to join the teaching profession are required to complete the ordinary degree and then take a University Certificate in Education (UCE). They should specialise during third and fourth years in two subjects that are taught in secondary schools in Malawi, one a major and another minor.

Law

Students who wish to pursue a degree in law should first successfully complete the first year of any degree programme in the University of Malawi followed by four years of law modules in the Faculty of Law. There are no special requirements of modules they may choose during their first year, even though some emphasis on Arts and Social Sciences is desirable.

Fifth Year (Honours Programmes)

This applies to subjects in which single honours or joint honours programmes are offered. The details for these programmes appear under subject entries.

Masters and PhD Programmes

Some departments offer Masters and PhD programmes, and these have been indicated in the outlines of the departments concerned.

PROGRAMME DETAILS BY SCHOOL/FACULTY

SCHOOL OF EDUCATION

The School of Education consists of two academic departments, namely, Curriculum and Teaching Studies (CATS) and Educational Foundations (EDF). CATS Department has three sections: (i) Language Education; (ii) Social Studies Education and, (iii) Science and Mathematics Education. For content subjects, the school still relies on other departments in the faculties of Humanities, Science and Social Science.

The School of Education is currently revising its curriculum which has led to introduction of new Bachelor of Education programmes. At the moment, the School has introduced specialised programmes in the sciences and will soon do the same in Languages and Social Studies. The school offers the following undergraduate programmes:

Bachelor of Education Biological Sciences

Bachelor of Education Chemistry

Bachelor of Education Physics

Bachelor of Education Computer Sciences

Bachelor of Education Mathematical Sciences

Bachelor of Education (Generic)

Bachelor of Education (Primary Education)

All programmes save for UCE and Bachelor of Education (Primary Education) are designed for pre-service and/or in-service education and the training of teachers for secondary schools, with concentration on subject and subject-method competence in two of the following:

African Language and Linguistics, English, French, Art, History, Biology, Physical Science, Mathematics, Bible Knowledge, Religious and Moral Education, Home Economics, Geography, Social Studies, Chemistry and Physics.

The School offers the following postgraduate programmes:

University Certificate in Education (UCE)

Bachelor of Education (Honours)

Master of Arts in Education

Master of Education

Masters of Education in Policy, Planning and Leadership

Masters of Education in Testing and Measurement

Masters of Education in Educational Psychology

Masters of Education in Sociology of Education

Masters of Education in Curriculum Studies (Language Education, Mathematics and Science Education, & Social Studies)

Ph.D. in Education by Research (Part-time)

Masters programmes are offered to candidates with a Bachelor of Education or any relevant first degree from a recognised University with at least a credit and two years of teaching experience. The programmes require intensive scholarly specialisation in one area of education, and are directed towards the production of the country's high level human development needs in education.

All M.Ed. programmes are full time. Students enrol for a minimum of FOUR academic semesters of residency and are expected to complete the degree programme within 24 calendar months from the date of registration. The programmes consist of taught modules in first year and research work in second year. Every student is required to present his or her research findings in an oral defence forum.

The school offers a part-time M.Ed. programme which is based on research only and it is expected to be completed within EIGHT academic semesters or within 48 calendar months from the date of registration.

The school also offers a range of in-service and training modules in cooperation with other constituent colleges of the University, the Ministry of Education and other line Ministries, non-governmental organisations both local and international, the Malawi National Examinations Board, Domasi College of Education and Malawi Institute of Education. In addition, the school is involved in research and consultancy which are coordinated by the Centre for Education Research and Training (CERT).

PROGRAMME DETAILS

Bachelor of Education in Biological Sciences

Year One

Module Code	Module Title and Descriptor
BIO111	**Introductory Biology I: Introduction to Cells, Microscopy and Botany**
	This module introduces students to the study of life, particularly at cellular level. The module equips students with skills to study the microbial world with the aid of microscopes. It further prepares them for later modules in biology by introducing biological principles that are the requisites for the modules. The botany section of the module introduces students to the plant sciences. It provides insights into plant life styles and ways in which plants have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).
LAN 112	**Reading and Listening Skills for Science**
	This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.

CHE111 **General Chemistry I**

This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

PHY 111 **Mechanics and Properties of Matter**

The module provides the background needed for the further study of University Level Physics and other physical sciences. It exposes students to a beginning module in Mechanics and Properties of Matter. Mechanics is broken down into its three components: statics, dynamics and kinematics. These are clearly explained to students to bring out their differences and inter-relationship. Students are also introduced to the various groups of properties of matter.

BIO121 **Introductory Biology II: Introduction to Vertebrate and Invertebrate Zoology**

This module introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates. It further introduces students to the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

LAN 122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organisations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module intends to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

CHE121 **General Chemistry II**

This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lay a background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

PHY 121 **Electricity, Magnetism, Vibrations and Waves**

This module provides the background needed for the further study of University Level Physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

Year Two

BIO211 **General Biology I: Plant Form, Function and Systematics and Vertebrate Form and Function**

This module generally introduces students to basic plant morphology that includes root, stem and leaf structure and function, metabolism in plants, growth and development in plants, taxonomic characters and angiosperm families. It is designed to teach students practical aspects of plant morphology and anatomy. The module in vertebrate form and function is a system-based study of the gross and micro-anatomy of vertebrates, with special emphasis on functional morphology and embryonic development. It aims at equipping students with the foundation of understanding vertebrate body form and function; that is, cells, tissues, organs and systems. It also compares the evolution of body form and function amongst vertebrate classes.

CHE 211 **Basic thermodynamics and Chemical Kinetics**

This module introduces students to some fundamental concepts in physical chemistry and other disciplines requiring the understanding of chemical principles. It covers applications of the laws of thermodynamics to chemical and physical equilibrium processes. The topics covered include thermodynamics, electrochemistry and chemical kinetics.

CHE 212 **Functional Group Chemistry**

In this module, students are introduced to different types of functional groups that are used in organic chemistry and other disciplines requiring the understanding of chemical principles. The emphasis is on nomenclature, physical and chemical properties, and synthesis and conversion routes.

MAT 211 **Calculus I**

The module develops concepts in calculus and equips students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

EDF211 **Educational Psychology**

The purpose of the module is to introduce students to theoretical perspectives about human development, learning and student motivation as a critical foundation base for understanding students' behaviour in and out of the school environment.

EDF 212 **Sociology of Education**

This module aims at familiarizing students with key sociological concepts as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general. The module introduces students to the theory and practice of curriculum development as well as implementation and evaluation in order to enable them enhance effective teaching and learning in schools.

BIO221 **General Biology II: Introduction to Ecology, Genetics, Evolution, Environment and Natural Resources**

This module introduces students to the study of interactions between organisms and their environment. It explains the distribution and abundance of organisms in nature through an understanding of how organisms interact with their abiotic and biotic environments. The module also introduces students to the field of genetics. It provides students with a foundation of knowledge needed for fourth year genetics. It is introduced through such biologically important macromolecules as nucleic acids and proteins, classical and population genetics. Evolution, as a foundation of the biological sciences, is unveiled to students at this level as a stepping stone to further studies in biology. The module also introduces students to the major components of natural resources, their formation and how they interact. Major characteristics of the elements of biodiversity

(soil, water, forests, minerals etc.) their values and problems leading to their degradation and finally mitigation and remedial measures in natural resources management are discussed.

CHE 221 **Acids, Bases and Spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition, the module introduces students to the theory behind various spectroscopic techniques.

CHE 222 **Periodicity and Molecular Bonding**

This module provides students with an understanding of chemistry at the molecular level and lays the foundation for later modules in inorganic chemistry. It provides a detailed coverage of the chemistry of elements in group I, II and VII and introduces molecular bonding.

CHE 221 **Acids, Bases and Spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition the module introduces students to the theory behind various spectroscopic techniques.

MAT 221 **Calculus II**

This module provides students with further knowledge of calculus and its application to various disciplines such as biology, ecology, dynamical systems to topics including polar coordinates and parametric equations. It extends the set of real numbers to the set of complex numbers.

MAT222 **Introduction to Linear Algebra**

This module provides students with a foundation of linear algebra needed for further study of mathematics. It introduces students to the matrix theory which is mostly used in natural sciences.

SCE 221 **Introduction to Science Education**

This module introduces students to the thinking that underpins the teaching of science in general by considering the various learning theories that inform learning. It also introduces students to the nature of science and elements of history and philosophy of science in their teaching and to appreciate the role of science teachers in promoting public awareness of science.

Year Three

BIO311 **Biochemistry**

This course introduces students to biochemical principles using structure and role of lipids, carbohydrates and proteins in living things as examples so as to develop students' understanding of metabolic processes, photosynthesis and respiration.

BIO312 **Ecology**

This course introduces students to the science of ecology, the study of the physical, chemical and biological interactions that determine the distribution and abundance of organisms. Some of the major questions concerning the organisation and dynamics of populations, communities and ecosystems are discussed. Examples and case studies, drawn mainly from African savannah and lake ecosystems, are used to illustrate methods and results of ecological inquiry.

BIO313 **Microbiology**

This course introduces students to different types of micro-organisms and familiarises them with the basic aseptic techniques in microbiology

EDF 311 **Curriculum Theories and Practice**

The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools. The module assists students to appreciate the underlying issues, principles and assumptions of curriculum development and implementation.

EDF312 **Education Technology**

The module provides students with an introduction to the field of educational technology and how it relates to teaching and learning through exposing them to various forms of electronic and digital technologies as well as improvised teaching and learning aids that would facilitate the teaching and learning processes in the classroom.

EDF313 **Leadership & Management for Educators (Elective)**

The module introduces students to the field of educational leadership and management to help them realise that the school is a social organisation in which the teacher's leadership role is crucial. The module exposes students to various theories of leadership and management and their implications for school leadership.

EDF 314 **Education and Democracy (Elective)**

This module seeks to develop students' appreciation of the critical role of education in the development and promotion of democratic values in the society. The module promotes students' understanding of the democratic challenges inherent in the practice of teaching and how to reflect on them.

SCE 312 **Biology for Teachers**

The aim of this module is to deepen the students' understanding of fundamental concepts in biology from a teaching perspective. The students review biology topics in the secondary school curriculum by looking at the language used to explain them, the practical activities that assist learning and their everyday applications.

BIO321 **Evolutionary Biology**

This module covers the growth of evolutionary ideas from Darwin to the present day. It demonstrates how the theory of evolution is a major unifying concept in biology and how central it is to the understanding of biological processes, from cellular to ecosystem level. The module also illustrates to students the practical applications of evolutionary biology in areas such as medicine and agriculture.

BIO322 **Animal Physiology**

This module provides students with the necessary background to understand the life processes of animals from the molecular level to organ systems. Emphasis of this module is on mammalian physiology.

BIO323 **Biostatistics and Computing**

This module aims at familiarising students with the application of statistical principles in solving biological problems.

BIO324 **Research Methods**

This module aims at developing in students an understanding of the different paradigms of both quantitative and qualitative research. It lays a vital didactic background for designing experiments as well as collecting, handling, analysing and interpreting data in the biological sciences. The module imparts basic statistical concepts and skills that enable students to critically interpret research literature in biological sciences, formulate basic research questions and successfully publish their findings.

EDF 321 **Philosophy for Teachers**

This module seeks to develop students' knowledge of the key philosophical assumptions underpinning the contemporary theory and practice in education for professional development and reflective teaching and learning. It enlightens students with past and present theories and concepts in the philosophy of education. Students debate, among other things, what knowledge is worth having and how human beings acquire it; what constitutes the good life and how human beings organise society to promote it; and how education can encourage people to reflect on what it means to live ethically.

EDF322 **Gender Issues in Education (elective)**

This module broadens students' understanding of theories and issues of gender and their implications in the participation of boys and girls in education and their future life chances. Through this module, students are exposed to the theoretical premises of dominance, stratification, modernism, postmodernism and feminism. This knowledge is useful in promoting gender parity in education.

EDF 323 **Economics of Education (elective)**

The module assists students to understand the origins, implementation and financing of contemporary education policies from an economic perspective, and introduces them to some theoretical methods used in economic analyses of education. As future leaders in education, students need a sound appreciation of how economic factors influence decision making in education.

EDF 324 **History of Educational Thought (elective)**

This module is designed to enable learners explore the evolution of the idea of education and nature of education, spanning from the classical times to the present, so as to have a clear understanding of how to effectively and efficiently facilitate the teaching and learning experiences. Through this module, students appreciate how the country's curriculum and educational policies have been influenced by early thinkers in education.

SCE 322 **Biology Teaching Strategies**

This module enables students to apply theories of learning to classroom teaching by reviewing different teaching strategies used in biology teaching, the role of practical work in learning, planning and evaluating lessons and teaching in the lab safely.

BIO 411 **Genetics**

This module has been designed to introduce students to the fundamental concepts of genetics. The first half of the module focuses on the basic principles of classical (Mendelian) genetics, while the second half of the course deals with the modern discoveries of molecular biology and their applications in today's world. Although the primary function of this module is to prepare the biology major for more advanced course work in genetics, topics are covered in sufficient detail to provide other science majors with a good understanding of the field of genetics.

BIO 412 **Plant Physiology**

This module deals with the integration of physiological mechanisms in the overall growth and development of higher plants at cellular, tissue, organ and whole plant levels. The module builds on the foundation laid in Plant Form, Function & Systematics and Biochemistry courses.

BIO 414 **Entomology**

The aim of this module is to introduce students to the systematics, morphology, physiology, ecology and behaviour of insects.

BIO 417 **Environmental Impact Assessments**

This module introduces students to the concept of Environmental Impact Assessments (EIA) in development projects and why it is required, including the techniques used to make assessments. It also aims at equipping students with skills on how to prepare various documents required during the EIA process using Malawian requirements and international standards or requirements.

SCE 412 **Curriculum Studies 1**

The models aims at introducing students to the biology curriculum in Malawi and internationally, discuss the recent developments in biology education, develop skills in setting and administering different assessment procedures, designing learning units and fostering continual professional development.

EDF 411 **Research Methods in Education**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that enable them carry out research and inquiries on issues related to the field of education and other fields that in turn would contribute to existing knowledge as well as informing the decision-making processes in the education field.

EDF 412 **Special Needs and Inclusive Education (elective)**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education.

EDF 413 **Adolescent Psychology for Educators (elective)**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development. As prospective secondary school teachers, they will interacting with adolescents encountering transitional challenges. As such, this module empowers them with practical insights that would enable them to address psychological and social issues secondary school students face.

EDF 414 **Sociology of Education (elective)**

This module provides students with opportunities for advancing their conceptualisation of sociological perspectives. The module helps students apply sociological frameworks in analysing school contexts and processes in terms of ways in which the educational structure reflects broader social, cultural and political systems.

BIO 421 **Plant Pathology**

The module is designed to equip students with basic knowledge in plant disease and provide them with skills necessary in the field of plant pathology. It introduces students to fundamental epidemiological aspects of plant disease. Principles and practice of plant disease management are also introduced that students may be equipped to tackle plant disease challenges in the country.

BIO 422 **Research Project**

This module aims at training students to perform research, analyse their results and write up their findings in a scientific manner.

BIO 425 **Environment and Natural Resource Management**

This module equips students with the skills to articulate the importance of natural resources management for sustainable development. It describes the linkages between biological and physical properties of natural resources. It teaches students the holistic approach to natural resource management by employing problem solving, decision making, communication and team management skills. Practical work that integrates research, problem solving and statistical analysis is embedded in the course.

BIO 426 **Biotechnology**

The module introduces students to the science of biotechnology, its applications and how it is regulated. Biotechnology and its application is an emerging discipline which has revolutionised biology and resulted in many products in the agricultural, health, trade and industrial sectors internationally. Regulation of biotechnology is considered as an important part of the development of biotechnology, hence, students are exposed to international and national legal instruments used to regulate products of biotechnology.

SCE 422 **Curriculum Studies in Biology**

The aim of this module is to give practice in classroom teaching to students as a way of preparing for teaching practice. Students observe, plan, teach and evaluate lessons. They also explore ways of fostering incidental learning and how to manage the science department.

EDF 421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful classroom assessment and enable them to acquire theoretical ground for classroom measurement practices. It enables students to distinguish and use various techniques for assessing learners as well as using correct measuring instruments and interpretation of assessment measure in the educational setting.

EDF 422 **Introduction to Education and Development in Africa (elective)**

This module enables education students develop a deeper understanding of the relationship between education (Formal, non-formal and informal) and economic, political and social development of a nation. The module exposes students to theories that explain development and underdevelopment of societies as well as how globalisation and the politics surrounding it affects development and education systems both at global and grassroots level.

EDF 423 **Introduction to Education Policy and Evaluation (elective)**

The module introduces students to educational policy and planning. It exposes them to the processes involved from policy formulation to implementation. The module also examines some of the policies related to education in Malawi to enable students appreciate how educational development programmes are implemented in the country.

EDF 424 **Guidance and Counseling (elective)**

The module equips students with knowledge, attitudes, skills and practices necessary for assisting students deal with challenges and realities they face in

the ever changing environment and realise their full potential. The module introduces key counseling theories that provide insights for assisting students with psychological and emotional problems.

TEP 400 **Teaching Practice**

This module provides students with opportunities to appreciate the realities of the secondary school teaching and learning context through practical experience and reflection based on theories from the education programme. The module thus helps students to apply theoretical notions, approaches, methods and techniques learned in the entire BEd programme to authentic school and classroom situations not only for purposes of advancing their professional development but also to facilitate achievement of curriculum and learner outcomes at school level.

Bachelor of Education in Chemistry (with Physics as minor)

Year One

BIO111 **Introductory Biology I: Introduction to Cells, Microscopy and Botany**

This module introduces students to the study of life, particularly at cellular level. The module equips students with skills to study the microbial world with the aid of microscopes. It further prepares them for later modules in biology by introducing biological principles that are requisites for the modules. The botany section of the module introduces students to the plant sciences. It provides an insight into plant life styles and ways in which plants have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).

LAN 112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.

CHE 111 **General Chemistry I**

This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.

MAT 111 **College Algebra**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

PHY 111 **Mechanics and Properties of Matter**

The module provides students with the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning module in mechanics and properties of matter. Mechanics is broken down into its three components: statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationship. Students are also introduced to the various groups of properties of matter.

BIO121 **Introductory Biology II: Introduction to Vertebrate and Invertebrate Zoology**

This module introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates. It further introduces students to the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

LAN 122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organisations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module intends to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

CHE 121 **General Chemistry II**

This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon

MAT 121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural

sciences. The module covers trigonometry as well as introduce basic calculus concepts.

PHY 121 **Electricity, Magnetism, Vibrations and Waves**

This module provides the background needed for the further study of university level physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

Year Two

CHE211 **Basic Thermodynamics and Chemical Kinetics**

This module introduces students to some fundamental concepts in physical chemistry and other disciplines requiring the understanding of chemical principles. It covers applications of the laws of thermodynamics to chemical and physical equilibrium processes. The topics covered include thermodynamics, electrochemistry and chemical kinetics.

CHE212 **Functional Group Chemistry**

In this module, students are introduced to different types of functional groups that are used in organic chemistry and other disciplines requiring the understanding of chemical principles. The emphasis is on nomenclature, physical and chemical properties, and synthesis and conversion routes.

MAT211 **Calculus I**

The module develops concepts in calculus and equips students with sufficient mathematics knowledge that enables them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

PHY 211: **Mechanics**

EDF 211 **Educational Psychology**

The purpose of the module is to introduce students to theoretical perspectives about human development, learning and student motivation as a critical

foundation base for understanding students' behaviour in and out of the school environment.

EDF 212 **Sociology of Education**

This module aims at familiarising students with key sociological concepts as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general. The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools.

CHE 221 **Acids, Bases and Spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition, the module introduces students to the theory behind various spectroscopic techniques.

CHE 222 **Periodicity and Molecular Bonding**

This module provides an understanding of chemistry at the molecular level and lays the foundation for later modules in inorganic chemistry. The module provides a detailed coverage of the chemistry of elements in group I, II and VII and introduces molecular bonding.

MAT 221 **Calculus II**

This module provides students with further knowledge of calculus and its application to various disciplines such as biology, ecology and dynamical systems to topics including polar coordinates and parametric equations. It extends the set of real numbers to the set of complex numbers.

PHY 221 **Electricity and Magnetism**

SCE 221 **Introduction to Science Education**

This module introduces students to the thinking that underpins teaching of science in general by considering the various learning theories that underpins learning. It also introduces students to the nature of science and elements of history and philosophy of science in their teaching and to appreciate the role of science teachers in promoting public awareness of science.

Year Three

CHE 312 **Chemistry of Aromatic Compounds, Isomerism and Introductory Spectroscopy**

In this module, students are introduced to 3-dimensional properties and reactions of molecules; the four spectroscopic techniques used in organic chemistry for structural determination; and the chemistry of aromatic compounds.

CHE 313 **Theories of Acids and bases, Solid State Chemistry and p-block Elements**

This module aims to help students rationalise the properties of solids from their crystal structures and account for different properties of acids in aqueous and non-aqueous solvents, describe and explain the properties of p-block elements and their compounds. The topics covered include: solid state chemistry, theories of acids and bases and chemistry of p block elements

EDF 311 **Curriculum Theory and Practice**

The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools. The module assists students appreciate underlying issues, principles and assumptions of curriculum development and implementation.

EDF 312 **Education Technology (elective)**

The module provides students with an introduction to the field of educational technology and how it relates to teaching and learning through exposing them to various forms of electronic and digital technologies as well as improvised teaching and learning aids that would facilitate the teaching and learning processes in the classroom.

EDF 313 **Leadership and Management for Educators (elective)**

The module introduces students to the field of educational leadership and management and to help them realise that the school is a social organisation in which the teacher's leadership role is crucial. The module exposes students to various theories of leadership and management and their implications for school leadership.

EDF 314 **Education and Democracy (Elective)**

This module seeks to develop students' appreciation of the critical role of education in the development and promotion of democratic values in the society. The module promotes students' understanding of the democratic challenges inherent in the practice of teaching and how to reflect on them.

SCE 313 **Chemistry for Teachers**

The module helps students to have rounded knowledge and understanding of the chemistry concepts that are critical for enhanced learning for chemistry in

secondary school. The topics include the six core elements of the secondary school chemistry syllabus with emphasis on the core element of environmental chemistry which is offered in a module that education students could not take in the Chemistry Department. The other five core elements include analytical skills in chemistry, properties of matter, chemical reactions, organic and inorganic chemistry.

CHE322 **Named Organic Reactions**

This module provides students with the reaction mechanisms of selected named organic reactions. Formation of enols and enolates, reactions at the α Carbon of carbonyl compounds are explained. Students are also introduced to disconnection approach (retro synthesis) to organic synthesis

CHE323 **Quality Assurance and Classical Methods of Analysis**

The module introduces students to the essential concepts and processes in analytical chemistry with special emphasis on quality assurance and classical methods of analysis.

EDF 321 **Philosophy for Teachers**

This module seeks to develop students' knowledge of the key philosophical assumptions underpinning the contemporary theory and practice in education for professional development and reflective teaching and learning. It enlightens students with past and present theories and concepts in the philosophy of education. Students debate, among other things, what knowledge is worth having and how human beings acquire it; what constitutes the good life and how human beings organise society to promote it; and how education can encourage people to reflect on what it means to live ethically.

EDF 322 **Gender Issues in Education (elective)**

This module broadens students' understanding of theories and issues of gender and their implications on the participation of boys and girls in education and their future life chances. Through this module, students are exposed to the theoretical premises of dominance, stratification, modernism, postmodernism and feminism. This knowledge is useful in promoting gender parity in education.

EDF 323 **Economics of Education (elective)**

The module assists students to understand the origins, implementation and financing of contemporary education policies from an economic perspective,

and introduce them to some theoretical methods used in economic analyses of education. As future leaders in education, students need a sound appreciation of how economic factors influence decision making in education.

EDF 324 **History of Educational Thought (elective)**

This module enables students explore the evolution of the idea of education and nature of education, spanning from the classical times to the present, so that they develop a clear understanding of how to effectively and efficiently facilitate the teaching and learning experiences. Through this module, students appreciate how the country's curriculum and educational policies have been influenced by the early thinkers in education.

SCE 323 **Teaching Strategies in Chemistry**

This module introduces students to pedagogical content knowledge for teaching chemistry. It focuses on strategies to be used in teaching specific chemistry topics and introduces students to other general methods for teaching science, including inquiry based learner centred approaches and use of experiments when teaching science and chemistry.

Year Four

CHE412 **Spectroscopy and Heterocyclic Chemistry**

This module enables students to understand the application of 1D and 2D NMR, IR and MS spectroscopy to determine structures of organic compounds. Students also learn about the use of fused heterocyclic systems in the synthesis of important organic drugs and biomolecules such as DNA. Topics covered include organic spectroscopy and heterocyclic chemistry.

CHE413 **Chemistry of d and f Block Elements**

The module equips students with the knowledge on the physical and chemical properties of d and f block elements and their compounds. Topics covered include: theories of bonding in metal complexes, transition metal organometallic chemistry, electronic configuration and states and the chemistry of f block elements.

EDF 411 **Research Methods in Education**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that enable them carry out research and inquiries on issues related to the field of education and other fields that in turn would contribute to existing knowledge as well as informing the decision-making processes in the

education field.

EDF 412 **Special Needs and Inclusive Education (elective)**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education.

EDF 413 **Adolescent Psychology for Educators (elective)**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development. As prospective secondary school teachers, they will be interacting with adolescents encountering transitional challenges. As such, this module empowers them with practical insights that would enable them to address psychological and social issues secondary school students face.

EDF 414 **Sociology of Education (elective)**

This module provides students with opportunities for advancing their conceptualisation of sociological perspectives. The module helps students apply sociological frameworks in analysing school contexts and processes in terms of ways in which the educational structure reflects broader social, cultural and political systems.

SCE 413 **Curriculum Studies in Chemistry**

This module introduces students to issues of curriculum design in science education in general and in chemistry in particular.

CHE421 **Food Chemistry**

This module provides students with knowledge of the applications of chemical principles used in the food industry. The module covers the chemistry of major food components such as water, lipid, carbohydrate, and protein, including food enzymes. The basic functions of these components are also introduced. Some chemical reactions involving these molecules in relation to food processing and storage are discussed. In addition, methods of chemical modification to change the chemical and physical properties of the food components are also presented.

CHE422 **Natural Products and Medicinal Chemistry**

This module introduces students to the techniques used in the extraction,

isolation and identification of selected classes of natural products, including bio pesticides, peptides and proteins, pharmaceuticals and flavours. Students are also introduced to the history of medicines and the concepts behind drug design and development.

CHE423 **Instrumental Methods of Analysis**

This module provides students with a comprehensive coverage of modern techniques of chemical analysis. It gives an outline of the analytical principles of potentiometric, voltametric, electrogravimetric, coulometric, atomic spectrometry and chromatographic methods of analysis

EDF 421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful classroom assessment and enable them acquire theoretical ground for classroom measurement practices. It enables students to distinguish and use various techniques for assessing students as well as using correct measuring instruments and interpretation of assessment measures in the educational setting.

EDF 422 **Introduction to Education and Development in Africa (elective)**

This module enables education students develop a deeper understanding of the relationship between education (Formal, non-formal and informal) and economic, political and social development of a nation. The module exposes students to theories that explain development and underdevelopment of societies as well as how globalisation and the politics surrounding it affects development and education systems both at global and grassroots level.

EDF 423 **Introduction to Education Policy and Evaluation (elective)**

The module introduces students to educational policy and planning. It exposes them to the processes involved from policy formulation to implementation. The module also examines some of the policies related to education in Malawi to enable students appreciate how educational development programmes are implemented in the country.

EDF 424 **Guidance and Counselling (elective)**

The module equips students with knowledge, attitudes, skills and practices necessary for assisting students deal with challenges and realities they face in the ever-changing environment and realise their full potential. The module introduces key counselling theories that provide insights for assisting students with psychological and emotional problems.

SCE 423 **Curriculum Studies in Chemistry II**

This module helps students consolidate their learning of the art of teaching chemistry and gives them opportunities to apply the techniques learnt in a real classroom situation.

TEP 400 **Teaching Practice**

This module provides students with opportunities to appreciate the realities of the secondary school teaching and learning context through practical experience and reflection based on theories from the education programme. The module thus helps students to apply theoretical notions, approaches, methods and techniques learned in the entire B.Ed. programme to authentic school and classroom situations not only for purposes of advancing their professional development but also to facilitate achievement of curriculum and learner outcomes at school level.

Bachelor of Education in Chemistry (with Biology as minor)

Year One

Bio 111 **Introductory Biology I: Introduction to Cells, Microscopy and Botany**

This module introduces students to the study of life, particularly at cellular level. The module equips students with skills to study the microbial world with the aid of microscopes. It further prepares them for later modules in biology by introducing biological principles that are requisites for the modules. The botany section of the module introduces students to the plant sciences. It provides insights into plant life styles and ways in which plant have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).

CHE111 **General Chemistry I**

This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra needed for college mathematics.

PHY111 **Mechanics and Properties of Matter**

The module provides the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning module in mechanics and properties of Matter. Mechanics is broken down into its three components: statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationship. Students are also introduced to the various groups of properties of matter.

LAN112 **Reading and Listening Skills for Scientists**

This module (meant for scientists) introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in actuarial sciences, mathematics, statistics, economics and business management. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give students a basic working competence in modern business which focuses on English as the medium of communication.

BIO 121 **Introductory Biology II: Introduction to Vertebrate and Invertebrate Zoology**

This module introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates. It further introduces students to the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

CHE121 **General Chemistry II**

This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

This module provides students with the background needed for the further study of university level physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organizations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

Year Two

BIO 211 **General Biology I: Plant Form, Function and Systematics and Vertebrate Form and Function**

This module generally introduces students to basic plant morphology that includes root, stem and leaf structure and function, metabolism in plants, growth and development in plants, taxonomic characters and angiosperm families. It also teaches students practical aspects of plant morphology and anatomy. The module in vertebrate form and function is a system-based study of the gross and micro-anatomy of vertebrates, with special emphasis on functional morphology and embryonic development. It aims at equipping students with the foundation of understanding vertebrate body form and function; that is, cells, tissues, organs and systems. It also compares the evolution of body form and function among vertebrate classes.

CHE211 **Basic Thermodynamics and Chemical Kinetics**

This module introduces students to some fundamental concepts in physical chemistry and other disciplines requiring the understanding of chemical principles. It covers applications of the laws of thermodynamics to chemical and physical equilibrium processes. The topics covered include thermodynamics, electrochemistry and chemical kinetics.

CHE212 **Functional Group Chemistry**

In this module, students are introduced to different types of functional groups that are used in organic chemistry and other disciplines requiring the understanding of chemical principles. The emphasis is on nomenclature, physical and chemical properties, and synthesis and conversion routes.

MAT211 **Calculus I**

The module develops concepts in calculus and equips students with sufficient mathematics knowledge that enables them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

EDF 211 **Educational Psychology**

The module introduces students to theoretical perspectives about human development, learning and student motivation as a critical foundation base for understanding students' behaviour in and out of the school environment. As prospective teachers who will interact with students, they gain an understanding of how students learn and how learning is affected by each student's context, culture and development. As such, the module equips them with necessary tools and insights to function as professional teachers.

EDF 212 **Sociology of Education**

While schools are considered as places where teaching and learning occur, they are social institutions that reflect the broader society and are influenced by internal and external processes. To understand these processes, it is important to appreciate the relationships among social actors within and outside schools. As such, this module familiarises students with key sociological concepts and theories as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general.

BIO 221 **General Biology II: Introduction to Ecology, Genetics, Evolution, Environment and Natural Resources**

This module introduces students to the study of interactions between organisms and their environment. It explains the distribution and abundance of organisms in nature through an understanding of how organisms interact with their abiotic and biotic environments. This module also introduces students to the field of genetics. It provides students with a foundation of knowledge needed for fourth year genetics. It is introduced through such biologically important macromolecules as nucleic acids and proteins, classical and population genetics. Evolution, as a foundation of the biological sciences, is unveiled to students at this level as a stepping stone to further studies in biology. The module also introduces students to the major components of natural resources, their formation and how they interact. Major characteristics of the elements of biodiversity (soil, water, forests, minerals etc.) their values and problems leading to their degradation and finally mitigation and remedial measures in natural resources management are discussed

CHE221 **Acids, Bases and Spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition, the module introduces students to the theory behind various spectroscopic techniques.

CHE222 **Periodicity, Molecular Bonding and Coordination Chemistry**

This module provides students with an understanding of chemistry at the molecular level and lays the foundation for later modules in inorganic chemistry. It provides a detailed coverage of the chemistry of elements in group I, II and VII and introduces molecular bonding.

MAT 223 **Calculus II*(Check course code. Also noted as MAT221)**

This module provides students with further knowledge of calculus and its application to various disciplines such as biology, ecology and dynamical systems to topics including polar coordinates and parametric equations. It extends the set of real numbers to the set of complex numbers.

BIO 221 **General Biology II: Introduction to Ecology, Genetics, Evolution, Environment and Natural Resources**

The module introduces students to the study of interactions between organisms and their environment. It explains the distribution and abundance of organisms in nature through an understanding of how organisms interact with their abiotic and biotic environments. This module also introduces students to the field of genetics. It provides students with a foundation of knowledge needed for fourth year genetics. It is introduced through such biologically important macromolecules as nucleic acids and proteins, classical and population genetics. Evolution, as a foundation of the biological sciences, is unveiled to students at this level as a stepping stone to further studies in biology. The module also introduces students to the major components of natural resources, their formation and how they interact. Major characteristics of the elements of biodiversity (soil, water, forests, minerals etc) their values and problems leading to their degradation and finally mitigation and remedial measures in natural resources management are discussed.

SCE 221 **Introduction to Science Education**

This module introduces students to the thinking that underpins teaching of science in general by considering the various learning theories that underpin learning. It also introduces students to the nature of science and elements of history and philosophy of science in their teaching and to appreciate the role of science teachers in promoting public awareness of science.

Year Three

CHE 312 **Chemistry of Aromatic Compounds, Isomerism and Introductory Spectroscopy**

In this module, students are introduced to 3-dimensional properties and reactions of molecules; the four spectroscopic techniques used in organic chemistry for structural determination; and the chemistry of aromatic compounds.

CHE 313 **Theories of Acids and bases, Solid State Chemistry and p-block Elements**

This module aims to help students rationalise the properties of solids from their crystal structures and account for different properties of acids in aqueous and non-aqueous solvents, describe and explain the properties of p-block elements and their compounds. The topics covered include: solid state chemistry, theories of acids and bases and chemistry of p block elements

EDF 311 **Curriculum Theory and Practice**

The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools. The module assists students appreciate underlying issues, principles and assumptions of curriculum development and implementation.

EDF 312 **Education Technology**

The module provides students with an introduction to the field of educational technology and how it relates to teaching and learning through exposing them to various forms of electronic and digital technologies as well as improvised teaching and learning aids that would facilitate the teaching and learning processes in the classroom.

EDF 313 **Leadership and Management for Educators (elective)**

The module introduces students to the field of educational leadership and management and to help them realise that the school is a social organisation in which the teacher's leadership role is crucial. The module exposes students to various theories of leadership and management and their implications for school leadership.

EDF 314 **Education and Democracy (elective)**

This module seeks to develop students' appreciation of the critical role of education in the development and promotion of democratic values in the society. The module promotes students' understanding of the democratic challenges inherent in the practice of teaching and how to reflect on them.

CHE322 **Named Organic Reactions**

This module provides students with knowledge of the reaction mechanisms of selected named organic reactions. Formation of enols and enolates, reactions at the α carbon of carbonyl compounds are explained. Students are also introduced to disconnection approach (retro synthesis) to organic synthesis.

CHE323 **Quality Assurance and Classical Methods of Analysis**

The module introduces students to the essential concepts and processes in analytical chemistry with special emphasis on quality assurance and classical methods of analysis.

EDF 321 **Philosophy for Teachers**

This module seeks to develop students' knowledge of the key philosophical assumptions underpinning the contemporary theory and practice in education for professional development and reflective teaching and learning. It enlightens students with past and present theories and concepts in the philosophy of education. Students debate, among other things, what knowledge is worth having and how human beings acquire it; what constitutes the good life and how human beings organize society to promote it; and how education can encourage people to reflect on what it means to live ethically.

EDF 322 **Gender Issues in Education (elective)**

This module broadens students' understanding of theories and issues of gender and their implications on the participation of boys and girls in education and their future life chances. Through this module, students are exposed to the theoretical premises of dominance, stratification, modernism, postmodernism and feminism. This knowledge is useful in promoting gender parity in education.

EDF 323 **Economics of Education (elective)**

The module assists students to understand the origins, implementation and financing of contemporary education policies from an economic perspective, and introduce them to some theoretical methods used in economic analyses of education. As future leaders in education, students need a sound appreciation on how economic factors influence decision making in education.

EDF 324 **History of Educational Thought (elective)**

This module enables students explore the evolution of the idea of education and nature of education, spanning from the classical times to the present, so as to have a clearer understanding of how to effectively and efficiently facilitate the teaching and learning experiences. Through this module, students appreciate

how the country's curriculum and educational policies have been influenced by the early thinkers in education.

SCE 323 **Teaching Strategies in Chemistry**

This module introduces students to pedagogical content knowledge for teaching chemistry. It focuses on strategies to be used to teach specific chemistry topics and introduces students to other general methods for teaching science, including inquiry-based, learner-centred approaches and use of experiments when teaching science and chemistry.

Year Four

CHE412 **Spectroscopy and Heterocyclic Chemistry**

The module enables students to understand the application of 1D and 2D NMR, IR and MS spectroscopy to determine structures of organic compounds. Students also learn about the use of fused heterocyclic systems in the synthesis of important organic drugs and biomolecules such as DNA. Topics covered include organic spectroscopy and heterocyclic chemistry

CHE413 **Chemistry of d and f Block Elements**

The module equips students with the knowledge on the physical and chemical properties of d and f block elements and their compounds. Topics covered include: theories of bonding in metal complexes, transition metal organometallic chemistry, electronic configuration and states and the chemistry of f block elements.

EDF 411 **Research Methods in Education**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that enable them carry out research and inquiries on issues related to education and other fields that in turn would contribute to existing knowledge as well as informing the decision-making processes in education.

EDF 412 **Special Needs and Inclusive Education (elective)**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education.

EDF 413 **Adolescent Psychology for Educators (elective)**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development. As prospective secondary school teachers, they will be interacting with adolescents encountering transitional challenges. As such, this module empowers them with practical insights that would enable them to address psychological and social issues secondary school students.

EDF 414 **Sociology of Education (elective)**

This module provides students with opportunities for advancing their conceptualisation of sociological perspectives. The module helps students apply sociological frameworks in analysing school contexts and processes in terms of ways in which the educational structure reflects broader social, cultural and political systems.

SCE 413 **Curriculum Studies in Chemistry**

This module introduces students to issues of curriculum design in science education in general and in chemistry in particular.

CHE421 **Food Chemistry**

This module provides students with knowledge of the applications of chemical principles used in the food industry. The module covers the chemistry of major food components such as water, lipid, carbohydrate, and protein including food enzymes. The basic functions of these components are also introduced. Some chemical reactions involving these molecules in relation to food processing and storage are discussed. In addition, methods of chemical modification to change the chemical and physical properties of the food components are also presented.

CHE422 **Natural Products and Medicinal Chemistry**

This module introduces students to the techniques used in the extraction, isolation and identification of selected classes of natural products, including bio pesticides, peptides and proteins, pharmaceuticals and flavours. Students are also introduced to the history of medicines and the concepts behind drug design and development.

CHE423 **Instrumental Methods of Analysis**

This module provides students with a comprehensive coverage of modern techniques of chemical analysis. It gives an outline of the analytical principles of potentiometric, voltametric, electrogravimetric, coulometric, atomic spectrometry and chromatographic methods of analysis

EDF 421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful classroom assessment and enable them to acquire theoretical grounding for classroom measurement practices. It enables students to distinguish and use various techniques for assessing students as well as using correct measuring instruments and interpretation of assessment measures in the educational setting.

EDF 422 **Introduction to Education and Development in Africa (elective)**

This module enables education students develop a deeper understanding of the relationship between education (Formal, non-formal and informal) and economic, political and social development of a nation. The module exposes students to theories that explain development and underdevelopment of societies as well as how globalisation and the politics surrounding it affects development and education systems both at global and grassroots level.

EDF 423 **Introduction to Education Policy and Evaluation (elective)**

The module introduces students to educational policy and planning. It exposes them to the processes involved from policy formulation to implementation. The module also examines some of the policies related to education in Malawi to enable students appreciate how educational development programmes are implemented in the country.

EDF 424 **Guidance and Counselling (elective)**

The module equips students with knowledge, attitudes, skills and practices necessary for assisting students deal with challenges and realities they face in the ever -changing environment and realise their full potential. The module introduces key counselling theories that provide insights for assisting students with psychological and emotional problems.

SCE 423 **Curriculum Studies in Chemistry II**

This module helps students consolidate their learning of the art of teaching chemistry and gives them opportunities to apply the techniques learnt in a real classroom situation.

TEP 400 **Teaching Practice**

This module provides students with opportunities to appreciate the realities of the secondary school teaching and learning context through practical experience and reflection based on theories from the education programme. The module thus helps students to apply theoretical notions, approaches, methods and techniques learned in the entire B.Ed. programme to authentic school and classroom

situations not only for purposes of advancing their professional development but also to facilitate achievement of curriculum and learner outcomes at school level.

Bachelor of Education in Chemistry (with Mathematics as minor)

Year One

Bio 111 **Introductory Biology I: Introduction to Cells, Microscopy and Botany**

This module introduces students to the study of life, particularly at cellular level. The module equips students with skills to study the microbial world with the aid of microscopes. It further prepares them for later modules in biology by introducing biological principles that are requisites for the modules. The botany section of the module introduces students to the plant sciences. It provides insights into plant life styles and ways in which plants have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).

CHE111 **General Chemistry I**

This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

PHY111 **Mechanics and Properties of Matter**

The module provides the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning module in mechanics and properties of matter. Mechanics is broken down into its three components: statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also introduced to the various groups of properties of matter.

LAN112 **Reading and Listening Skills for Scientists**

This module (meant for scientists) introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in actuarial sciences, mathematics,

statistics, economics and business management. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and to give students a basic working competence in modern business which focuses on English as the medium of communication.

BIO 121 **Introductory Biology II: Introduction to Vertebrate and Invertebrate Zoology**

This module introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates. It further introduces students to the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

CHE121 **General Chemistry II**

This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon.

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays a background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

This module provides the background needed for the further study of university level physics. Student are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organizations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both

individually and collaboratively as they engage in actuarial transactions and practice.

Year Two

CHE211 **Basic Thermodynamics and Chemical Kinetics**

This module introduces students to some fundamental concepts in physical chemistry and other disciplines requiring the understanding of chemical principles. It covers applications of the laws of thermodynamics to chemical and physical equilibrium processes. The topics covered include thermodynamics, electrochemistry and chemical kinetics.

CHE212 **Functional Group Chemistry**

In this module, students are introduced to different types of functional groups that are used in organic chemistry and other disciplines requiring the understanding of chemical principles. The emphasis is on nomenclature, physical and chemical properties, and synthesis and conversion routes.

MAT211 **Calculus I**

The module develops students' understanding of the concepts in calculus and equips them with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

MAT212 **Discrete Mathematics with Applications**

The module provides students with basic knowledge in discrete mathematical structures which are made up of distinct, separate parts. The module covers mathematical language and syntax, proofs and logic, circuits, cryptography, graphs (i.e. relationships among people, agencies, machines, etc.), number theory, combinations and permutations, etc. The relationship between mathematics and computer science is also explored.

EDF 211 **Educational Psychology**

The aim of the module is to introduce students to theoretical perspectives about human development, learning and student motivation as a critical foundation base for understanding students' behaviour in and out of the school environment.

EDF 212 **Sociology of Education**

This module aims at familiarising students with key sociological concepts as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general. The module introduces students to the theory and practice of curriculum development as well as implementation and evaluation in order to enable them enhance effective teaching and learning in schools.

CHE221 **Acids, Bases and Spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition, the module introduces students to the theory behind various spectroscopic techniques.

CHE222 **Periodicity, Molecular Bonding and Coordination Chemistry**

This module provides students with an understanding of chemistry at the molecular level and lays the foundation for later modules in inorganic chemistry. It provides a detailed coverage of the chemistry of elements in group I, II and VII and introduces molecular bonding.

MAT221 **Calculus II**

This module provides students with further knowledge of calculus and its application to various disciplines such as biology, ecology and dynamical systems to topics including polar coordinates and parametric equations. It extends the set of real numbers to the set of complex numbers.

MAT222 **Introduction to Linear Algebra**

This module provides students with the foundation of linear algebra needed for further study of mathematics. It introduces students to the matrix theory which is mostly used in natural sciences.

SCE 221 **Introduction to Science Education**

This module introduces students to the thinking that underpins the teaching of science in general by considering the various learning theories that underpins learning. It also introduces students to the nature of science and elements of history and philosophy of science in their teaching and to appreciate the role of science teachers in promoting public awareness of science.

Year Three

CHE 312 **Chemistry of Aromatic Compounds, Isomerism and Introductory Spectroscopy**

In this module, students are introduced to 3-dimensional properties and reactions of molecules, the four spectroscopic techniques used in organic chemistry for structural determination and the chemistry of aromatic compounds.

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SCE 313 **Chemistry for Teachers**

The module helps students to have rounded knowledge and understanding of the chemistry concepts that are critical for enhanced learning for chemistry in secondary school. Topics include the six core elements of the secondary school chemistry syllabus with emphasis on the core element of environmental chemistry which is offered in a module that education students could not take in the Chemistry Department. The other five core elements include analytical skills in chemistry, properties of matter, chemical reactions, organic and inorganic chemistry.

EDF 311 **Curriculum Theory and Practice**

The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools. The module assists students to appreciate underlying issues, principles and assumptions of curriculum development and implementation.

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Year Four

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This module enables students to understand the application of 1D and 2D NMR, IR and MS spectroscopy to determine structures of organic compounds. Students also learn about the use of fused heterocyclic systems in the synthesis of important organic drugs and biomolecules such as DNA. Topics covered include organic spectroscopy and heterocyclic chemistry.

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The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education.

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This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development. As prospective secondary school teachers, they will be interacting with adolescents encountering transitional challenges. As such, this module empowers them with practical insights that would enable them to address psychological and social issues secondary school students face.

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This module introduces students to issues of curriculum design in science education in general and in chemistry in particular.

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This module provides students with knowledge of the applications of chemical principles used in the food industry. The module covers the chemistry of major food components such as water, lipid, carbohydrate and protein, including food enzymes. The basic functions of these components are also introduced. Some chemical reactions involving these molecules in relation to food processing and storage are discussed. In addition, methods of chemical modification to change the chemical and physical properties of the food components are also presented.

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This module provides students with a comprehensive coverage of modern techniques of chemical analysis. It gives an outline of the analytical principles of potentiometric, voltametric, electrogravimetric, coulometric, atomic spectrometry and chromatographic methods of analysis

EDF 421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful classroom assessment and enable them to acquire theoretical grounding for classroom measurement practices. It enables students to distinguish and use various techniques for assessing learners as well as using correct measuring instruments and interpretation of assessment measures in the educational setting.

EDF 422 **Introduction to Education and Development in Africa (elective)**

This module enables education students develop a deeper understanding of the relationship between education (Formal, non-formal and informal) and economic, political and social development of a nation. The module exposes students to the theories that explain development and underdevelopment of societies as well as how globalisation and the politics surrounding it affects development and education systems both at global and grassroots levels.

EDF 423 **Introduction to Education Policy and Evaluation (elective)**

The module introduces students to educational policy and planning. It exposes them to the processes involved from policy formulation to implementation. The module also examines some of the policies related to education in Malawi to enable students appreciate how educational development programmes are implemented in the country.

EDF 424 **Guidance and Counselling (elective)**

The module equips students with knowledge, attitudes, skills and practices necessary for assisting learners deal with the challenges and realities they face in the ever -changing environment and realise their full potential. The module

introduces key counselling theories that provide insights for assisting students with psychological and emotional problems.

SCE 423 **Curriculum Studies in Chemistry II**

This module helps students consolidate their learning of the art of teaching chemistry and gives them opportunities to apply the techniques learnt in a real classroom situation.

TEP 400 **Teaching Practice**

This module provides students with opportunities to appreciate the realities of the secondary school teaching and learning context through practical experience and reflection based on theories from the education programme. The module thus helps students to apply theoretical notions, approaches, methods and techniques learned in the entire B.Ed. programme to authentic school and classroom situations not only for purposes of advancing their professional development but also to facilitate achievement of curriculum and learner outcomes at school level.

Bachelor of Education in Computer Sciences

COM111 **Introduction to Computer Science**

This module aims at introducing students to the basics of computing, covering principles of computing, components of computer systems, and common computer software. The module covers topics such as computer organisation, data representation, computer hardware, standard operating systems and data communication. In addition, the module provides students with an opportunity to develop skills in software packages like word processors and spreadsheets.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

LAN112 **Reading and Listening Skills for Science**

This module introduces students to reading, listening and communication skills and their application in computer science. The module is designed to enable students develop academic skills required to successfully complete their studies at college level through strengthening their competence in English as a medium of communication.

COM121 **Introduction to Computer Programming**

The aim of this module is to equip students with concepts of computer programing in solving identified problems. More specifically, the module equips students with skills in how to gather software requirements, design algorithms, develop software as well as test and document programmes developed.

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. The course covers trigonometry as well as introduce basic calculus concepts.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of science such as communication across organisations and technical operations, technical editing, writing in the social media and emerging technology, for effective communication purposes. The module is designed to develop writing skills in students to enhance individual and group work in their studies and career as scientists.

COM211 **Operating Systems**

In this module, students are introduced to key concepts of computer operating systems, including their design, implementation and aspects of operation. Students also have an opportunity to develop practical skills regarding the use of common operating systems.

MAT211 **Calculus I**

The module aims at developing concepts in calculus to equip students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical courses.

MAT212 **Discrete Mathematics with Applications**

This module aims to develop students' basic knowledge of discrete mathematics. The module assists students to appreciate the distinction between the continuous real number line from calculus from discrete mathematics, which emphasises mathematical language and syntax, proofs and logic, circuits, cryptography, graphs (i.e., relationships among people, agencies, machines, etc.), number theory, combinations and permutations.

MAT213 **Introduction to Mathematical Computing**

This course gives students basic knowledge in computing software that is used to solve mathematical problems. It introduces students to various mathematical packages that are used to solve problems that do or do not have analytical solutions.

EDF 211 **Educational Psychology**

The module introduces students to theoretical perspectives about human development, learning and student motivation as a critical foundation base for understanding students' behaviour in and out of the school environment. As prospective teachers who will interact with students, they will gain understanding of how students learn and how learning is affected by each student's context, culture and development. As such, the module equips students with the necessary tools and insights to function as professional teachers.

EDF 212 **Sociology of Education**

While schools are considered as places where teaching and learning occur, they are social institutions that reflect the broader society and are influenced by internal and external processes. To understand these processes, it is important to appreciate the relationships among social actors within and outside schools. As such, this module familiarises students with key sociological concepts and theories as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general.

MAT221 **Calculus II**

This module aims at providing students with advanced skills and knowledge in calculus for the study of other mathematics courses. The course enables students learn the application of mathematics in biology, ecology and dynamical systems, among others.

COM221 **Advanced Computer Programming**

This module introduces students to concepts of advanced programming and software development frameworks, covering key issues in computer science such as object oriented programming, parallel programming, development of graphical user interfaces, network programming, client-server architecture, and database programming. In the end, the module provides students with programming and problem solving skills necessary for them to do well when attempting more advanced topics in computing.

COM222 **Database Systems**

This module introduces students to the foundations of database systems, focusing on basics such as database management systems, entity relationship modeling, relational algebra and data models, schema normalisation, query optimisation and transactions. An understanding of databases is essential in the development of simple and complex software solutions that must store, retrieve and process data.

INF221 **Web Design and Development**

The module introduces students to theoretical and practical aspects of web programming as an essential skill in Information Systems. It helps students to begin to understand and utilise the internet and World Wide Web as a deployment platforms for Information Systems.

SCE221 **Introduction to Science Education**

This module introduces students to the thinking that underpins teaching of science in general by considering the various learning theories that underpins learning. The module exposes students to the nature of science and elements of history and philosophy of science in their teaching and to appreciate the role of science teachers in promoting public awareness of science.

COM311 **Software Engineering**

This module aims to introduce students to the fundamentals of software engineering. By studying this module, students develop a systematic and disciplined approach to engineering software products. The module, among other topics, covers principles, practices and methodologies to the creation, operation and maintenance of software systems..

COM312 **Human Computer Interaction**

This module discusses important considerations for human-centered design of interactive computer systems across platforms (desktops, mobile devices, wearables, etc.). In line with this, the module addresses abilities and limitations of both humans and computers, cognition, design and implementation of user studies, rapid prototyping of systems, usability principles, and how to perform usability studies. The coverage of this content is meant to provide students with theoretical and practical skills required to design for optimal user experiences, in the use of computer systems.

COM314 **Algorithms and Data Structures**

Storage of data and determination of efficient ways to access and process that

data, as well as the complexity of attempting to solve computational problems is a core concern in computing. This module provides students with skills in mathematical reasoning, to establish the properties of algorithms, as well as determine the complexity and efficiency of searching and sorting algorithms applied to a variety of data structures. Students also develop skills in how to select and implement appropriate searching and sorting algorithms, and related data structures, to solve particular problems.

SCE314 **Computer Science for Teachers**

This module addresses fundamental concepts required in the teaching of computer science which may not have been covered in the modules done by the students. It discusses contemporary issues in computing such as computer security, internet governance, green computing and cloud computing.

EDF 311 **Curriculum Theory and Practice**

The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools. The module assists students appreciate underlying issues, principles and assumptions of curriculum development and implementation.

EDF 312 **Education Technology**

The module provides students with an introduction to the field of educational technology and how it relates to teaching and learning through exposing them to various forms of electronic and digital technologies as well as improvised teaching and learning aids that would facilitate the teaching and learning processes in the classroom.

EDF 313 **Leadership and Management for Educators (elective)**

The module introduces students to the field of educational leadership and management to help them realise that the school is a social organisation in which the teacher's leadership role is crucial. The module exposes students to various theories of leadership and management and their implications for school leadership.

EDF 314 **Education and Democracy (elective)**

This module seeks to develop students' appreciation of the critical role of education in the development and promotion of democratic values in the society. The module promotes students' understanding of the democratic challenges inherent in the practice of teaching and how to reflect on them.

COM321 **Automata Theory, Languages and Computation**

This module introduces students to the application of mathematical models of computation. Using the fundamental ideas of (non) computability and complexity presented in this module, students are able to discuss the practical and theoretical significance of the various computational models. The module covers automata, regular and context-free languages, computability and new paradigms in computing.

COM322 **Computer Networks**

This module introduces students to the operational and organisational contexts of computer networks. The module covers basic networking concepts, network models, protocols, design issues, types of networks and security issues. The module also exposes students to key design and operational aspects of the Internet.

COM323 **Object-oriented Systems Analysis and Design**

This module introduces students to the object-oriented model as an aid to understanding a system under study and representing the system's requirements. The module covers principles, tools and best practices in object modeling, analysis and design. In addition, the module evaluates the object-oriented approach to systems design, comparing it to other well established approaches.

SCE324 **Teaching Strategies in Computer Science**

This module introduces students to different teaching methods. It provides students with theoretical knowledge and practical skills in planning, as well as devising alternative approaches and modes of delivering computer science lessons.

EDF 321 **Philosophy for Teachers**

This module seeks to develop students' knowledge of the key philosophical assumptions underpinning the contemporary theory and practice in education for professional development and reflective teaching and learning. It exposes students to the past and present theories and concepts in the philosophy of education. Students debate, among other things, what knowledge is worth having and how human beings acquire it; what constitutes the good life and how human beings organise society to promote it; and how education can encourage people to reflect on what it means to live ethically.

EDF 322 **Gender Issues in Education (elective)**

This module broadens students' understanding of theories and issues of gender

and their implications on the participation of boys and girls in education and their future life chances. Through this module, students are exposed to the theoretical premises of dominance, stratification, modernism, postmodernism and feminism. This knowledge is useful in promoting gender parity in education.

EDF 323 **Economics of Education (elective)**

The module assists students to understand the origins, implementation and financing of contemporary education policies from an economic perspective, and introduces them to some theoretical methods used in economic analyses of education. As future leaders in education, students need a sound appreciation of how economic factors influence decision making in education.

EDF 324 **History of Educational Thought (elective)**

This module explores the evolution of the idea and nature of education, spanning from the classical times to the present, to enable students develop a clear understanding of how to effectively and efficiently facilitate the teaching and learning experiences. Through this module, students appreciate how the country's curriculum and educational policies have been influenced by the early thinkers in education.

COM411 **Mobile Applications Development**

This module introduces students to current mobile technologies, application architectures, platforms and tools. It builds on key principles of software engineering techniques, human computer interaction designs and object-oriented programming skills to develop interactive mobile applications. It also highlights the various technical, ethical and social issues in the development of mobile applications.

COM412 **Project Management**

This module provides students with project management skills. The module examines project management in theory and practice and the roles and responsibilities of the project manager. The module offers a practical approach to managing projects, focusing on organising, planning and controlling the efforts of the project throughout the project life cycle. Students take a case study through the essentials of a four-phase project planning process, learning about the challenges at each stage. The module is based on the best and most current thinking in the field, particularly the Project Management Institute's (PMI®) approach.

COM315 **LINUX Systems Administration**

The module introduces students to the fundamentals of Linux systems

administration, enabling them to install and configure Linux systems. The module covers topics ranging from Linux operating system architecture, installation and package management, user interfaces, common administrative commands, systems services, networking, and security.

COM414 **Research Methods and Ethics in Computing**

This module familiarises students with the scientific research processes in computer science and allows them to apply varying research methods in their research. The module affords students the ability to identify assumptions, limitations and premises of research approaches and methodologies. From this understanding, students can then discuss ethical aspects of research designs and dissemination mechanisms available in computer science.

SCE414 **Curriculum Studies in Computer Science**

This module focuses on curriculum issues in computer science education. The module provides students with a deep understanding of theories of learning in computer science to help them acquire the ability to design computer-based teaching and learning resources.

EDF 411 **Research Methods**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that enable them carry out research and inquiries on issues related to education and other fields that in turn would contribute to existing knowledge as well as informing decisions made, especially in policy making in education.

EDF 412 **Special Needs Education**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education as they teach and manage the learners with diverse learning needs.

EDF 413 **Adolescent Psychology**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development and provides insights that would enable them to address psychological and social issues associated with adolescence as secondary school teachers.

EDF 414 **Sociology of Education (elective)**

This module provides students with opportunities for advancing their conceptualisation of sociological perspectives. The module helps students apply sociological frameworks in analysing school contexts and processes in terms of ways in which the educational structure reflects broader social, cultural and political systems.

COM422 **ICT Project**

This module provides students with practical experience to the design and construction of computerised information systems. The module affords students an opportunity to experience and perform the following aspects of information systems development: project planning and management, requirements capture and modeling, coding, documentation, testing, deployment and presentation. Students also learn the dynamics of group work.

COM423 **Business Management for Computer Scientists**

This module introduces students to the fundamentals of business environments, operations and management. In taking this module, students have an opportunity to learn both theoretical and practical skills in how to conceptualise business ideas, conduct market research, develop business plans and make considerations on how to source funding and implement their business plans. Knowledge in how to plan and manage businesses is an essential component of modern curriculum in computing, especially in a country like Malawi where there is significant need for job creation.

COM325 **Artificial Intelligence/INF423: Internet Governance**

This module introduces students to artificial intelligence, providing a basis for analysing computational problems, designing and developing intelligent systems. To achieve these, the module provides students with a general introduction to artificial intelligence, its techniques and main subfields: knowledge representation, rule-based systems, search, learning, natural language processing, and machine learning.

SCE424 **Curriculum Studies in Computer Science II**

The module advances students' skills in the practices of teaching secondary school computer science. Therefore, apart from designing design computer-based teaching and learning resources, the module provides students with opportunities to practice using such resources in a typical secondary school classroom context. The module also gives students an opportunity to reflect on the practice of teaching computer science in secondary schools in Malawi.

EDF 411 **Research Methods in Education**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that enable them carry out research and inquiries on issues related to education and other fields that in turn would contribute to existing knowledge as well as informing the decision-making processes in education.

EDF 412 **Special Needs and Inclusive Education (elective)**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education.

EDF 413 **Adolescent Psychology for Educators (elective)**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development. As prospective secondary school teachers, they will be interacting with adolescents encountering transitional challenges. As such, this module empowers them with practical insights that would enable them to address psychological and social issues secondary school students face.

EDF 421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful classroom assessment and enable them acquire theoretical ground for classroom measurement practices. It enables students to distinguish and use various techniques for assessing learners as well as using correct measuring instruments and interpretation of assessment measures in the educational setting.

EDF 422 **Introduction to Education and Development in Africa (elective)**

This module enables education students develop a deeper understanding of the relationship between education (Formal, non-formal and informal) and economic, political and social development of a nation. The module exposes students to theories that explain development and underdevelopment of societies as well as how globalisation and the politics surrounding it affects development and education systems both at global and grassroots level.

EDF 423 **Introduction to Education Policy and Evaluation (elective)**

The module introduces students to educational policy and planning. It exposes them to the processes involved from policy formulation to implementation.

The module also examines some of the policies related to education in Malawi to enable students appreciate how educational development programmes are implemented in the country.

EDF 424 **Guidance and Counseling (elective)**

The module equips students with knowledge, attitudes, skills and practices necessary for assisting students deal with the challenges and realities they face in the ever -changing environment and realise their full potential. The module introduces key counselling theories that provide insights for assisting students with psychological and emotional problems.

TEP 400 **Teaching Practice**

This module provides students with opportunities to appreciate the realities of the secondary school teaching and learning context through practical experience and reflection based on theories from the education programme. The module thus helps students to apply theoretical notions, approaches, methods and techniques learned in the entire B.Ed. programme to authentic school and classroom situations not only for purposes of advancing their professional development but also to facilitate achievement of curriculum and learner outcomes at school level.

Bachelor of Education in Physics (with Mathematics as minor)

Year One

PHY111 **Mechanics and Properties of Matter**

The module provides the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning course in mechanics and properties of matter. Mechanics is broken down into its three components: Statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also introduced to the various groups of properties of matter.

CHE111 **General Chemistry I**

This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

Bio 111 **Introductory Biology I: Introduction to Cells, Microscopy and Botany**

This module introduces students to the study of life, particularly at cellular level. The module equips students with skills to study the microbial world with the aid of microscopes. It further prepares them for later modules in biology by introducing biological principles that are requisites for the modules. The botany section of the module introduces students to the plant sciences. It provides an insight into plant life styles and ways in which plants have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).

LAN112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as a medium of communication.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

This module provides the background needed for the further study of university level physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students on how to conduct basic experiments in vibrations and waves, electricity and magnetism.

CHE121 **General Chemistry II**

This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

BIO 121 **Introductory Biology II: Introduction to Vertebrate and Invertebrate Zoology**

This module introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates. It further introduces students to the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organizations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

Year Two

PHY211 **Mechanics I**

In this module, students are presented with theoretical aspects of mechanics where they deal with motion of bodies. This module builds on the mechanics that students cover in PHY 111 (Mechanics and Thermal properties of matter) which is a first year module. The module exposes students to a higher level of concepts of mechanics.

ELE211 **Introduction to Analogue Electronics**

This module provides the theoretical background needed for the further study of analogue electronics. With the background provided, the students are able to demonstrate an understanding of the basics and applications of active devices, basic logic concepts and gates. Beyond this, they should be able to demonstrate an understanding of circuit theorems and their application in the analysis of alternating and direct current circuits.

MAT211 **Calculus I**

The module develops concepts in calculus and equips students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

EDF 211 **Educational Psychology**

The purpose of the module is to introduce students to theoretical perspectives about human development, learning and student motivation as a critical foundation base for understanding students' behaviour in and out of the school environment.

EDF 212 **Sociology of Education**

This module aims at familiarising students with key sociological concepts as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general. The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools.

PHY221 **Electricity and Magnetism I**

This module provides a deeper understanding of concepts of electricity and magnetism. It builds on the concepts covered in PHY121 (Vibration and Waves &Electricity and Magnetism). This module enables students to, among others, explain how generators, motors and Inductor-Resistor-Capacitor circuits operate.

ELE 221 **Introduction to Digital Electronics**

This module provides knowledge of fundamental digital design and systematic methods of analysis and design of digital systems. Among the expected techniques and methods of analyses, students are able to convert between different number systems and describe some different codes, explain the function of basic digital combinatorial circuits and sequential circuits, employ Boolean algebra to describe the function of logic circuits, design circuits which represent digital logic expressions; specifically, the design of a gate-level digital circuit to implement a given Boolean function and finally, design through simulations and construct/ implement programmable logic devices or PLCs and combinational to sequential networks.

MAT221 **Calculus II**

This module aims at providing students with advanced skills and knowledge in calculus for the study of other mathematics courses. The module enables students learn the application of mathematics in biology, ecology and dynamical systems, among other things.

SCE 221 **Introduction to Science Education**

This module introduces students to the thinking that underpins teaching of science in general by considering the various learning theories that underpin learning. It also introduces students to the nature of science and elements of history and philosophy of science in their teaching and to appreciate the role of science teachers in promoting public awareness of science.

Year Three

PHY311 **Newtonian Mechanics and Special Theory of Relativity**

This module equips students with knowledge in Newtonian Mechanics and Special Theory of Relativity. It deals with the study of the causal relationship, in the natural world, between force, mass and motion. Among others, the module covers concepts such as work, energy, dynamics of rigid body and principle of relativity.

PHY312 **Modern Physics**

This module helps students to understand the concepts of modern physics and introduces them to quantum mechanics. The module covers concepts of relativity and quantum mechanics. Modern physics is an effort to understand the underlying processes of the interactions of matter utilising the tools of science and engineering. Among others, students learn concepts such as the foundations of quantum mechanics, black-body radiation, particle in a box, Bohr model of the atom and application of quantum mechanics.

ELE 313 **Device Electronics I**

This module provides students with the background necessary for the further study of university level physics in order for them to demonstrate an understanding of semiconductor physics for intrinsic and extrinsic materials. These materials lay the foundation for the understanding of semiconductor diodes, Bipolar Junction Transistors (BJTs) and their small signal and high frequency analysis. Additionally, students are equipped with skills to analyse the performance of Field Effect Transistors (FETs), rectifier and regulated circuits.

SCE318 **Physics for Teachers**

This module deals with the fundamental concepts in physics such as energy,

force and matter which are critical in other disciplines which prepare students for other teaching strategies modules. Students are also given a chance to suggest effective ways of successfully delivering physics lessons at secondary school level.

EDF 312 **Education Technology**

The module provides students with an introduction to the field of educational technology and how it relates to teaching and learning through exposing them to various forms of electronic and digital technologies as well as improvised teaching and learning aids that would facilitate the teaching and learning processes in the classroom.

EDF 313 **Leadership and Management for Educators (elective)**

The module introduces students to the field of educational leadership and management to help them realise that the school is a social organisation in which the teacher's leadership role is crucial. The module exposes students to various theories of leadership and management and their implications for school leadership.

EDF 314 **Education and Democracy (elective)**

This module seeks to develop students' appreciation of the critical role of education in the development and promotion of democratic values in the society. The module promotes students' understanding of the democratic challenges inherent in the practice of teaching and how to reflect on them.

PHY321 **Electromagnetism I**

This module provides grounding in concept of electromagnetism. It deals with electromagnetism which is a branch of physics that involves the study of the electromagnetic force, a type of physical interaction that occurs between electrically charged particles. In this module, students learn concepts such as electric field, electric potential, the magnetic field, electromagnetic induction and Maxwell's Equations.

PHY322 **Solid State Physics**

Solid-state physics is the study of rigid matter, or solids, through methods such as quantum mechanics, crystallography, electromagnetism and metallurgy. It is the largest branch of condensed matter physics. In this module, students study, among others, concepts such as crystal binding, electrical properties of metals, semiconductors and superconductivity.

ELE 323 **Digital Electronics**

This module aims at providing students with further grounding in electronics for physics and opportunities to specialise in electronics-related disciplines in later years. Students are expected to analyse and construct sequential networks; describe the behaviour of digital components by using hardware description languages; use computer tools to simulate digital systems and realise the system in different types of programmable logic devices. Additionally, students are able to describe the function, characteristics and structure of different digital memory systems.

SCE328 **Teaching Strategies in Physical Science**

This module highlights effective strategies for teaching physics to secondary school students. The module builds on key principles of teaching and learning theories while emphasising the importance of using various teaching methods.

EDF 321 **Philosophy for Teachers**

This module seeks to develop students' knowledge of the key philosophical assumptions underpinning the contemporary theory and practice in education for professional development and reflective teaching and learning. It exposes students to past and present theories and concepts in the philosophy of education. Students debate, among other things, what knowledge is worth having and how human beings acquire it; what constitutes the good life and how human beings organise society to promote it; and how education can encourage people to reflect on what it means to live ethically.

EDF 322 **Gender Issues in Education (elective)**

This module broadens students' understanding of theories and issues of gender and their implications on the participation of boys and girls in education and their future life chances. Through this module, students are exposed the theoretical premises of dominance, stratification, modernism, postmodernism and feminism. This knowledge is useful in promoting gender parity in education.

EDF 323 **Economics of Education (elective)**

The module assists students to understand the origins, implementation and financing of contemporary education policies from an economic perspective, and introduce them to some theoretical methods used in economic analyses of education. As future leaders in education, students need a sound appreciation on how economic factors influence decision making in education.

EDF 324 **History of Educational Thought (elective)**

This module enables students explore the evolution, idea and nature of education, spanning from the classical times to the present, so that students have a clear understanding of how to effectively and efficiently facilitate the teaching and learning experiences. Through this module, students appreciate how the country's curriculum and educational policies have been influenced by the early thinkers in education.

Year Four

PHY412 **Quantum Mechanics**

This module aims at providing students with an understanding of the rationale for using quantum theory. Students appreciate the power of quantum theory over a range of physical phenomena and the deep conceptual issues it raises. The module further introduces the mathematical expressions of the basic principles of quantum mechanics and methods for finding solutions of problems that permit straightforward mathematical analysis.

ELE 413 **Microprocessors and Microcontrollers**

This module develops in students the fundamental skills needed to understand the theory of microprocessor and micro-controller chips in computer architecture and design of microcontroller-based systems. It covers the evolution of microprocessors, microprocessor and micro controller, internal architecture of 8 bit microprocessor 8085, concept of fetch –decode and execute assembly Language Programming and Memory Interfacing.

SCE418 **Curriculum Studies in Physics I**

This module introduces some issues related to the physics curriculum. It offers students skills in curriculum mapping, importance of curriculum mapping, designing a learning unit and other important curriculum issues.

EDF 411 **Research Methods in Education**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that enables them carry out research and inquiries on issues related to education and other fields that in turn would contribute to existing knowledge as well as informing the decision-making processes in education.

EDF 412 **Special Needs and Inclusive Education (elective)**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education. It also exposes them to knowledge of the common conditions that learners with special needs have with the aim of equipping them with strategies on how to handle and manage them in a way that fosters effective learning and inclusive education.

EDF 413 **Adolescent Psychology for Educators (elective)**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development. As prospective secondary school teachers, they will be interacting with adolescents encountering transitional challenges. As such, this module empowers them with practical insights that would enable them to address the psychological and social issues secondary school students face.

EDF 414 **Sociology of Education (elective)**

This module provides students with opportunities for advancing their conceptualisation of sociological perspectives. The module helps students apply sociological frameworks in analysing school contexts and processes in terms of ways in which the educational structure reflects broader social, cultural and political systems.

PHY421 **Thermodynamics & Statistical Thermodynamics**

This module builds on the thermal properties and concepts introduced in year 1 PHY111 Properties of Matter and year 2 PHY212 Thermal Physics modules. The module exposes students to the principles and applications of thermodynamics and how its laws arise naturally from the statistical properties of an ensemble.

ELE 423 **Digital Signal processing**

This module provides opportunities for students to explore digital signal processing, which is basically mathematically modelled as a function or a sequence of numbers that represent the state or behaviour of a physical system. Through the module, students appreciate the fundamental theories and techniques to construct modern information systems. The module, among other things, addresses issues on the concept and classification of discrete-time signals, representations of signals in time, frequency, and discrete frequency domains, representations and analyses of systems, and filter designs.

EDF421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful

classroom assessment. Through the module, students acquire theoretical grounding for classroom measurement practices, which they will use in real-life classroom situations in Malawian secondary schools.

SCE 428 **Curriculum Studies in Physics II**

This module gives students a chance to have a real feeling of a classroom. The module prepares students for Teaching Practice by allowing them to undergo microteaching, and practising assessment for physics teachers

TEP 400 **Teaching Practice**

This module provides students with opportunities to appreciate the realities of the secondary school teaching and learning context through practical experience and reflection based on theories from the education programme. The module thus helps students to apply theoretical notions, approaches, methods and techniques learned in the entire B.Ed. programme to authentic school and classroom situations not only for purposes of advancing their professional development but also to facilitate achievement of curriculum and learner outcomes at school level.

Bachelor of Education in Physics (with Chemistry as minor)

Year One

PHY111 **Mechanics and Properties of Matter**

The module provides students with the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning course in mechanics and properties of matter. Mechanics is broken down into its three components: Statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also introduced to the various groups of properties of matter.

CHE111 **General Chemistry I**

This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

BIO 111 **Introductory Biology I: Introduction to Cells, Microscopy and Botany**

This module introduces students to the study of life, particularly at cellular level. The module equips students with skills to study the microbial world with the aid of microscopes. It further prepares them for later modules in biology by introducing biological principles that are requisites for the modules. The botany section of the module introduces students to the plant sciences. It provides insights into plant life styles and ways in which plants have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).

LAN112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as a medium of communication.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

This module provides students with the background needed for the further study of university level physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

CHE121 **General Chemistry II**

This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon.

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

BIO 121 **Introductory Biology II: Introduction to Vertebrate and Invertebrate Zoology**

This module introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates. It further introduces students to the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organizations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

Year Two

CHE211 **Basic Thermodynamics and Chemical Kinetics**

This module introduces students to some fundamental concepts in physical chemistry. It covers applications of the laws of thermodynamics to chemical and physical equilibrium processes. The topics covered include thermodynamics, electrochemistry and chemical kinetics

CHE212 **Functional Group Chemistry**

In this module, students are introduced to different types of functional groups that are used in organic chemistry. The emphasis is on nomenclature, physical and chemical properties, and synthesis and conversion routes.

CHE221 **Acids, bases and spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition, the module introduces students to the theory behind various spectroscopic techniques.

CHE222 **Periodicity and Molecular Bonding**

The module provides students with a detailed look at the chemistry of elements in group I, II and VII and introduces molecular bonding. The topics covered are: the periodic table, chemistry of group I, II and VII elements and molecular bonding

Year Three

CHE312 **Chemistry of aromatic compounds, isomerism and introductory spectroscopy**

This module aims to introduce to students 3-dimensional properties and reactions of molecules, the four spectroscopic techniques used in organic chemistry for structural determination and the chemistry of aromatic compounds.

CHE322 **Named Organic Reactions**

This module introduces students to the reaction mechanisms of selected named organic reactions. Formation of enols and enolates, reactions at α Carbon of carbonyl compounds are explained. Students are also introduced to disconnection approach (retro synthesis) to organic synthesis.

Bachelor of Education in Physics (with Computer Science as minor)

Year One

Module Code	Module Name and Descriptor
COM111	**Introduction to Computer Science**

This module aims at introducing students to the basics of computing, covering principles of computing, components of computer systems, and common computer software. The module covers topics such as computer organization, data representation, computer hardware, standard operating systems, and data communication. In addition, the module provides students with an opportunity to develop skills in software packages like word-processors and spreadsheets.

COM121 **Introduction to Computer Programming**

The aim of this module is to equip students with concepts of computer programming in solving identified problems. More specifically, the module equips

students with skills in how to gather software requirements, design algorithms, develop software, as well as test and document programmes developed.

Year Two

COM211 **Operating Systems**

In this module, students are introduced to key concepts of computer operating systems, including their design, implementation and aspects of operation. Students also have an opportunity to develop practical skills regarding the use of common operating systems.

COM222 **Database Systems**

This module introduces students to the foundations of database systems, focusing on basics such as database management systems, entity relationship modeling, relational algebra and data models, schema normalisation, query optimisation, and transactions. An understanding of databases is essential in the development of simple and complex software solutions that must store, retrieve, and process data.

Year Three

COM311 **Software Engineering**

This module introduces students to the fundamentals of software engineering, covering principles, practices and methodologies to the creation, operation and maintenance of software systems. By studying this module, students develop a systematic and disciplined approach to engineering software products.

COM321 **Automata Theory, Languages, and Computation**

This module introduces students to the application of mathematical models of computation. Using the fundamental ideas of (non-) computability and complexity to be presented in this module, students are able to discuss the practical and theoretical significance of the various computational models. The module covers automata, regular and context-free languages, computability and new paradigms in computing.

Bachelor of Education Generic

Before launching Bachelor of Education specialised programmes, the School of Education had one four-year Bachelor of Education programme. Students enrolled in this programme major in any of the following three fields: Languages, Sciences and Social Studies. Students register for foundation and curriculum and teaching studies courses in the School of Education and content subjects in content departments. Below are modules offered by the two departments in the School, namely, Curriculum and Teaching Studies (CATS) and Education Foundations.

Department of Curriculum and Teaching Studies (CATS)

Year One

Bachelor of Education (Generic) students follow common modules with students of other programmes such as B.A., B.Soc or B.Sc., in year one. They take 5 modules which should come from FIVE content departments.

Modules for Language Education

Year Two

Module Code	Module Name and Descriptor
LED 212:	**Introduction to Teaching of Language and Literature**
	The aim of this module is to introduce students to the theories and methods of teaching language and literature in secondary schools. Students analyse the theories and methods associated with the teaching and learning of language and literature and examine the applicability of the methods in the Malawian secondary school context.
LED 222:	**Language Assessment and Syllabus Evaluation**
	This module aims to introduce students to the principles of the construction and use of language and literature tests and the design and evaluation of language and literature syllabi for the languages taught in Malawi. As part of the module, students evaluate current public tests and syllabus materials for their appropriateness to the Malawian language teaching context.

Year Three

LED 322:	**The Teaching of English Language**
	The module aims at developing students' knowledge and skills in the teaching of English language at both junior and senior secondary school levels. The module further emphasises the teaching of grammar and critical thinking within the context of the four language skills and of the English language teaching programme as a whole.
LED 323:	**The Teaching of Literature in English**
	This module equips students with knowledge of the relevant approaches to the teaching of literature in order to enable them effectively teach literature in Malawian secondary schools. Students discuss the effective techniques/activities for teaching each of the literature genres and practice teaching all the genres of literature at designated schools.

LED 341: **Introduction to the Teaching of French in Secondary School**

The module aims at introducing students to the basic concepts of French teaching methodology, techniques and methods used in French language teaching, in order to enable them acquire skills needed for the teaching of French as a foreign language.

LED 342: **Methods of Teaching French as a Foreign Language**

This module prepares students to teach French effectively in secondary schools, through a detailed analysis of various language teaching methodologies, classroom practices and activities.

Year Four

LED 411: **Language Classroom Observation and Analysis**

This is a core module and aims at introducing students to ways of observing and analysing classroom behaviour in a language lesson, with a view to aiding them in their self-evaluation of language teaching competence. Students discuss issues relating to the nature of a language classroom, perspectives and procedures for conducting classroom research, and the instruments used for collection and analysis of classroom data. The students then teach and observe actual lessons for purposes of practicing the skills of formal observation and analysis of language lessons.

LED 422: **Classroom Practice in Chichewa**

In this module, students apply theoretical notions, concepts, methods and techniques learned in Chichewa methodology to a real-life classroom situation in preparation for their Teaching Practice which is a requirement of the programme.

LED 423: **Classroom Practice in English**

This module aims at enabling students to apply theoretical notions, concepts, methods and techniques learned in English methodology to a real-life classroom situation. The module enables students to develop their own and others' skills by applying techniques for observing and analysing classroom behaviour in the language lesson to their own and their peers' teaching. Overall, the module exposes students to the realities and responsibilities of teaching in a Malawian secondary school.

LED 424: **Classroom Practice in French**

The module will enable students to apply theoretical notions, concepts, methods and techniques learned in French methodology to a real-life classroom situation in preparation for their Teaching Practice at the end of the programme.

Modules for Social Studies Education

Students take any one of the following modules depending on their area of specialisation. Each module is taught for 2 hours a week in semesters one and two.

Year Two

Module Code **Module Name and Descriptor**

Modules for Science and Mathematics Education

Year Two

Module Code **Module Name and Descriptor**

Department of Educational Foundations

Educational Foundations modules are offered by the Educational Foundations Department and run from second year to fourth year of the four year Bachelor of Education programme. Education foundation studies constitute an essential component of the training of a professional teacher. Courses offered are mandatory that every student-teacher must go through during pre-service and in-service training. In brief, these courses will:

- Develop student's knowledge of the key philosophical assumptions that underpin the contemporary theory and practice of education for professional growth and reflective teaching and learning.
- Apply sociological theories for effective interaction in the educational environment and beyond.
- Develop skills and competences in students for leading and managing contemporary educational institutions and activities.
- Equip students with knowledge and skills that will enable them teach and manage students with special needs.
- Develop critical thinking skills in students in order to contribute to development
- Empower students to develop curricular material.
- Equip students with skills in curriculum development, implementation and evaluation.
- Empower students to use assessment to support learning and provide reliable evidence of learning.
- Enable students apply learning principles and theories in the classroom.
- Design and produce instruction and instructional material; and develop digital literacy for teaching and learning.
- Enable students explain how students learn, why they behave the way they do, anticipate certain problems and provide remedial measures that would enhance teaching and learning.
- Provide students with the knowledge for managing behaviour for effective classroom learning.

- Empower students to apply human development theories for the management of student behaviour for effective learning.
- Equip students with research skills to conduct credible studies that inform teaching and learning processes.

Year Two

In second year, students are introduced to Education in Malawi, Introduction to Education, Educational Psychology, Sociology of Education and practical aspects of teaching and learning.

Module Code	Module Name and Descriptor
EDF 211	**Educational Psychology** The purpose of the module is to introduce students to theoretical perspectives about human development, learning and students' motivation as a critical foundation base for understanding students' behaviour in and out of the school environment.
EDF 212	**Sociology of Education** This module aims at familiarising students with key sociological concepts as they relate to the field of education and provide them with a sociological framework for thinking about education as well as analysing the schooling processes and Malawian education in general.

Year Three

EDF 311	**Curriculum Theory & Practice** The module introduces students to the theory and practice of curriculum development, implementation and evaluation in order to enable them enhance effective teaching and learning in schools.
EDF 312	**Leadership & Management for Educators** The module introduces students to the field of educational leadership and management to help them realise that the school is a social organisation in which the teacher's leadership role is crucial.
EDF 313	**Educational Technology** The module provides students an introduction to the field of educational technology and how it relates to teaching and learning.
EDF 314	**Education & Democracy**

This module seeks to develop students' appreciation of the critical role of education in the development and promotion of democratic values in the society, and understanding of the democratic challenges inherent in the practice of teaching and how to reflect on them.

EDF 321 **Philosophy for teachers**

This module seeks to develop students' knowledge of the key philosophical assumptions underpinning the contemporary theory and practice in education for professional development and reflective teaching and learning.

EDF 322 **Gender Issues in Education**

This module broadens students' understanding of theories and issues of gender and their implications on the participation of boys and girls in education and their future life chances.

EDF 323 **Economics of Education**

The module assists students to understand the origins, implementation and financing of contemporary education policies from an economic perspective, and introduces them to some theoretical methods used in economic analyses of education.

EDF 324 **History of Educational Thought**

This module aims at enabling students explore the evolution of the idea of education, aim and nature of education, spanning from the classical times to the present, so that they have a clear understanding of how to effectively and efficiently handle the teaching and learning experiences.

Year Four

EDF 411 **Research Methods**

This module introduces students to scientific research methods in general and education in particular. Students acquire skills to conduct both qualitative and quantitative research that informs decision making in education.

EDF 412 **Special Needs Education**

The module equips students with a broad and in-depth critical understanding of the theoretical perspectives of special needs and inclusive education and in turn relate them to current practices in education contexts as they teach and manage the learners with diverse learning needs.

EDF 413 **Adolescent Psychology**

This module empowers students with an in-depth understanding of adolescence as a distinct phase of human development and provides insights for addressing psychological and social issues associated with adolescence.

EDF 421 **Fundamentals of Psychometrics**

The module provides students with knowledge and skills to conduct meaningful classroom assessment and enable them to acquire theoretical grounding for classroom measurement practices.

EDF 422 **Introduction to Education & Development**

This module enables education students develop a deeper understanding of the relationship between education (Formal, non formal and informal) and economic, political and social development of a nation.

EDF 423 **Introduction to Education Planning & Evaluation**

The module introduces students to educational policy and planning for them to appreciate how educational development programmes are implemented in Malawi.

EDF 424 **Guidance &Counselling**

The module introduces and equips students with knowledge, attitudes, skills and practices necessary for assisting learners deal with challenges and realities they face in their ever-changing environments and realize their full potential.

University Certificate in Education (UCE)

The following UCE modules are offered by the Department of Educational Foundations

EDF- UCE 511 **Sociology of Education**

The module is designed to develop in prospective teachers mastery of key issues, knowledge and trends in Sociology of Education and create interest and awareness as to how education is influenced by, and in turn, influences social, political and economic forces.

EDF-UCE 512 **Curriculum Theory and Practice**

The module is structured to introduce students to learning theories and how they apply and relate to classroom teaching, curriculum design, development and change related to the academic subject(s) the students will teach after the programme of study. There is a substantial component of curriculum studies that concerns Junior Certificate Examinations and

Malawi School Certificate Examinations syllabus content and how to organise, design and teach it.

EDF-UCE 513 **Introduction to Educational Psychology**

This module is an introduction to psychological foundations of education and factors which influence and shape the development and growth of children. The basic aim of the module is to cultivate and develop in the student an informed understanding of the agents and processes of growth and development; how young persons learn, adapt and mature and how educational psychology is used as an effective tool for professional training and effective teaching.

EDF-UCE 514 **Instructional Media and Technology**

The module focuses on different teaching techniques, their strengths and limitations, lesson planning including the development of instructional objectives, scope and sequence, schemes of work, and the development of teaching aids. Emphasis is placed on how to use these skills in real life school and classroom situation.

EDF-UCE 521 **Testing, Measurement and Evaluation**

The aim of this module is to help students understand and know the various testing and measurement techniques employed in the evaluation of instructional effects. Fundamental concepts and strategies in test construction administration, analysis and evaluation are a major focus of the module.

EDF-UCE 522 **Educational Administration and Management**

The module is designed to offer prospective teachers the theoretical and practical aspects of educational management. It intends to instil in the student teachers skills and techniques in planning, supervision, coordination and resource management.

UDF-UCE 523 **Philosophy of Education**

The module introduces students to the philosophical foundations of education and helps students to relate philosophical issues to the present day education practice. The module also encourages students to ask fundamental questions about their own learning and teaching and about education as a whole.

EDF-UCE 524 **Educational Research Methods**

The module is designed to introduce students to fundamentals of educational research methods. Students are taught the processes of research such as problem identification, proposal writing, different methods of data collection and analysis, and reporting.

EDF-UCE 525 **History of Education in Malawi**

This module covers fundamentals of the development of the educational system in Malawi with particular focus on sociological, historical, psychological and economic issues. A thematic approach is used and covers the administrative, inspection, planning, research and examination as they relate to the educational system.

EDF – UCE 526 **Adolescent Psychology and Teaching in the Secondary School**

The module introduces the adolescent as the ideal pupil at secondary school level in Malawi. It discusses the characteristics of adolescence in physical, social, psychological, intellectual and biological aspects; and the specific problems that are likely to affect them. The module also deals with teachers' understanding of pupils not only under classroom situation but also in other aspects outside the classroom.

M.Ed in Educational Policy, Planning and Leadership

This programme intends to train a cadre of educational leaders that will assure that the ongoing education reform initiatives are sustainable and successful. This is a professional programme aimed at producing graduates who can apply their skills and knowledge in the education sector. The programme is also intended to attract candidates from the Southern Africa Developing Community (SADC) and other African countries.

Modules include:

Module Code **Module Name and Descriptor**

PPL 600 **Advanced Research Methods**

The aim of this module is to equip students with knowledge of major research methodologies, build skills in collecting, organising and analysing data

quantitatively and qualitatively, interpreting research results and build knowledge in the various types of research designs – quantitative, qualitative, and mixed methods.

PPL 610 **Issues in Education and Development in Developing Countries**

The aim of this module is to introduce and expose graduate students to the various theories of development so that they are able to identify and specify the philosophical assumptions and values underlying each of the theories, and further identify and critique the role prescribed for education in the socio-economic and political development of a nation.

PPL 620 **Issues in Education Policy and Law**

The module aims at engaging students in conceptual and methodological skill development for understating the nature and complexity of policymaking and analysis in education. The focus of the study is on educational issues in developing and transitional countries.

PPL 630 **Leadership and Management**

This module introduces and exposes students to various theories, principles and skills in leadership and management in order to enable them select and use appropriate leadership and management practices to achieve organisational goals.

PPL 640 **Monitoring and Evaluation**

The purpose of the module is to build knowledge and skills in the theory and practice of monitoring and evaluation, and to enable students apply this knowledge and skills to initiatives and projects relevant for improvement of educational quality in Malawi and Southern Africa.

PPL 650 **Educational Planning and Financing**

The module intends to develop knowledge and skills of serving and prospective educational policy makers, planners and leaders in the theory and practice of educational planning and financing in Malawi and other developing countries.

PPL 661 **Economics of Education**

This module aims to help education policy makers at all levels of education system to understand the origins, implementation and effects of contemporary education policy from an economist's perspective.

PPL 662 **Education and Law**

The aim of the module is to introduce serving and prospective education policy makers, planners and leaders to knowledge and understanding of law as it relates to education policy, planning and leadership.

PPL 663 **Educational and Organisational Psychology for Management**

The module aims at providing students with a broad knowledge base on key selected topics in educational and organisational psychology and their implications for policy, planning and management, and to help them develop critical thinking skills so that they are able to evaluate various theories, concepts and principles, and assess their application to their own work situations.

PPL 664 **Programme Design and Management**

The module aims at developing in students the knowledge and skills in planning, designing, implementing and evaluating programmes/projects. The expectation is that students should be able to apply these skills in a project proposal.

Master of Education in Educational Psychology

Modules include:

Module Code	Module Name and Descriptor
EDF 631	**Advanced Research Methods**

The aims of the module are twofold: (a) to equip students with necessary skills and knowledge of how to collect, organise and analyse data quantitatively and qualitatively, and interpret research results; and (b) to introduce students to the various types of research designs.

EDF 640 **Advanced Educational Psychology**

The main aims of Advanced Educational Psychology are to help students to develop (a) increased awareness, knowledge and understanding of the major theoretical approaches, concepts, principles and methods in educational psychology; (b) greater understanding of the role of educational psychology in an education setting; (c) appreciating of the nature of the learning process, styles of learning and factors conducive to effective learning and teaching; and (d) skills of inquiry which enable them to explore, investigate and reflect critically upon aspects of their work.

EDF 641 **Community Psychology**

This module is designed to introduce students to the theory and practice of community level intervention approaches targeted towards the improvement of functioning by dysfunctional individuals, and for proactive prevention of psychological disorders in the general population. Emphasis is directed towards (a) analysis of social systems and their influence on the individual behaviour, (b) psychosocial theories of stress and adjustment, (c) the dynamics of risk-taking behaviour, and (d) the study of social actions ethics, philosophies and practices.

EDF 642 **Adult Psychology**

The module is designed to examine the theory and research of adult development and ageing within the framework of lifespan, bio-psychological, and socio-psychological perspectives with an emphasis on the individual. It also examines stability and change in psychological, physiological, and interpersonal processes through early, middle and late adulthood. Topics covered include theories of adulthood, ageing, personality and psychopathology; psychosocial processes of development; cognition, memory and wisdom in adulthood; families, menopause, sexuality and singles; work, retirement and leisure; growing old in a changing world; and dying and bereavement.

EDF 650 **Child and Adolescent Psychology**

The main aims of the module are to help graduate students develop (i) an increased awareness, knowledge and understanding of the major theoretical approaches, concepts, principles and methods in child and adolescent psychology; (ii) greater understanding of the concerns, challenges, dreams and fears of adolescents in an education setting and other settings; increased awareness of sexual and reproductive health issues among the in-school and out-of-school young people; an ability to deal with young people in an empathetic, earnest, searching, helpful and candid way through guidance and counselling; skills of inquiry which enable them to explore, investigate and reflect critically upon aspects of their work.

PPL 663 **Educational and Organizational Psychology for Management**

The module aims at providing students with a broad knowledge base on key selected topics in educational and organisational psychology and their implications for policy, planning and management, and to help them develop critical thinking skills so that they are able to evaluate various theories, concepts and principles, and assess their application to their own work situations.

Master of Education in Testing Measurement and Evaluation

This programme intends to produce professionals qualified in the techniques of obtaining accurate information about education in order to improve instruction, self-understanding of those involved in education, and as a basis for planning, decision making and evaluation of the effectiveness of educational programs and projects. The students will be able to acquire knowledge, skills and understanding of the technology of testing, measurement and evaluation.

Modules include:

Module Code	Module Name and Descriptor
TME 610a	**Educational Statistics I**
	The main aim of the module is to provide students with basic statistical techniques relevant to educational research and assessment, and to provide them with knowledge and skills necessary to carry out elementary statistical analysis.
TME 610b	**Educational Statistics II**
	The module aims at developing in students an understanding of statistical logic and procedures for analysing and critiquing educational research data in more than one variable.
TME 620a	**Fundamentals of Test Construction**
	The module aims at providing students with knowledge and skills in the construction and critical evaluation of educational and psychological tests. Students also learn how to correctly summarise and interpret test scores.
TME 620b	**The Classical Measurement Theory and Application**
	The module is designed to provide basic elements of classical true score theory and how it is applied to practical testing situations.
TME 610c	**Educational Research Methods**
	This is a core module for all graduate students in the Educational Foundations Department. It is designed to review relevant and generally accepted knowledge and skills necessary for conducting quality research in education and related social sciences.
TME 620c	**Introduction to Item Response Theory and Application**
	This module aims at providing basic elements of unidimensional item response theories with emphasis on their application to practical testing situations.

Master of Education in Sociology of Education

General Objectives of the programme:

- To develop in students mastery of key issues, knowledge and trends in the sociology of Education.
- To create an awareness in students of current theoretical and methodological debates in the sociology of Education.

- To develop in students analytic, critical and prospective reasoning.
- To build a critical mass of professional educators to support, review and revitalize the education system in Malawi and other developing countries.

Programme Requirements

Students must successfully complete **five core** modules and **one elective** and a **thesis** to obtain a Master of Education (M.Ed.) degree. The five modules and a comprehensive research proposal should be completed in three semesters (one and half years) of study and the thesis should be completed by the last semester (semester four).

Core Modules

Module Code	Module Name and Descriptor
EDSOC 600	**Education and Society in Africa (Two Semesters)**
	Major themes include education and social inequality, education and social change, the teacher and the curriculum, education and socialisation, education and bureaucracy.
EDSOC 610	**Sociological Theories of Education (One Semester)**
	This module takes an in-depth exploration and critical analysis of sociological theories of education such as functionalism, conflict theories, modernisation and post-modernisation theories, radical and critical theories, institutionalism, feminism and others. Postgraduate students critically analyse the theories in relation to the current trends, debates and practices in education and be able to form their own perspectives as to what should constitute education. This module also helps students to adopt their own theoretical framework for sociological research.
PPL 610	**Issues in Education and Development in Developing Countries**
	This module introduces and exposes postgraduate students to the various theories of development so that they are able to identify and specify the philosophical assumptions and values underlying each of the theories, and further identify and critique the role prescribed for education in the socio-economic and political development of a nation.
EDSOC 620	**Theories of Organisational Analysis in Education (One Semester)**
	This module introduces postgraduate students to the thinking about organisation in the context of education and unveil the unconscious attitudes and assumptions that are not questioned in the organisations we live and work. Organisations are examined from various perspectives and how these perspectives influence actions and decision making in organisations.

PPL 600 **Advanced Research Methods (One Semester)**

The aim of this module is to equip students with knowledge of major research methodologies, build skills in collecting, organising and analysing data quantitatively and qualitatively, interpreting research results and build knowledge in the various types of research designs – quantitative, qualitative and mixed methods.

Elective Modules

PPL 663 **Educational and Organizational Psychology**

The aim of this module is to provide students with a broad knowledge base on key selected topics in educational and organisational psychology and their implications for policy, planning and management, and to help them develop critical thinking skills so that they are able to evaluate various theories, concepts and principles, and assess their application to their own work situation.

Any other relevant modules from MA/M.Ed modules, which can be accessible to the students outside the programme, can be opted for but in consultation with programme coordinators.

FACULTY OF HUMANITIES

The Faculty of Humanities offers a number of undergraduate programmes namely:

Bachelor of Arts in Communication and Cultural Studies– 4 years

Bachelor of Arts (Humanities) – 4 years

Bachelor of Arts (Media for Development) – 4 years

Bachelor of Arts (Theology) – 4 years

Various departments in the faculty also offer postgraduate programmes that include:

Master of Arts in Applied Linguistics

Master of Arts in Pure Linguistics

Master of Arts in Literature

Master of Arts in Philosophy (Research)

Master of Arts in Applied Ethics

Master of Arts in Theology

Master of Arts in Theatre & Media for Communication in Development.

Master of Arts in Communication for Development

PhD in Literature

PhD in Philosophy

PhD in Pure Linguistics

PhD in Applied Linguistics

Undergraduate Programmes Details

Students doing Bachelor of Arts Humanities can major in any of the following departments: African Languages and Linguistics, Classics, English, Fine and Preforming Arts, French, Philosophy and Theology and religious Studies. Below are courses offered by the various departments.

Department of African Languages and Linguistics

Undergraduate Modules

The Department of African Languages and Linguistics (ALL) offers a wide range of modules of a practical as well as theoretical nature. The modules offered are as follows.

Module Code	Module Name and Descriptor
ALL 111	**Introduction to Language**
	This course provides the general background to linguistic studies and the different approaches to the analysis of languages. The course gives an overview of the various issues, methods of analysis and basic or fundamental concepts used in the study of language and the role of language in society. It introduces students to linguistics and its various branches: phonetics, phonology, syntax, semantics, morphology, psycholinguistics, sociolinguistics etc. and to problem-solving techniques, with material drawn from a variety of languages.
ALL 112	**Introduction to Oral Literature**
	This course attempts to define and analyse the characteristics of Malawian oral literature such as the folktale, the legend, the proverb, the folksong, the joke and the riddle. The course also looks at the total effect of all these forms of oral literature on society.
ALL 121	**Literature in African Languages I**
	The course uses a range of texts in Malawian languages to introduce students to literary criticism techniques.
ALL 122	**Translation: Theory and Practice I**
	The course exposes students to some principles in the art of translation. Thereafter, students apply the principles in the actual translation of given language samples.
ALL211	**Introduction to Phonetics and Phonology**
	This course introduces students to general principles of phonology and

phonological processes attested in natural languages. It focuses on the articulatory, acoustic and perceptual features of speech sounds.

ALL 212 **Principles of General Linguistics**

This course introduces students to the structure of words, phrases, clauses and sentences.

ALL 221 **Literature in African Languages**

This course provides an overview of the history of writing in Malawi and its influence on vernacular literary craftsmanship and artistic philosophy. It also reviews the legacy of colonial education on vernacular literary craftsmanship: focusing on the use of Indo-European metrics in Bantu literature. The course intends to develop reasoning and argumentation in developing Bantu poetics.

ALL 222 **Introduction to Comparative Bantu**

This is an introductory course which aims at acquainting students with the comparative study of the sound systems and word structure of Bantu Languages with special reference to indigenous languages spoken in Southern Africa. Although the course is comparative, it includes a historical survey of some of the major contributions to African linguistics from the earliest times to the present.

ALL 311 **Phonological Theory I**

This course grounds students in current phonological theories. It focuses on the study of sound patterns of language: which sounds out of all the phonetic possibilities are used in a given language, what sequences of these sounds are permitted, and how these sounds vary in context. It prepares students to understand the underlying principles used to explain phonological processes in a single language and phonological similarities across languages. The course covers issues such as phonology in the lexicon, segmental and prosodic representations, the analysis of stress and tonal systems as well as constraint-based approaches to phonology.

ALL312 **Poetry and the Novel in African Languages**

This course aims at describing Malawi's literary periods and their key features. It also appraises Chichewa Poetry and the Chichewa Novel.

ALL 313 **Research Methods**

This course attempts to equip students with research methods and techniques. Students work towards the development of a topic in language chosen by the student and approved by the department. Students are exposed to basic techniques for topic selection, collecting, editing, analysing and presenting language data.

The course also addresses questions related to the ethics of retrieving linguistic data, the relations between the researcher and the speaking communities, and the use of the collected data.

ALL 314 **Sociolinguistics**

This course deals with the relationship between language and society, how differences in society are reflected in language use and factors that co-vary with them.

ALL 315 **Historical Linguistics**

The course is a general examination of the ways in which languages and their subsystems change over time and the forces that produce change. Topics include the comparative method; internal reconstruction; geographical variation; and social variation, overview of world language families and genetic relationships.

ALL 316 **Translation: Theory and Practice II**

The course introduces concepts of translation theory and practice, and the working methods in translation. Students gain skills required for professional translation.

ALL 321 **Syntactic Theory I**

This course tries to answer questions such as: What kind of knowledge do native speakers possess that enables them to understand and produce novel sentence? What are the native speaker mechanisms which allow speakers to produce and make judgment about grammatical sentences? It focuses on how Transformational Grammar accounts for sentence generation and grammaticality. Its aim is to make up rules and theories that allow only the acceptable forms.

ALL 322 **Semantics**

This course tries to answers questions such as: what is meaning and how can we express it formally? How do different languages express the same meaning? Thus, it introduces students to the study of the various approaches and theories of meaning. It discusses the analysis and theory of linguistic meaning with emphasis on formal techniques for semantic analysis and their application to empirical phenomena in language.

ALL 323 **Language and Gender**

The course focuses on the relationship of gender and sex roles to language. It also gives an overview of language and gender research in linguistics and its related fields of sociolinguistics, psycholinguistics and anthropology. Some pertinent questions discussed in the course include: what are the differences between men's and women's speech? Why do they arise? What are the cross-

cultural differences? Language and Gender is an introduction to research and critical thinking on the relationship of language and gender to culture, power, construction of identity, performance, interaction, social networks, language change, sexuality, and language in the school and workplace.

ALL 324 **Language Planning in Africa**

This course aims at enabling students to examine and critically discuss the theoretical frameworks, rationale and processes involved in language policy planning using case studies from various African countries that will exemplify varied approaches to language planning in multilingual Africa.

ALL 411 **Phonological Theory II**

This course introduces students to more advanced concepts and theories in phonology.

ALL 412 **Language and Literacy**

This course examines a variety of issues related to teaching literacy to young children. The course provides a critical examination of issues involving language of teaching literacy in Malawi.

ALL 413 **Pragmatics**

This course focuses on how language users apply knowledge of the world to interpret utterances. This course aims at introducing students to major issues in pragmatics (e.g., speech acts) which are interrelated with semantics and discourse analysis. The course focuses on issues such as the use of performative verbs, performative sentences, how language enables us to make implicit promises, warnings, bets etc and the importance of context of the utterance.

ALL 414 **History of Linguistic Thought**

This course introduces students to how ideas about language have changed over time. It surveys human understanding of language from antiquity to the present. It examines a number of scholars and schools of linguistic thought from the 18th century to the present.

ALL 415 **Morphology**

This course examines different approaches to morphological analysis of both form and meaning and points out the problems that typically arise.

ALL416 **Discourse Analysis**

This course introduces students to the study of language as text and prepares them for further studies in the area of discourse and conversational analysis.

ALL 421 **Syntactic Theory II**

This course revises the major components of the Standard Theory and introduces students to the concepts invoked in the (Revised) Extended Standard Theory of TG. These revisions are necessary to achieve a more optimal grammar.

ALL 422 **Psycholinguistics**

This course explores how humans acquire, represent, comprehend and produce language.

ALL 423 **Dissertation**

This course demands that students work on a special topic in the area of language chosen by the student and approved by the Department. Students conduct research, hold regular discussions with their supervisors and present a seminar paper on their topics. The work is assessed continuously until the final essay has been written and lodged with the Department.

ALL 424 **Stylistics**

This course examines the linguistic content of a literary, journalistic and legal uses of language and tries to discover the linguistic features which distinguish one author from another. It also focuses on how linguistic features contribute to particular literary effects, and how linguistic features of a text relate to the overall structure and function of the text.

.ALL 425 **Terminography and Lexicography**

The course introduces basic concepts and issues connected with theory and practice of dictionary making.

Master of Arts in Pure Linguistics

Master of Arts in Applied Linguistics

The following are the MA modules that students take depending on their programme of choice and as per provided by the department.

Module Code	Module Name and Descriptor
ALL 611	Phonological Theories

The aim of the course is to expose students to current theories and trends in phonology and their application to language analysis and description. Students are therefore, expected to analyse real language data by identifying and accounting for general phonological processes and patterns.

ALL 612 **Advanced Syntax**

This course aims at exposing students to contemporary theories of generative grammar both transformational and problems which arise in any attempt to establish an adequate theory of grammatical representation

ALL 613 **Advanced Semantics**

This course is concerned with various semantic topics that have been debated over the years with the idea of understanding the concept of meaning better.

ALL 614 **Language Variation and Change**

This course discusses linguistic variation from both a theoretical and methodological/practical point of view.

ALL 615 **Historical Linguistics**

This course examines the dynamics of language change, methodological and theoretical positions in historical linguistics.

ALL 616 **Currents of Thought in Linguistics**

ALL 621 **Descriptive Linguistics**

The course is aimed at introducing students to methods used in language description. It does not appeal to any theoretical model and it equips students with the relevant skills to use in the description and analysis of language data from various linguistic perspectives.

ALL 622 **Discourse Analysis**

The course aims at exposing students to a variety of approaches to the study of discourse.

ALL 623 **Psycholinguistics**

The aim of the course is to examine in depth the development of spoken and written skills in first and second languages and the psychological processing of spoken and written language.

ALL 624 **Sociolinguistics**

The course aims to explore the role of language in society in relation to its application in education and planning purposes.

ALL 625 **Translation: Theory and Practice**

The aim of the course is to expose students in great detail to the various theories of translation and their application to various texts. Students are expected to practice translating for given texts.

ALL 626 **Language Planning and Policies in Education**

The course aims to expose students to various approaches of effective language planning in education.

ALL 627 **Lexicography**

This course examines and discusses the basic principles of language, design and educational use of dictionaries.

ALL 628 **Language Teaching Management**

The course aims to equip students with effective management skills in language teaching institutions.

ALL 629 **Language Curriculum Evaluation and Testing**

The aim of the course is to examine the dynamics of language change, methodological and theoretical positions in historical linguistics.

Department of Classics

The following are the modules offered by the Classics Department

Year One

Module Code	**Module Name and Descriptor**
CLA 111	**Greek history, politics and society**

This module offers an outline of the histories of Greek and Roman civilisations. It covers Greek history from the archaic period until the death of Alexander the Great (323 B.C.).

CLA 121 **Roman history, politics and society**

This module deals with Roman history from the earliest times until the death of the Emperor Nero (AD 68). It is an introduction to the ancient world and the history of two great civilisations that still influence the world we live in. The modules require no pre-requisites.

CLA 114 **Introduction to Historical Linguistics**

This module is an introduction to the basics of linguistic theory from a historical perspective, with special reference to the history and development of the English language.

CLA 124 **English Word Origins**

This module focuses on the origin of English words, with special reference to Latin and Greek roots which account for approximately 60% of modern English vocabulary. The module is designed to help students to recognise and understand the various roots, stems and affixes used in modern English, with the objective of giving students greater confidence and facilitating precision in the use of the English language. The module requires no pre-requisites.

CLA 112 &122 **Beginning Latin A and Beginning Latin B**

These modules offer students with little or no prior knowledge of Latin a basic knowledge of the grammar and vocabulary of the language, sufficient to enable them to read simple Latin texts with the aid of a dictionary. No prerequisites are needed.

CLA 113&123 **Beginning Greek A and Beginning Greek B**

These modules offer students with little or no prior knowledge of ancient Greek a basic introduction to the grammar and vocabulary of the language, enabling them to read simple Greek passages and to compose simple sentences in Greek. For Theology and Religious Studies students, the focus is on the vocabulary and grammar of New Testament Greek. No prerequisites are needed.

Year Two

CLA 211 **Greek and Roman Mythology**

The first semester focuses on the nature of mythology. There are discussions of theories of myth, and comparisons between Greek, Near Eastern and African myths.

CLA 221 **Ancient Epics and Oral Traditions**

The second semester deals with ancient and African epic. This examines the nature of epics and their relation to oral traditions and focus on the epic of Gilgamesh, Homer's Iliad and Odyssey, and the West African epic of Sunjata.

CLA 212&222 **Intermediate Latin A and Intermediate Latin B**

These modules introduce more advanced Latin grammar and vocabulary, Latin prose composition, and major works of Latin prose and poetry. CLA 112 and CLA 122 are prerequisites.

CLA 213&223 **Intermediate Greek A and Intermediate Greek B**

These modules introduce more advanced Greek grammar and vocabulary, and prose composition and major works of Greek prose and poetry. If TRS students are involved selections from the New Testament are read. CLA 113 and CLA 123 are prerequisites.

CLA 214 **Greek Historiography**

Semester one gives students knowledge of the beginnings of the study of history. The module CLA 214 places emphasis on the writing of history as a record of what a society considers valuable about its past, revealing at the same time the special interests, influences and bias of each historian. Passages for study include Herodotus' account of the Persian invasions of Greece, and Thucydides' account of the disastrous Athenian expedition to Sicily.

CLA 224 **Roman Historiography**

These modules are ideal for those who took CLA 111/121. The second semester introduces students to the readings of historical manuscripts of the ancient Roman historians and the development of Roman historiography. Students gain from this course a knowledge of the historical methodologies of the ancient authors as well as a fair holistic understanding of the historical context and content of the works.

Year Three

CLA 311 **Gender Studies – Women in Antiquity**

Semester one explores the treatment of women in antiquity, especially by their male counterparts (educated men such as philosophers). The module helps to argue that although women were seen as second class citizens, they still played a great role in philosophy.

CLA 321 **Ancient Greek Women Philosophers**

The course explores the influence of women philosophers or influential women during the times of different male philosophers.

CLA 312&322 **Classical literature in translation – Greek authors**

Classical Literature in translation – Latin authors

These modules cover the major Greek and Roman writers in English translation, offering students the chance to study writers such as Homer, Sophocles, Thucydides, Plato, Cicero, Virgil, Horace and Ovid. These writers are important not just for their intrinsic interest but because of their great and continuing influence on subsequent literature. It is recommended that this module should follow CLA 221/CLA 224

CLA 313 **Latin poetry and CLA 323: Latin Prose**

These modules are for students who have completed CLA 222. Students are introduced to the works of selected Golden Age poets, and in the second semester they study more difficult works of Latin prose, including selections from Tacitus, Sallust, Livy and Cicero.

CLA 314 **Greek poetry and CLA 324: Greek Prose**

These modules are for students who have completed CLA 223. A selection of more difficult prose and poetry will be read, including works of Plato, Thucydides, Homer, Euripides and Pindar.

CLA 315 & 325 **Greek philosophy to Aristotle and Hellenistic and Roman philosophy**

These modules introduce students to the history of Greek philosophy, which lies at the roots of all western philosophy. It provides a broad survey of the principal philosophical ideas and trends in Greek and Roman philosophy, covering the Pre-Socratics, Socrates and Plato, Aristotle, Stoicism, Scepticism, Epicureanism and the mystical neoplatonism of Plotinus. The emphasis is on the reading and discussion of primary sources in translation.

Year Four

CLA 411 & 421 **Archaeology and CLA 421: Greek and Roman Art and Architecture**

These modules introduce modern techniques of archaeology and take a broad survey of ancient art and artefacts from Greece, Rome and other ancient cultures. Comparisons are made with African art and architecture.

CLA 412 & 422 **Ancient Greek Religion and Magic and Ancient Roman Religion and Magic**

These modules cover the main areas of Greek and Roman religion, including such topics as the gods, mythology, rituals, temples, oracles, magic and witchcraft. Comparisons are made with African beliefs and practices throughout the module.

CLA 413 & 423 **Greek Literature A and Greek Literature B**

For students who have completed CLA 324, these modules continue to introduce them to more difficult Greek prose and poetry, including selections from Homer, Herodotus, Plato and Greek lyric poetry.

CLA 414&424 **Latin Drama and Latin Fiction**

For students who have completed CLA 323, these modules provide a survey of Roman drama and the Roman novel, examining them in the wider cultural and historical contexts of their genres.

CLA 415 & 425 **Afrocentric views and postcolonial classics and History of Classical North Africa**

The first semester looks at views of African influence on the Classical world. The module then covers postcolonial responses to the classics in Africa and elsewhere, which is a recent growth area in classical studies. The second semester covers the history of Greek and Roman North Africa, covering the history of Carthage, Ptolemaic and Roman Egypt, and Roman influence in North Africa.

Department of English

The English Department at Chancellor College is arguably the mainstay of literary creativity, history and critique in Malawi. The department offers undergraduate and postgraduate modules in literature (from all over the world) written in English or translated into English. Course offerings in the department are designed to familiarise students with classic and emerging global trends in literary appreciation and theory. In the modules, the department places a deliberate emphasis on African literature, aiming to equip students with the tools necessary for engaging in trending discourse on old and new literatures. The department also capitalises on the rich oral traditions of Malawi by training students in the critique of the literary properties of these local literatures, and how they blend with the written tradition. Apart from the literary focus, the department also offers some English grammar courses, mainly with the aim of improving students' command of the English Language. It also offers introductory courses in creative writing and journalism. In the spirit of promoting engagement with students, the department supports the Writer's Workshop, a student organisation that meets once a week to discuss creative writing by students, staff and even people from outside the university.

The following are the courses on offer in the department:

Undergraduate Modules

Year One

Module Code	Module Name and Descriptor
ENG 111	**Usage of English and Composition**
	This course teaches students the basic rules of English grammar and composition. The course is designed to improve the student's English language proficiency, both written and spoken.
ENG 113	**Practical Criticism**
	The module is designed to equip students with a critical vocabulary and teach them to apply specific terms to poetry, fiction and plays, with necessary precision. Students are trained in writing critical and well-constructed analyses of literary works, with an eye for the features that literary scholars worldwide have come to recognize in literary works.
ENG 124	**Introduction to Literature**
	The module introduces students to the nature, styles, and techniques in world literature, especially poetry, the novel and the short story. The module covers regional and sometimes national, as well as individual characteristics of world literature and its development from the classical period. Students are thus exposed to more literature that has been written worldwide, and therefore get the chance to further hone their literature appreciation skills.
ENG 125	**Introduction to Oral literature**
	The is an introductory module that highlights the place of the oral tradition in the overarching body that we call literature. Drawing mainly from the rich corpus of creativity in the African continent, the course attempts to define and analyse the characteristics of oral literature such as the folktale, the legend, the proverb, the folksong, the joke, and the riddle. The module also looks at the total effect of all these forms of oral literature on society.

Year Two

ENG 211	**Introduction to African Poetry and Plays**
	The course introduces students to African poetry and plays. Drawing on canon-defining as well as emerging writers from the continent, the module involves a study of the socio-economic as well as the political background to the works, as well as an examination of the criticism of the literature from Africa. Students, therefore, have the the chance to appreciate the relationship between literature

and its immediate context.

ENG 214 **Introduction to English Literature**

This module adopts a historical study of English literature, tracing the origins of English literature, from the medieval period, through the Elizabethan period including the Metaphysical poets, and ends with the emergence of the novel. In the module, students discuss the major poets in every major historical period, and further analyse the characteristic styles associated with each period.

ENG 222 **Practical English Usage and Expression**

This course is an advanced continuation of ENG 111 as part of the four-year English programme. It has four main components, namely Critical Reading and Comprehension; Uses of English as a spoken and Written Language; the Research Paper; and Error Analysis.

ENG 223 **Introduction to African Fiction**

This module introduces students to African literature with a focus on the novel and short fiction. It provides an overview of the continental literary landscape and explores the literary, political, socio-economic and cultural contexts from which the creative works emerge. The module critically analyses short stories and novels to help students understand and appreciate how the various socio-cultural factors have influenced the works in terms of themes and style.

Year Three

ENG 312 **Literary Theory I**

The course introduces students to some of the major and emerging literary theories of the 21st century. Covering such theories as psychoanalysis, Marxism and feminism, the course equips students with skills to apply theoretical concepts from various theories in their reading of literary texts.

ENG 314 **Research Methods**

This module is practical in its approach, designed to aid students in the development of research topics, and equips them with the requisite terms, skills, methods and techniques needed in advanced literary research. Students work on a topic in the areas of literature, language, or both, chosen by the student and approved by the department. It is, therefore, a module that is reserved for students taking English literature as their major.

ENG 317 **African-American Literature**

This module focuses on the literature by black people in America. It adopts a historical approach, tracing the development of the literature from the period of slavery up to the present day. The background to this literature, including the social, political and cultural factors which shape it, are discussed. A selection of some of the most representative texts of the African-American experience is made available for discussion and critique in the module.

ENG 318 **Caribbean Literature**

The module focuses on the literature from the Caribbean. In the module, students have the chance to appreciate how the history and experiences of the people who have come to inhabit the Caribbean islands have led to the development of a rich and varied body of literature in different genres. As such, the course adopts a historical approach, tracing the origins of the literature, and examines how the literature has represented developments in the Caribbean up to the present day.

ENG 319 **Malawian Literature**

Given that this is a Malawian university, this course was developed to enable students to appreciate the literature that is produced in the country. The focus is on the historical development of the country and how this history has been a key factor in shaping the literary themes, styles and language used by writers. The course further considers how the country's oral traditions have influenced the production of the written literature, and the various literary criticism trends that have emerged as a result.

ENG 321 **The African Novel in English**

The module continues work introduced in the first and second year modules in African Literature and introduces students to the African novel in English, with special emphasis on its rise and development; and its themes and techniques. In the module, students examine the way the genre of the African novel has changed over the decades, with styles and themes reflecting ideological shifts on the continent. The module also pays special attention to the role of the female novels in African fiction. Selections are made from well-known and emerging writers in the canon, and their works are closely and critically discussed in the classroom.

ENG 323 **Creative Writing**

This is a practical course in which students are introduced to the basics of creative writing. While teaching the students the skills for creative writing, the course is also designed to provide them with some degree of autonomy in

exercising their untapped talents, thus reducing the prescriptive features of the module. The module focuses on the fundamentals of several genres of writing, including poetry, fiction and factual articles. At the end of the module, students are expected to produce a portfolio of creative writing in several genres.

ENG 326 **Malawian Oral Literature**

This course takes students through oral literature from Malawi. It covers types of oral literary forms, their nature and the function they play in society.

ENG 327 **The English Novel**

The module is intended to help students explore the themes and conventions of the English novel, familiarise them with novels from the Victorian era to modern times, and to provide a theoretical understanding of the English novel as a genre.

ENG 322 **History & Principles of Literary Criticism**

This course traces the origins and development of literary criticism. It begins with classical views about literature to the modern times. An examination of the essays, especially those of the modern period, from the point of view of their practical utility and the appreciation of literature today, is undertaken.

ENG 325 **Description of English I**

This course is a third component of the four-year programme in which the Department makes a special study of modern English usage, and of the nature and structure of the English language. The course specifically focuses on the structure and forms of English and makes further progress on the study of English use introduced in the first and second year language courses

Year Four

ENG 411 **Shakespeare**

The course introduces students to the dramatic works of William Shakespeare and equips students with a critical understanding of Shakespeare's style and thematic pre-occupations. The module involves close readings of a selection of Shakespeare's plays and endeavours to relate each play both to the playwright's style as well as to the cultural, political and historical environment of Elizabethan England.

ENG 412 **Literary Theory II**

Focus in this course is mainly on emerging literary theories. The course, therefore, engages students in discussions of trending cultural and literary fields such as disability studies, queer theory and eco-criticism. Key readings from

each field are provided for the students to read, critique and apply to works of literature that they are familiar with.

ENG 414 **Currents of Thought in African Literature**

This course engages students in discussions of ideas, theories and topics of society and culture, which have dominated the literature of African and the African Diaspora. The objective is to acquaint students with the thoughts of black scholars, writers and statesmen, and to present the African perspective on society, history and culture.

ENG 417 **Description of English**

This course is the final component of the four-year programme in which the Department makes a special study of modern English usage, and of the nature and structure of the English language. In effect, the course also focuses on the structure and forms of English and makes further progress on the study of use.

ENG 422 **American Literature**

In this module, students spend time studying the works of some of the most well-known American writers. The module includes a selection of poetry and prose from some major American writers since the nineteenth century to the present day. These are studied in the context of their political, religious and intellectual background.

ENG 425 **Studies in African Poetry**

The module covers the forms, theories and trends in African poetry, with an emphasis on national, regional, racial and individual peculiarities. The course traces the various unique as well as adopted styles of versification that have emerged on the continent over the years, and further relates them to historical, political and cultural developments within Africa.

ENG 426 **The European Novel**

This module engages students in the reading and discussion of major European novelists in their various literary movements across time. The novels include those in English translation from various languages such as French, German and Russian. In the discussions, students get to appreciate the novels as reflections of specific literary styles such as realism, naturalism and existentialism.

ENG 424 **Introduction to Journalism**

This module trains students in the basic skills of journalism. It is both theoretical

and practical. Activities include discussion and training in local and international journalism trends, journalism ethics, and emerging trends and platforms of journalism, among others. In the module, students are trained both in writing the common types of news and in critiquing journalistic output.

***ENG 427** **Long Essay**

This is module where a student works closely with their supervisor in writing their long essay. Students work on a special topic in the area of literature, chosen by the student and approved by the Department. Students conduct research, hold regular discussions with their supervisors and present seminar papers on their topics. The work is assessed continually until the final essay has been written and submitted to the Department.

Master of Arts in Literature

The English Department offers the following courses under the MA Literature programme:

Module Code	Module Name and Descriptor
ENG 611	**Literary Theory and Practice**

This course begins by situating literary theory and its problematics in an attempt to approach the subject with open-mindedness. As a postgraduate course in literary theory, the aim is not just to sample the theories, but to analyse, critique and apply them as widely as possible. In the course, students begin with discussing classic, intrinsic theories of literature. The discussions then shift to a consideration of established theories, including psychoanalysis, feminism, Marxism and postcolonial theory. Finally, students are engaged in debates surrounding emerging theoretical fields such as disability studies and queer theory.

ENG 612 **African American Literature**

In this course, students examine black literature of the African Diaspora and has as its background the Trans-Atlantic Slave Trade in which millions of Africans were shipped across the Atlantic to the Caribbean and Americas. Issues of forced migration/displacement and the horrors caused by the Trans-Atlantic Slave Trade, as well as those of race and gender, feature prominently in this literature. Essentially, we are looking at African American responses (which include, among others, subversion of various kinds) to their changing fortunes – both during slavery and after its official abolition – in America.

ENG 623 **African Literature**

This course explores ideas, theories and topics in society and culture which have

dominated the literature of Africa (and, to some extent, the African Diaspora). Illustrations are drawn from both Oral and Written literatures. The class proceeds by way of seminar presentations.

ENG 624 **Caribbean Literature**

This course is a reading of a selection of texts by contemporary Caribbean authors and a consideration of critical issues raised by that reading. In particular, the course interrogates issues such as history, race, childhood, identity and notions of gender in the context of an historical overview of Caribbean writing.

ENG 625 **Oral Literature**

This module engages students in a critical appreciation of current oral literature trends on the African continent. Besides studying forms and nature of oral literary texts, the course helps students to use their knowledge of oral literature to critically appreciate current social phenomena.

Department of Fine and Performing Arts

The Department of Fine and Performing Arts (FPA), created in September 1981, is made up of three specialised sections, namely: Theatre Arts, Fine Arts, and Music. Through its academic research programmes, closely linked to the cultural and development needs of the nation, the Department has endeavoured to equip students with the requisite academic and artistic skills for their career and professional development. Apart from promoting academic excellence over and above sound creative and practical know-how in the fine and performing arts disciplines, the Department is committed to contributing to the country's cultural and socio-economic development through a variety of artistic/cultural activities and advocacy programmes.

Drama/Theatre Arts Section

The Drama section offers the following modules to students from Humanities, Education and Social Sciences to prepare them for the world of the professional theatre stage, introduce them to cinematic and television practice, and prepare them for the development communication industry through the theatre for development courses.

Career

Our graduates have impacted both nationally and internationally in the world of theatre, cinema, theatre for development, press and media, arts creation and as diplomats and academics. Government, the private and the non-governmental organisation sector have been strong beneficiaries of our programmes.

Admission

Admission to the courses favours students registering for Humanities and Education, with minors coming from the social sciences.

Undergraduate Modules

Year One

Module Code	Module Name and Descriptor
DRA 111	**Elements of Drama**
	The module is designed to introduce students to the study of drama and its various forms. It exposes the students to various theatre conventions, including a sample of major plays that lay the foundation of various genres.
DRA 121	**Theatre Appreciation and Criticism**
	This module introduces students to the practice of appreciation and criticism of drama as a performative art by understanding and writing about the applicability of the theatre forms, fundamental principles and concepts of theatrical creation and practice. The module exposes the students to live performances and the art of writing and speaking critically about theatrical production as well as written scripts.
DRA 112	**Theatre Practice A**
	The module introduces students to the basic practical skills in the creation and performance of stage drama through theatre games/exercises, improvisation and play devising. The course also introduces students to play performance of scripted plays and the principles of actor **development.**
DRA 122	**Theatre Practice B**
	This module consolidates the foundation knowledge and skills in theatrical performance and production through readings and practical involvement of students in various stage productions.

Year Two

DRA 211	**Introduction to African Theatre**
	This module introduces students to indigenous and syncretic African theatre performance modes in light of the major ideological, social and historical formation which provided their context. The module examines a selection of case studies of the Indigenous and syncretic African theatres

DRA 221 **Introduction to European Theatre**

The module introduces the past and present European theatre in light of the dramatic forms and the social context. The module explores the different theories and practices from the Greeks to the modern times.

DRA 212 **Theatre for Development**

This module introduces students to the use of drama as a tool for communication in social development. It links the foundation knowledge and skills in theatrical performance and production with participatory theatre skills.

DRA 222 **Theatre and Drama in Education**

This module introduces students to the use of drama techniques and creative arts as an intervention tool in which learning problems are diagnosed and tabled in fora for stakeholders of the teaching and learning environment. It culminates in students' practical attachments/fieldwork at a local primary or secondary school.

Year Three

DRA 311 **Drama/Theatre Research**

This module introduces students to research in theatre and performance by exploring cultural and technical theories. In addition, the module imparts skills in academic writing.

DRA 321 **Drama/Theatre Research Proposal Writing**

This module takes students through the process of conceptualising and developing a research proposal on selected drama/theatre topics, consolidating literature review, theory and methodology in theatre research.

DRA 312 **Malawian Theatre and Drama**

The module takes students through the critical examination of the scope of Malawian theatre and drama in light of its historical development and current practice.

DRA 322 **African Drama**

This module provides a selection of African literary drama from selected periods and geographical locations with particular emphasis on the relationship of the dramatic texts to African performance traditions and socio-historical conditions. It builds on the work of Dra 312 with the study of specific significant plays.

DRA 313 **Scriptwriting A**

This module exposes students to the skills of practical playwriting for stage, radio and screen. It introduces students to script writing. Students apply the principles of dramatic construction, textual analysis and writing for a variety of theatrical performance art forms through discussion and critical evaluation of both student and professional work. Students are required to write a short one act stage play.

DRA 324 **Scriptwriting B**

The module consolidates the concepts, principles and practice of writing for the stage through professional discussion and critical evaluation. It prepares students for the practice of writing for radio. The module culminates in students writing a professional radio play ready for airing on any public radio station.

DRA 314 **Acting A**

This module consolidates the study and application of the fundamental principles and techniques of acting and performance through African traditional performance, mime, dance and physical theatre, paying particular attention to the human body as an expressive and communicative medium.

DRA 325 **Acting B**

This module extends the application of acting theory and technique covered in **DRA 314,** culminating in a full-scale production of either stage play, dance production or mime piece.

DRA 315 **Directing A**

This module introduces students to theories of theatre and drama and how they are used in the directing process. This includes exploration of techniques used by the director in the rehearsal process.

DRA 326 **Directing B**

This module offers students a practicum in the conceptualisation and execution of directing a performance. Students have to direct a 15-20 minute play or extract of a longer play.

DRA 316 **Stage Management A**

This module introduces students to the techniques and administrative aspects of

theatre production.

DRA 327 **Stage Management B**

This module consolidates the skills and knowledge acquired in **DRA 316** through attachments to a professional production.

Year Four

DRA 411 **Advanced Theatre and Drama Research A**

This module consolidates the essential theoretical and methodological considerations vis-a-vis research and academic writing, on the basis of which students proceed to undertake research on selected drama/theatre topics. The module involves seminars and consultations.

DRA 421 **Advanced Theatre and Drama Research B**

This module builds upon the work covered in DRA 411, culminating in the final development and submission of a dissertation on a chosen drama/theatre topic. Students have to write a dissertation of about 12, 500 words.

DRA 412 **Performance and Cultural Studies**

This module provides a framework of major theories in the area of performance and cultural studies, within a pedagogic paradigm which allows students to apply the theories to African culture, theatre and performance.

DRA 422 **African American Theatre**

This module examines the development of African American theatre within the historical and cultural context of past and present American society.

DRA 413 **Advanced Scriptwriting A**

This module offers specialised advanced work in the exploration and application of theory and technique to the art and craft of dramatic composition and playwriting, taking into consideration the different drama forms such as musicals and stylised play. Students are required to write their own full-length stage play suitable for production.

DRA 423 **Advanced Scriptwriting B**

The module offers specialised advanced work in the exploration and application of theory and technique to the art and craft of dramatic composition and playwriting and builds upon the work covered in Dra 324 to enable students to write serial radio drama.

DRA 414 **Advanced Acting A**

This module provides for an advanced exploration and application of acting theory and technique through discussions, lectures and practical acting exercises. The module culminates in a devised production.

DRA 424 **Advanced Acting B**

This module builds upon the theoretical and practical explorations in acting covered in **DRA 414** ending in a conventional full scale production.

DRA 415 **Advanced Directing A**

This module provides for an advanced exploration and application of directing theory and technique through discussions, lectures and practical production exercises/projects, ending up in a form of a professional directorial concept.

DRA 425 **Advanced Directing B**

This module provides for an advanced exploration and application of directing theories and techniques and building upon the directorial concept development developed in **DRA 415** leading to the production of professional full-length play. The module prepares students for practice in the theatre industry.

DRA 416 **Theatre as a Business A**

This module deals with the idea of the conceptualisation, formation and running of a theatre company, involving class workshops and case studies conducted by professional directors and managers from the industry.

DRA 426 **Theatre as a Business B**

This module builds upon **DRA 416**, providing students with an opportunity of being attached to a professional production company in the theatre/production industry, assessed on reports and concepts that students produce.

DRA 417 **Principles and Practice of TV/Video Production A**

This module introduces students to the basic principles and practice of video

communication, particularly in the field of documentary and Television drama.

DRA 427 **Principles and Practice of TV/Video Production B**

This module builds upon the skills and understanding of video communication acquired in **DRA 417,** consolidating the application of theory and practice through the involvement of students in various production aspects. Students are required to produce a 10-minute production.

Route Maps for Drama

NB: First year and second year students register for all the courses as indicated. The choices start at third year.

Year 1

1st semester Dra 111 & Dra 112

2nd semester Dra 121 & Dra 122

Year 2

1st semester Dra 211 & Dra 212

2nd semester Dra 221 & Dra 222

Year 3

1st semester Dra 311 & Dra 312 plus any 2 of Dra 313, Dra 314 and Dra 315 for majors

2nd semester Dra 321 & Dra 322 plus any 2 of Dra 323, Dra 324, Dra 325 and Dra 326 for majors

Double majors may take any 3 in addition to Dra 311 & Dra 312 (Dra 321, Dra 322 for 2nd sem.) which are compulsory for majors

Those not majoring should not register for Dra 311 and Dra 312 but may register for **UP TO** any 2

Year 4

1st semester Dra 411 & Dra 412 plus any 2 of Dra 413, Dra 414, Dra 415, Dra 416 and Dra 417 for majors

2nd semester Dra 421 & Dra 422 plus any 2 of Dra 423, Dra 424, Dra 425, Dra 326 and Dra 427 for majors

Double majors may take any 3 in addition to Dra 411 & Dra 412 (Dra 421, Dra 422 for 2nd sem.) which are compulsory for majors

Those not majoring should not register for Dra 411 and Dra 412 but may register

for **UP TO** any 2

Fine Arts Section

Module Choice Guideline

Majoring students are required to take Research Methods/Critical Theory (Fin 311), and all Art History modules on compulsory. In addition, they are also required to either submit a long essay or hold an Exhibition at the end of second semester at fourth year. Minors submit a final project.

Career Opportunities

Government institutions such as the Ministry of Tourism Wildlife and Culture, Ministry of Education and University of Malawi, non-governmental organisations dealing with community development are some of the major employers of Fine Arts graduates. Some graduates have gone on to establish their own visual art investments.

Admission to Fine Art Programme

Students registering for BA (Humanities) and Bachelor of Education in Humanities and Social Studies will enrol for Fine Arts modules.

Activities

Art exhibitions and art salons take place from time to time. Non-art students can participate in art exhibition and art salons. They both provide access to the local and external patrons to enjoy some time of aesthetic refreshments and intellectual inspiration.

Undergraduate Modules

Year One

Module Code	**Module Name and Descriptor**
FA 111	**Art Appreciation**
	The module introduces students to the appreciation or interpretation of artworks through exposure to various styles, movements and periods in art. Artworks of different media such as painting, sculpture and ceramics from various parts of the world are studied, focusing on their form/structure, subject matter/content and context. Realistic, Naturalistic, Stylistic and Abstract artworks are studied in detail.

FA 112 **Painting and Drawing**

The module introduces students to the fundamental elements, principles and techniques of composition in painting and drawing. Students work with still-life objects to study line, shape, texture, colour, proportion, perspective, balance and movement.

FA 113 **Introduction to Sculpture**

This module introduces students to appreciation and creation of three dimensional or plastic arts. Students are introduced to the basic methods and materials used in various forms of sculpture. Working in media such as soapstone or serpentine, students are exposed to the basic elements of sculptural production.

FA 121 **Analytical Writing**

The module introduces students to the fundamental elements, principles and techniques of writing about the visual arts. The module introduces students to techniques of analysing artworks of different media, style, movement, period or place. Student are encouraged to analyse and write about artworks in consideration of their form/ structure, content as well as context.

FA 122 **Objective Drawing**

This module is designed to introduce students to representational/ naturalistic drawing. The course aims at sharpening perceptive capabilities in students. Students are encouraged to objectively visualise, interpret and transfer spatial relationships, value relationships, textual relationships, etc from three dimensional reality to two dimensional surfaces.

FA 123 **Introduction to Ceramics**

The module introduces students to the basic vocabulary, fundamental principles and processes of ceramics. Students are introduced to traditional and basic methods of raw material processing. The module also introduces students to the history of ceramics.

Year Two

FA 211 **Survey of Traditional African Art**

This module introduces students to the history of African art. The module focuses on art of prehistory, the pre-colonial period and early modernity in Malawi and the rest of the continent. The module takes an art historical approach, encouraging students to study artworks such as sculptural objects, masks, totems, basketry, pottery and other animistic objects of different parts of Africa with an emphasis on their aesthetics, structural properties, subject matter and historical context.

FA 212 **Painting materials and Techniques**

The module introduces students to materials and techniques of painting. The module offers an in-depth exploration of painting techniques in media such as watercolours, acrylics and oils.

FA 213 **Alternative Sculpture Media**

This module is designed to expose students to alternative media of sculpture creation other than the traditional medium like stone. The aim is to have them explore and utilise available materials in their creativity. Originality and effort are emphasised.

FA 221 **Survey of Modern African Art**

The module is a survey of art trends in Africa during and after the colonial period. The module studies the different styles and movements of art from Malawi and different parts of the continent. Focus is put on the impact of colonialism, modernisation or westernisation on modes of artistic production in Africa. Students compare and contrast the aesthetics of artworks produced by self-trained individuals, by artists from the various informal workshops, and also by artists from formal art institutions such as colleges and universities.

FA 222 **Design Principles and Techniques**

This module aims at exposing students to theoretical precepts that governs design as well as different techniques of creating works of art. It incorporates such creation as poster design and book-cover design.

FA 223 **Ceramics Technology**

This module engages students in the core techniques and process of ceramics industry. Students experiment with processes such as moulding, testing, drying, firing and glazing. Students are expected to independently produce ceramics designs.

Year Three

FA 311 **Research Methods/ Critical Theory**

The module introduces students to methodologies, principles and techniques of research in the Visual Arts. Students are exposed to advanced methods of data gathering, critical analysis and writing in the art. The module introduces students to modern and contemporary critical theory such as Marxism, Structuralism, Poststructuralism, Feminism and Postcolonial Theory to encourage critical thinking and thoughtful analysis.

FA 312 **Life Painting/Figure Drawing**

The module introduces students to drawing and painting from life focusing on the human figure. The course deals with advanced perceptivity in drawing and painting. Students are exposed to a live model in class and are encouraged to draw or paint anatomically or proportionally correct the human figure in its different poses or in motion.

FA 313 **Sculptural Methods**

This module focuses on advanced sculpture methodologies and techniques. Students experiment with industrial processes in plastic, three dimensional or sculptural practices. They are also introduced to life sculpture whereby correct observation of human and animal anatomy is emphasised.

FA 321 **Survey of Western Art from Ancient to Modern**

This module explores the general trends of western art from prehistory to the modern period (the early 20th Century). Art styles, movements/ schools and periods of Europe and America are studied in a chronological order with emphasis on subject matter/ content, formal or structural properties and historical and/ philosophical context. Works from periods such as the Rock Art, Classical period, the Renaissance, Romanticism, Realism and Modernism are studied.

FA 322 **Alternative Media**

The module explores the various media that are alternative to the traditional media of paint, graphite and stone or wood. The course encourages independent artistic thinking and creativity by exposing students to making artworks using natural materials, detritus from commercial products, and ephemera.

FA 323 **Advanced Ceramics Industrial Processes**

The module introduces students to advanced processes and technologies currently in use in the ceramics industry. The module also aims at exploring possibilities in advancement of ceramics production in the contemporary world.

Year Four

FA 411 **Survey of Contemporary Art**

This module exposes students to advanced artistic or aesthetic developments in the late 20th and early 21st century in Europe and America. The module focuses on trends that critically questioned the traditional modes of artistic production and consumption to draw attention to new techniques and media. Movements such as Pop Art, Minimalism, Conceptual Art, Land Art and Body Art are examined in detail. Art History majoring students are required to present a long essay as a final project at the end of the academic year.

FA 412 **Professional Practices**

The module introduces students to professional studio practices, setting up and curating exhibitions as well as modes of self-promotion. Students are taught how to create a presentable portfolio, and write an artist statement and a press release.

FA 413 **Self-Promotion/Professional Practices**

This module focuses on training professionalism and entrepreneurship in sculptural practices. Students are exposed to self-promotion techniques such as writing and presenting an artist statement, building a portfolio and setting up a solo exhibition. At the end of the academic year, majoring students are required to hold exhibitions of independent bodies of work with clearly articulated themes and aesthetics that students created during the module.

FA 421 **Contemporary Theories**

This module aims to expose students to emerging issues in contemporary art of Africa and the West. The module equips students with the knowledge to aptly carry out a critical analysis of form and theme/content in any artwork by major contemporary artists based on Postmodernist and other predominant theoretical attitudes of the 21st Century. In addition, the module also prepares students to be able to review exhibitions of contemporary art in writing. When circumstances are favourable, new media such as video, internet, sound art and concrete poetry are explored.

FA 422 **Advanced Studio**

The module involves independent studio practice with lecturer supervision. Majoring students are required to create independent work with clearly articulated themes and aesthetics. This body of work is presented as the final project in the form of an exhibition at the end of the academic year.

FA423 **Ceramics Final project**

Module's focus is to competently identify, produce both utilitarian as well as aesthetic ceramic work designs that are unique and of high quality. Majoring students are required to produce exhibitions of independent work as the final project at the end of the academic year.

Music Section

The Music Programme offers its students studies in music aimed at acquiring knowledge, competences and experiences more relevant and responsive to professional careers and entrepreneurship in modern day. Studies are designed to present a global perspective of music with emphasis on African musics.

Career Opportunities

The Music Programme offers a wide range of modules, enabling students to prepare for a variety of careers and entrepreneurships. These include teaching in government and private schools, teacher training colleges, or privately; performing as soloist, in band, or in choral ensemble; acting as choral director, music advisor, music curriculum specialist, music therapist, studio engineer, manager of music centres or heritage, organisation, dance group; and other professional careers and entrepreneurships in creative economy (including television and radio industries as well as music journalism).

Admission to the Music Programme

Students registering for BA (Humanities) and Bachelor of Education in Languages and Social Studies will enrol for music modules. Interested students from any faculty can participate in our music ensembles or/and annual choral workshops. There are no additional admission requirements.

Further General Module Details

A selected number of instruments will be offered depending on the availability of staff members to teach them. The following instruments will be considered for Instrument Modules:

Guitar
Bass Guitar
Clarinet
Saxophone
Drums
Synthesiser keyboard
Piano
Recorder
Percussion
Oboe
Trumpet / Cornet
Flute / Piccolo
Violin
Cello
Double Bass
Euphonium

Undergraduate Modules

Year One

Module Code	Module Name and Descriptor
MUS 111	**Introduction to Music Theory**
	This is a foundation module designed to introduce students to the rudiments of music. Emphasis is on acoustics, musical grammar and symbols, reading, notating, listening, and analysis of music. No prerequisite is required.
MUS 116	**Choirology**
	The module is both theory and practical and is designed to introduce students to choirology and assist them to develop the voice as an instrument and learn basic fundamentals of singing and conducting. Opportunities to sing for peers, instructors and others help develop students as performers.
MUS 121	**Introduction to Music Composition**
	The module introduces students to music creation using the rudiments of music and techniques by which individual rudiments combine and interrelate in compositions. The module includes studies in melody, form and arrangement. Prerequisite: MUS 111.
MUS 123	**Malawian Musics**
	The module aims at introducing students to the study of Malawian musics with emphasis on functions and other significant concepts and issues. MUS 116.

Year Two

In the first semester, students take two modules: MUS 211 and MUS 214 or MUS 215 ORMUS 211 and MUS 217. Education students take MED 211 as an extra or audit module. In the second semester, students take two modules: MUS 221 and MUS 224 or MUS 225 ORMUS 222 and MUS 223. Education students take MED 221 as an extra or audit module.

MUS 211	**Musicianship I**
	The module offers exercises leading to increased knowledge in basic music theory and its application in compositions and performances. It includes tonal organisation, with greater focus on functional harmony, melody, rhythmic notation, solmisation, sight reading, ear training as well as individual, duet and group performances. Prerequisite: MUS 121, MUS 123.

MUS 214 **Instrument I**

The module introduces students to playing instruments which are available. Emphasis is on instrumental music notation, sight reading, playing techniques and performances.

Prerequisite: MUS 121, MUS 123.

MUS 215 **Voice I**

The module offers aspects of singing from the physical act through the aesthetic experience. The module is designed for the beginning singer who desires vocal and performance improvement as well as artistic development. Prerequisite: MUS 121.

MUS 217 **Music and Politics**

The module investigates how political issues shape the creation, perception and performance of music. The module emphasises on music artists as 'non-political actors' and their representational content and styles of music. Prerequisite: MUS 123.

MED 211 **Introduction to Music Teaching**

The module introduces music education students to the underlying principles, philosophies and practices of music teaching. It also surveys problems in the teaching and administration of music in schools. Prerequisite: MUS 121, MUS 123.

MUS 221 **Musicianship II**

The module is designed to increase students' interest, knowledge and involvement in musical activities from applied theoretical basis. Emphasis is on the relationship of music with humans and society, as well as solo and group performances. Studies extend to include contrapuntal practices, e.g., canon. Prerequisite: MUS 211.

MUS 223 **Musics of Malawi**

The module surveys the work done in Malawi using music for sustainable development. This includes the use of music to spread developmental messages, to heal people who are physically and mentally ill and to serve pleasurable purposes, just to mention a few. It also surveys the ways music activities are used to help the economic gains of talented community members who otherwise have very limited possibilities of earning a living. Prerequisite: MUS 123.

MUS 224 **Instrument II**

The module is for intermediate instruction in playing instruments which are available. It includes increased musical notation, accomplishment in sight reading, mastering playing techniques as well as performing musical works with appropriate quality and style as individuals as well as groups. Prerequisite: MUS 214.

MUS 225 **Voice II**

The module offers increased instruction in singing, rich voice and proper sound. The module includes studies and criticism of outstanding representative singers and performances of standard repertoire. Prerequisite: MUS 215.

MED 221 **Curriculum Theories and Development**

The module introduces students to the concept of curriculum by focusing on scholarly work that has shaped the notions of curriculum which are used by teachers in education. Students are acquainted with basic theoretical underpinnings of curriculum and they consider the relationship between curriculum theory and design /development. Prerequisite: MED 211.

Year Three

In the first semester, Majors take four modules: MUS 311, MUS 314 or MUS 315, MUS 318 and MUS 319 **OR** MUS 311, MUS 313, MUS 318 and MUS 319. Minors take two modules: MUS 311 and MUS 314 or MUS 315 or MUS 318 **OR** MUS 313 and MUS 318 or MUS 319. Education students take MED 311 as audit or an extra module. In the second semester, Majors take four modules: MUS 321, MUS 324 or MUS 325, MUS 328 and MUS 329 **OR** MUS 321, MUS 323, MUS 328 and MUS 329. Minors take two modules: MUS 321 and MUS 324 or MUS 325 or MUS 328 **OR** MUS 323 and MUS 328 or MUS 329. Education students take MED 321 as an audit or extra module.

MUS 311 **Musicianship III**

The module offers instruction in transcription, arrangement, improvisational techniques; individual, duet and group performance of popular music utilising specific improvisational devices. It includes rigorous examination and composition of music with strict adherence to analytical and compositional methods. Prerequisite: MUS 221.

MUS 313 **Musics of Africa**

The module explores both music traditions (folk musics) and popular musics of different countries/areas of Africa with focus on musics as cultural process, cultural objects and sounds. Prerequisite: MUS 223.

MUS 314 **Instrument III**

The module offers increased instruction in instruments which are available. It includes increased musical notation, accomplishment in sight reading skills, mastering techniques of instrument playing, as well as performing music with appropriate quality and style as individuals as well as groups. Prerequisite: MUS 224.

MUS 315 **Voice III**

The module offers comprehensive instruction in voice, common problems professional singers encounter and essential musicianship skills with emphasis on making sense out of sound, communication of ideas, emotions and situations. Prerequisite: MUS 225.

MUS 318 **Research Methods I**

The module introduces students to research methods. It covers aspects of research in music, various stages of research, research equipment, research writing, data analyses and research ethics. A variety of music research readings is addressed, concentrating on content as well as on methodological, stylistic and philosophical issues that arise when writing about music. Students familiarise themselves with the library, standard reference tools and electronic resources as they apply to their areas of interest. Prerequisite: Some prior experience with computers.

MUS 319 **Music Business I**

The module introduces students to music business, with a broad survey on creative economy and music industry. Prerequisite: At least any two modules of second year.

MED 311 **Philosophical Foundations of Music Education**

The module explores the philosophical foundations of music education. It focuses on topics such as philosophy of education, aesthetic philosophy of music education and praxial philosophy of music education. Prerequisite: MED 221.

MUS 321 **Musicianship IV**

The module offers instruction in discord harmony, with greater emphasis on affections, form in larger contexts, analysis methods and application of chromatic harmony in compositions. Instruction includes music criticism with greater focus on the nature of popular musics. Prerequisite: MUS 311.

MUS 323 **Musics of Africa II**

The module offers increased study in music traditions (folk musics) of Africa with focus on drum, dance, gender and rhythm theories. Prerequisite: MUS 313.

MUS 324 **Instrument IV**

The module offers increased instruction in instruments which are available, with emphasis on secondary music instruments. It includes playing techniques, musical notation, sight reading, performance of music with appropriate quality and style as individuals as well as groups. Prerequisite: MUS 314.

MUS 325 **Voice IV**

The module offers an advanced instruction in voice, with emphasis on voice articulations and styles, development of repertories and musicality as well as presentation of juried performance. Prerequisite: MUS 315.

MUS 328 **Music Research II**

The module offers increased instruction in research methods. This includes ways on how to develop dissertation proposals, draw meaning from research, communicate research findings, music analysis, locate and document sources. Prerequisite: MUS 318.

MUS 329 **Music Business II**

The module is designed to explore the interactions among music, science and technology. It includes the development and history of science and technology from the perspective of music. Students learn and experience hands-on recording, audio editing, digital signal processing, and MIDI, and integrate these skills in the composition of original works of music. In-class and out-of-class repertoire review provides historical and aesthetic context for students' own work. Prerequisite: MUS 319.

MED 321 **Critical Pedagogy for Music Education**

The module introduces students to the theory and practice of critical pedagogy, an approach to teaching and learning that moves instruction beyond the transmission of content. Students are engaged in diverse ways of thinking about music teaching practices and social theory that transform the relationships among classroom music teaching, performance and the production of musical knowledge. Prerequisite: MED 311.

Year Four

In the first semester, Majors take four modules: MUS 411, MUS 414 or MUS 415, MUS 418 and MUS 419 **OR** MUS 411, MUS 413, MUS 418 and MUS 419. Minors take two modules: MUS 411 and MUS

414 or MUS 415 or MUS 418 **OR** MUS 413 and MUS 418 or MUS 419. Education students take MED 411 as audit or an extra module. In the second semester, Majors take four modules: MUS 421, MUS 424 or MUS 425, MUS 428 and MUS 429 **OR** MUS 421, MUS 423, MUS 428 and MUS 429. Minors take two modules: MUS 421 and MUS 424 or MUS 425 or MUS 428 **OR** MUS 423 and MUS 428 or MUS 429. Education students take MED 421 as an audit or extra module.

MUS 411 **Advanced Applied Music Theory**

The module introduces students to critical studies in 20th century musical developments: serialism, expressionism, neoclassicism, impressionism, as well as greater comprehension in musical concepts as preparation for professional career. Furthermore, students apply acquired musical knowledge and skills in music to serve communities in a variety of situations such as in education and special needs or music therapy. Included is the study of an author. Prerequisite: MUS 321.

MUS 413 **World Musics**

The module is a study of genres and styles of musics which define African-American musics, including tracing the history of black music from its origin in Africa through its manifestations in colonial America. Included are Black American women musicians. Prerequisite: MUS 323.

MUS 414 **Advanced Instrument I**

The module offers advanced instruction in instruments which are available, with emphasis on both primary and secondary music instruments. The study includes increased playing techniques, musical notation, sight reading, performance of music with appropriate quality and style as individuals as well as groups. Prerequisite: MUS 324.

MUS 415 **Advanced Voice I**

The module offers advanced instruction in voice to help students perform for one another and their instructor with emphasis on criticism of performances and presentations. Prerequisite: MUS 325.

MUS 418 **Advanced Music Research I**

The module offers rigorous analysis of data, first draft of long essays and dissertations, with emphasis on seminars and presentations. Prerequisite: MUS 328.

MUS 419 **Advanced Music Business I**

The module explores the economics of music, management of the music sector, value chain of music products and services and music market. It includes laboratory sessions, field trips, project writings and seminars. Prerequisite: MUS 329.

MED 411 **Contemporary Issues in Music Education**

The module constitutes weekly seminars on current issues in music education, including innovative strategies and techniques of classroom management, motivation, technology as well as modern research findings and their application in classroom settings. Prerequisite: MED 321.

MUS 421 **Advanced Applied Theory II**

The module helps students to prepare digital portfolios of compositions and project based essays for submission at end of semester, with emphasis on a single extended composition or a number of contrasting pieces demonstrating full explorations of the student's creative horizons and clear competence in relevant technical areas, while working on complementary exercises.Prerequisite: MUS 411.

MUS 423 **Advanced Ethnomusicology**

The module is a critical examination of profound questions for ethnomusicology: identity, heritage, circulation, globalisation and diversity, including issues of archiving, library, biographies, acoustic ecology and climate change. Prerequisite: MUS 413.

MUS 424 **Advanced Instrument II**

This is an advanced facility in playing techniques in both primary and secondary instruments and their application in modern music. Included are submissions of research projects concerning the evolution and development of a particular instrument of the student's interest. MUS 414.

MUS 425 **Advanced Voice II**

The module offers an advanced rigorous exploration of students' owns musical horizons, their musical language and its relationship to mainstreams and currents in the wider voice. Assessment is by submission of a portfolio of one or more works at the end of the second semester, demonstrating a full exploration of the

student's creative potential and showing clear competence in relevant technical areas. Prerequisite: MUS 415.

MUS 428 **Advanced Music Research II**

The module offers increased supervised research-based essays and dissertations in all areas of music and presentation of students' work in class seminars. Prerequisite: MUS 418.

MUS 429 **Advanced Music Business II**

The module investigates current issues in the music industry. It includes explorations of issues of demand and supply, entrepreneurship, business ethics and musicprojects. Prerequisite: Prerequisite: MUS 419.

MED 421 **Student Teaching**

Offers supervised teaching practices, weekly seminars, observations of distinguished teachers in pre-school, primary, secondary and teachers training college music settings. Included is the keeping and discussion of portfolio for each student. Prerequisite: MED 411.

Postgraduate Programmes

The Department of Fine and Performing Arts offers the following postgraduate programmes:

Master of Arts in Theatre & Media for Communication in Development.

Master of Arts in Communication for Development

More information about these programmes can be obtained from the head of department on gnthara@cc.ac.mw.

Department of French

The French Department offers modules both to Humanities and Education students. The modules aim at developing a sound communicative competence in the French language through studies of Grammar, Phonetics, Literature, Civilization, French and Applied Linguistics, Translation and Interpretation, as well as an improved understanding of the francophone world. Students from Social Sciences and Science Faculties can also be allowed to study French. The following are the courses taught in the French Department:

Undergraduate Modules

Year One

Module Code	Module Name and Descriptor
FRE 111	**French Grammar**
	The module stresses the formal study of the French language and emphasis is placed on the verbal group. Students are required to master the mechanics of conjugation and tenses, among other things.
FRE 112	**Expression and Communication**
	The module emphasises spoken and written French because language is oral before it is written. The aim of the module is to close the gap between the work done by students in secondary schools and first year at the University. This is an advanced audio-visual module, emphasising oral and written expressions. Emphasis is put on written and oral comprehension essay, resume and book report writing.
FRE 113	**Oral and Written French Comprehension I**
	This module is for first year students who have **never** taken French before. It is taken in the first semester. It introduces students to the basics of French as a language, and emphasises contextual dialogues. It also introduces students to basic reading and writing skills as well as grammar.
FRE 123	**Oral and Written French Comprehension II**
	This is a follow-up module for students who have never taken French. It is taken in the second semester. Students who have been taking FRE 113 now build up on their recently acquired skills by practicing dialogue and honing their listening and writing skills.
FRE 121	**Introduction to French Linguistics**
	The module introduces braches of linguistics. Selected basic notions of these branches are explored as they provide a strong foundation for more advanced linguistics in the later years.
FRE 122	**Introduction to Literature in French**
	This module is an introduction to different literary genres such as poems, plays, short stories and folktales taken from French, Caribbean and African writers.

Year Two

FRE 211	**French Grammar**

The module places emphasis on the nominal group that includes pronouns, nouns, gender, adjectives and compound sentences all of which are studies in context.

FRE 212 **Communication and Civilisation**

The first part of the module teaches students how to communicate effectively in French in different contexts both orally and in writing. The last part is focused on a contextualised study of geographical and socio-cultural aspects of France.

FRE 213 **French Intermediate I**

This is a follow-up on the modules which were taken by French students who had only been introduced to French in their first year. It consolidates aspects such as grammar and narration of professional experience, and analysis of newspaper articles. Students are introduced to the following tenses: plus-que-parfait, past tenses and the conditional tense.

FRE 223 **French Intermediate II**

This is taken in the second semester for students who had only been introduced to French in their first year. The students are introduced to Phonetics (API, *voyelles*, *consonnes*, *intonation*) as well as French Civilisation (a basic introduction to the French Revolution, geography and history of France) and Literature (Figures de style, poetry and the folktale).

FRE 221 **Introduction to French Phonetics**

The module analyses the French sound system and the inclusion of the International Phonetic Alphabet helps students to acquire accurate pronunciation of French words. It also focuses on syntactical analysis of French sentences. The last part is devoted to grammatical and lexical morphology as well as the relationship between language and society.

FRE 222 **Introduction to Oral literature and Novel**

This module studies oral francophone literature and focuses on folktales proverbs and riddles. The last part is devoted to the study of a short novel by francophone writer from Belgium, Canada or Switzerland.

Year Three

FRE 311 **Translation**

The module introduces the study of theories and techniques of translation from English to French and vice versa. It examines the notion of collocation

as depicted in the Meaning-Text Model and its application to the translation practice. It also focuses on contemporary French in the cross-cutting fields of HIV/AIDS, governance, gender, environment and Human Rights.

FRE 314 **French Linguistics**

The module introduces major trends in linguistic thoughts with particular emphasis on structuralism, distributionalism, functionalism and enunciation linguistics. It discusses Valency Theory as applied to French as a language. This is followed by a detailed study of the history of French language. The component on experimental phonetics discusses theories about cross language perception of foreign speech sounds. The last part focuses on the Meaning-Text theory postulates and lexicon.

FRE 323 **20th Century French Literature**

The module zeroes in on existentialism, realism and structuralism as they helped shape our modern cultural world. These theories are used in the critical analysis of the 20th Century French novel.

FRE 312 **African and Caribbean Literature**

This advanced module discusses the negritude movement both in African and Caribbean contexts through the works of authors such as Léopold Sedar Senghor and Aimé Césaire. It then studies the post-independence era as seen through genre such as poetry, short stories and novels by authors such as TchicayaU'tamsi and Ousmane Sembène.

FRE 321 **Research Methods for French**

The module introduces students to research methods and techniques. Students learn computer applications necessary for word processing and data analysis. At this level, they write a research proposal on a particular topic agreed upon in consultation with the module lecturer.

FRE 322 **French Civilization**

The module focuses on socio-economic aspects of France with particular emphasis on population, immigration, unemployment, industry, irade unionism as well as gender studies.

FRE 313 **African Civilisation**

This is an introduction to Francophone countries in Africa and their relationship with France. The first part of this module explores the history of these countries

whereas the last part studies current affairs such as culture, politics and economy. Teaching aids include audio CDs, satellite television magazines and DVDs.

FRE 324 **Contractive and Applied Linguistics**

The module applies contrastive analysis to study structural differences between Chichewa, English and French. This analysis is thereafter applied to a detailed examination and classification of errors committed by Malawian secondary school pupils learning French as a foreign language. The module ends with recommendations on how the occurrence of these errors can be minimised.

Year Four

FRE 411 **Advanced Translation**

The module is a continuation of the Translation module introduced in third year. Simultaneous and Consecutive Interpretation are gradually introduced. It adopts a thematic approach encompassing food security, HIV/AIDS, ICT, Millenium Development Goals (MDGs) and governance and human rights.

FRE 414 **Advanced French Linguistics**

This module is a study of selected components from four branches of linguistics. The syntax component covers theoretical and practical aspects of distributionalism as applied to the analysis of corpora on French and selected African languages. The semantics part focuses on the practical application of the Meaning-Text Model through the study of government pattern. Supra-segmental features and neutralisation of phonological contrasts constitute the phonology component. The last part explores diglossia, dialectology as well as language policy and planning.

FRE 423 **French Literature**

This module studies selected works from authors such as Moliere. Give de Maupassant, Rousseau, Stendhal, Voltaire, Balzac and Flaubert. Their works span the period from 17th to 19th Century. Focus is on classical and enlightenment era before zeroing in on the theory of realism.

FRE 412 **African Literature**

The module analyses the African novel and play before and after independence. It discusses elements such as style, theme characterisation and plot in a more detailed approach.

FRE 421 **French for Specific Purposes**

This module emphasises letter writing, writing newspaper articles and designing radio/TV/newspaper advertisements as well as speech writing. It also explores contemporary French used in the fields of tourism, economics diplomacy, law and sports.

FRE 422 **French Civilisation**

The module is designed to discuss French political and cultural milieux in such areas as French cuisine, media, social security, French Revolution as well as political and administrative systems.

FRE 423 **Pan-African Civilisation**

This module examines the evolution of pan-Africanism starting from the era of the slave trade through the periods of colonialism and African independence to the present. The module also studies different schools of thought, including the post-colonial theory as regards pan-Africanism.

FRE ??? **Name Name**

This module, which centres on flexional morphology, starts by analysing Bull's model that can be used for discussing the verbal system of any language. The next part explores the application of this model to French by Arne Klum and to Chichewa by Francis Chilipaine focusing on contrastive analysis of points of convergence and divergence between the two languages. Students explore how these can facilitate or hinder the learning of French by Malawian pupils.

Department of Language and Communication Skills

The Department of Language and Communication offers various modules within English for specific purposes and communication studies. The Department also hosts a faculty programme titled Bachelor of Arts in Communication and Cultural Studies.

The purposes of the department are to:

- develop awareness of the aims and importance of programmes in specific purpose English.
- coordinate service English modules for all departments of Chancellor College.
- coordinate material production for service modules.
- coordinate testing and assessment, including monitoring of English language entry levels.
- provide modules for outside agencies which require special purpose English and communication skills.
- provide a base for research activities in Applied Linguistics and English for Specific Purposes at school as well as university levels.

Language and Communication Skills: Module Structure

The modules offered to University students are within English for Academic Purposes. This includes

study skills and English language specifically geared to language problems of specific subject areas. These courses are offered in years 1, 2, 3 and to graduate students are essentially skills-based rather than content-based

Module Code	Module Name and Descriptor
LAN 111	**English for Humanities**
	The module offers academic listening, reading and writing as well as seminar presentation skills within the humanities conventions, and library research skills.
LAN 115	**English for Education Humanities**
	In addition to academic listening, reading and writing, seminar presentation skills, and library research skills, this module offers to education students a teaching aspect that aims to show how the teaching of academic English to school pupils would be beneficial to the study of school subjects.
LAN 112	**English for Science**
	The module offers to students of pure sciences academic listening, reading, writing, seminar presentation skills within the science conventions, and library research skills. Students are assisted with the writing of laboratory reports and their language conventions
LAN 117	**English for Science Education**
	In addition to academic listening, reading writing, seminar presentation skills, and library research skills, this module has an added dimension for education students. They are introduced to the benefits of teaching academic English to the study of school subjects. The module shows science education students the importance of clarity of expression and their role in teaching clarity of expression in the schools.
LAN 113	**English for Social Science**
	The module offers social science students academic listening, reading, writing, seminar presentation skills, and library research skills within the social science conventions
LAN 114	**English for Political Science and Public Administration**
	The module offers academic listening, reading, writing, seminar presentation skills, and library research skills within the conventions of administrative studies. In addition, the module offers an introduction to extended report writing

LAN 121 **Writing and Oral Skills for Humanities**

The aim of this course is to develop Students' English language competence in the generic skills appropriate for language teaching.

LAN 122 **Writing and Oral Skills for Science**

The aim of this course is to develop students' English language competence in the generic skills appropriate for science.

LAN 123 **Writing and Oral Skills for Social Science**

The aim of this course is to develop students' English language competence in the generic skills appropriate for social science.

LAN 124 **Writing and Oral Skills for Political and Public Administration**

The aim of this course is to develop students' English language competence in the generic skills appropriate for language teaching.

LAN 125 **Writing and Oral Skills for Education (Language)**

The aim of this course is to develop students' English language competence in the generic skills appropriate for language teaching.

LAN 126 **Writing and Oral Skills for Education (Social Studies)**

The aim of this course is to develop students' English language competence in the generic skills appropriate for education and social studies.

LAN 127 **Writing and Oral Skills for Education (Science)**

The aim of this course is to develop students' English language competence in the generic skills appropriate for Education Science

LAN 211 **Advanced reading and Listening Skills for Humanities**

LAN 221 **Advanced Writing and Oral Skills for Humanities**

Bachelor of Arts Communication and Cultural Studies

Module Code **Module Name and Descriptor**

CCS 111 **Critical Thinking**

This course is designed to introduce to students the concepts of informal (i.e. non-symbolic) logic and its relation to academic and daily life. The course develops the ability to express ideas and viewpoints clearly and concisely.

CCS 112: **Introduction to Communication Studies**

The course introduces students to various aspects and branches of the discipline of Communication Studies. It also explores the relevance of the discipline in the modern world.

CCS 113: **Sign Language**

The course introduces students to the knowledge and skills for interacting with people with communication disorders, particularly the speech and hearing impaired, using sign language. The course is a deliberate effort to create media workers who can help address the communication needs of people with communication disabilities in Malawi.

CCS 114: **History of Communication**

The course gives students an overview of the history of communications and the discipline of Communication Studies. It introduces terms used to describe and explain communications, presents a critical outline of the history of communication and technological advances, and highlights major scholarly debates surrounding the relationship between technology and culture.

CCS 115: **Listening and Reading Skills for Communication Studies**

This course is a general introduction to elementary and intermediate listening and reading skills that are characteristic of lower levels of university education. It also addresses some of the language reception skills problems that characterise the local media industry.

CCS 121: **Media and Literary Studies**

The course focuses on the reading of communication signs beyond tradition literary texts and equips students with basic terminology and concepts in engaging in critical theories related to communication. This course combines aspects of the analysis of literary texts media texts such as advertising and photographs.

CCS 122: **Introduction to Literature**

The course is based on the assumption that literature, both written and oral, is a form of human communication. The course is an exploration of the varying human experiences and how they are communicated in various types of literary texts.

CCS 123: **Interpersonal Communication**

The course contextualises interpersonal communication as an academic discipline with emphasis on the role of communication in personal life, small groups and community at large.

CCS 124: **Introduction to Media Genres**

The course introduces to students print, radio and television genres. It particularly stresses their history, similarities and differences and how these in turn influence their usage in everyday life.

CCS 125: **Writing and Oral Skills for Communication Studies**

This course is a general introduction to elementary and intermediate oral and writing skills that are characteristic of lower levels of university education. The course also addresses some of the language problems characterising people working in the local communications sector.

CCS 211: **Communication Ethics**

Ethics is what puts brakes on communication institutions. The course is a critical exploration ethics as related to the media. The course sets out from the assumption of the media as both relay-mediators ("mediums" as in "containers") and agents ("conductors") of opinions or views of individuals and groups in society. Media ethics involves the analysis of the complex interface between media practice, society, and politics. Media practice is informed by the understanding of what is right and wrong, acceptable and unacceptable, justifiable and unjustifiable in society. The course mirrors democratic politics as falling in a constant need for a vibrant media that transcends the traditional role of media as "watchdog" to a "developmental" one which require making other ethical considerations such as those concerning religious diversity.

CCS 212: **Introduction to African Literature**

The course begins by defining the 'cultural product' called African Literature and the factors that led to its birth. The course further examines the role of the African writer in a society beleaguered by economic, political and cultural problems. The course attempts to appraise the literature from an over-arching perspective by critically engaging literature texts sampled from Malawi and other parts of Africa in terms of the major themes and styles.

CCS 213: **Language and Society**

The course introduces language in its social context by examining ways in

which relationships and structures in society influence language and vice versa. It explores variations in language that are determined by region, sex, social level and cultural groupings. The course is intended to encourage students to think about issues in their personal and professional lives.

CCS 214: Mass Communication Theory

The course gives students the opportunity to develop an in-depth understanding of theories that have informed various perceptions and practices within the mass communication industry. More importantly, it uses a critical approach that enables students to develop reflective skills that are critical to the production of media text to suit various contexts.

CCS 215: Advanced Academic Skills for Communication

This course builds on the listening and reading skills introduced in the first year of study. It gives students hands-on experience with sophisticated texts that characterise upper levels of university education.

CCS 221: Introduction to Visual Communication

The course is a general introduction to the role of images in the communication process, especially how the images relate to journalism, broadcasting, public relations, advertising and digital media. The course explores the discipline of visual communication both from academic and professional perspectives to create visual communicators who are not only able to design images but also to rationalise their work academically.

CCS 222: Creative Writing

The course is based on the assumption that good stories are created the same way but only differ in the media of narration to the extent that the play, novel and film share some principles in their genesis. The course is designed to cultivate students' creative faculties and abilities. It exposes students to a wide range of narrative techniques and principles of creativity that can be applied to literary and filmic writing. It is a practical course where the process of learning is in the writing itself for the students.

CCS223: Translation

The course exposes students to some principles in the art of translation. Thereafter, students apply the principles in the actual translation of given language samples.

CCS 224: Intercultural Communication

The course explores theories of communication and culture, as well as examining how culture is evident in languages, behaviours, rituals and worldviews. Additionally, it explores communication practices and attitudes that enhance

communication between members of different cultures and co-cultures. Students learn to examine and describe their own cultural heritage and to communicate mindfully with members of another culture.

CCS 225: Professional Writing and Oral Skills for the Media

The course addresses the general linguistic and communicative competence challenges facing the local print and electronic media today. Special attention is made on some of the most media genres. However, the skills that are taught apply to other media genres too.

CCS 311: Critical Theory

The course critically explores and interrogates underpinning ideas, factors and theories that inform literary and media practice. It particularly settles on the currents of thought influential on practice in the 20th Century. There is a calculated balance between Western derived thoughts and their influence on the said practices in Africa in order to illustrate the relevance of global academic thought on Africans' experience and the interpretation of our world.

CCS 312: Theories of Communication

The course investigates and analyses the theoretical assumptions that inform human interaction in face-to-face and mediated communication contexts.

CCS 313: Media and Society

The course engages students in a critical study of the production and consumption of media products, focusing on the relationship in which media and the society affect each other. The course is a citizen's guide to the media and, therefore, explores some key questions facing society today such as the nature of democracy, social justice and truth in an electronic era.

CCS 314: Communication Research Methods

This course introduces students to the academic research process with emphasis on design and methods of analysis specifically applied to communication questions. However, most of the knowledge and skills taught in this course are also applicable to non-academic research.

CCS 315: Film Theory and Criticism

The course explores film as a cultural medium through an exploration of key theoretical approaches to filmmaking. It explores types of film genres and the historical development of film as an art. Deliberate emphasis is placed on the use

of sound as a powerful artistic medium within the film genre. The course further introduces students to techniques for critiquing films.

CCS 316: Current Issues in Broadcasting

The course is a critical exploration of debates surrounding models of broadcasting and principles that inform such models. Particularly, it interrogates both internal and external social, economic, and political forces that determine the functioning of broadcasters and how these in turn affect the role of broadcasting in governance and development.

CCS 317: Currents of Thought in Journalism

The course critically explores how the ideas and perception of journalism have evolved over time. These are also the thoughts that have shaped journalism as a discipline and a practice across time and space.

CCS 318: News Reporting

The course explores challenges and demands of radio, television and print news reporting in a digital era. To give students a rich learning experience, the course interrogates the challenges, demands and opportunities that exist in various news contexts, with the support of carefully selected local and international news case studies.

CCS 319: Public Speaking

The course makes students become aware of important speech elements through practice and delivery of different types of speeches in different contexts, thereby connecting speech and speech communication principles to other areas of arts and communications.

CCS 321: Contemporary Political Philosophy

The course examines various perspectives of political philosophy with an emphasis on indigenous thought that shapes political practice with a comparison of global perspectives. The course is an examination of the major political philosophies of our time with some reference to their 'historical' precedents. Specifically, it examines competing conceptions of political thought, followed by a survey of major works. It underpins such concerns central to contemporary political thought as justice and liberalism, discourse and the public, equality and law, representation and diversity, sovereignty and human rights, and democracy and pluralism.

CCS 322 The Political Economy of Media and Communications in Malawi

The module seeks to investigate contemporary developments in broadcasting and press media in post-independent Malawi through critical examination of historical developments in terms of media policy and practice, ideology and hegemony, ownership and control, as well as the role the same media plays in fostering development and democratic values.

CCS 323: Literacy in an Information Age

The course critically explores the evolution of the highly contested concept of literacy since the period of the invention of writing to the present era of new media.

CCS 324: Media, Policy and the Law

The course explores the reciprocal relationship between the media and the law, paying particular attention to the manner in which the law regulates and influences media practice, and how media practice affects the formulation and administration of the law.

CCS 325: Video Production

The course begins by taking students through the basic process of video production using affordable digital filmmaking equipment/software like Sony VX2000 cameras, Final Cut Pro 4.0, Adobe Premiere 6.5 editing and DVD Studio Pro 2.0. Then it gives students hands-on experience for producing professional standard videos.

CCS 326: Desktop Publishing

The course empowers students to acquire an understanding of the editorial process in general and the role of the editor in particular in the preparation of type scripts for publishing.

CCS 327: Radio and Television Announcing

This course introduces students to professional radio and television announcing emphasising individual characteristics and corresponding communicative demands of various types of radio and television programs. The course builds on knowledge and skills that students acquired from a second year course titled Professional Writing and Oral Skills for the Media and makes an in-depth exploration of typical announcing duties for news, sports, commercials, talk show and other on-air works.

CCS 328: Public Relations

The course focuses on the principles and dynamics of public relations on the basis that anyone working in information and communication deals with the

public in one way or the other.

CCS 411: **Communication and Culture**

The course takes students through a general account of the discipline of Cultural Studies, including its main themes and arguments within the context of the Communication Studies discipline. Driven by assumptions of critical Cultural Studies traditions, the course offers students a self-reflective experience by critically examining the assumptions and practices of media and cultural products

CCS 412: **Development Support Communication**

The course orients students to the developmental concerns in Malawi and other developing nations with a primary focus on the various aspects of communication and the role it can play as a catalyst in the transition from a developing to a developed economy.

CCS 413: **Business Writing Skills**

The course takes students through skills of writing business texts in both the private and public sector contexts.

CCS 414: **Research Proposal Writing**

The course gives students the opportunity to develop practical knowledge and skills for developing academic research proposals. The course builds on CCS 310: Communication Research Methods, and prepares students for a research module CCS 423: Long Essay, which requires them to investigate a problem using an approved academic proposal. The long essay topic is selected from the student's majoring area.

CCS 415: **Television Directing and Producing**

The course gives students hands-on experience in television directing and producing the major pieces of television production, in equipment and their operation, and the functions of production personnel.

CCS 416: **Radio Production**

This course introduces students to technical aspects of radio production and the decision-making process involved when producing radio programmes. The course prepares students for situations in which announcers are required to

produce and record programmes by themselves.

CCS 417: Screenwriting

This course introduces students to screenplay/teleplay creation, development and writing.

CCS 418: Photo-Journalism

The course covers principles and theories of photojournalism, with hands-on experience in news-oriented photography using digital photography and printing equipment to capture, process and manage images as finished products for dissemination and transmission.

CCS 419: Persuasion Theory

The course introduces students to the theory and practice of persuasion using a multidisciplinary approach that draws from media studies, advertising, rhetorical studies, interpersonal communication, health communication, public communication and psychology.

CCS 421: Media, Democracy and Development

The course critically interrogates the role of the media in enhancing democracy and development. It particularly scrutinises the role of media institutions in promoting freedom of expression, public and political accountability, and civic engagement as prerequisites to human and national development. Furthermore, it interrogates practices that promote media responsibility and accountability in democratic nations.

CCS 422: Media Institution Management

The course offers basic insights into the management, organisational, and ownership aspects of running a media company or organisation within the context of changing society and technology.

CCS 423: Long Essay (Research Report)

The course builds upon knowledge and skills developed in proposal writing module LAN 412. Students work closely with their supervisors as a method of shaping their skills in conducting research and presenting their finding in a report of between 8,000-12,000 words. Alternatively, a student may opt to do a practical project. Both the long essay and the practical project are based on a topic that the student creates from his/her area of specialisation.

CCS 424: **Job-oriented Interpersonal Skills**

The course explores interpersonal skills that characterise the modern work place ranging from everyday interaction between colleagues and interaction between professionals and clients to attending and conducting job interviews.

CCS 425: **News Editing**

The course introduces students to newsroom editorial processes and practices with special attention on techniques for information gathering, analysis and organisation. It also highlights similarities and differences between practical editorial challenges of print and electronic media newsrooms.

CCS 426: **Feature Writing**

This is a highly practical course that offers students an opportunity to practice in story-idea development, fact gathering and feature writing. The course examines the cardinal principles of feature writing as opposed to "hard news" or academic writing. It also revolves around a critical survey of local and international leading feature writing as a way of mirroring the principles while challenging students to explore beyond them.

CCS 427: **Radio and TV Programming**

This course covers the basic theory and techniques of radio and television programming strategies and practices. It is designed to develop skills in developing and analysing station formats, scheduling and programming. It examines the influence of ratings systems, audience response and marketing conditions on programming for radio and television.

CCS 428: **Ethnographic Film and Documentary Film**

This course introduces students to the related field of Ethnographic Film and Documentary Film with particular attention on the relationships between seeing, being seen and modern formations of identity in culturally and historically specific contexts.

CCS 429: **Contemporary African Rhetoric**

The course is a study of persuasive strategies drawn from indigenous African cultural and political contexts in comparison to Western perspectives. It examines the nature, function and principles of rhetoric, including how arguments and speeches can be structured to achieve rhetoric effect.

Department of Philosophy

Modules in the Philosophy Department are varied, ranging from basic philosophical issues to applied philosophical areas. The core modules consist of Logic, General Survey of Basic Philosophical Issues, History of Philosophy, Metaphysics, Epistemology, Ethics, Social Philosophy, Political Philosophy, Aesthetics, African Philosophy, Phenomenology and Research. In addition, the Department also offers modules in applied philosophy such as Moral Philosophy (applied), Philosophy of Religion, Philosophy of Science, Philosophy of Education and Environmental Ethics. The department offers BA, ***B.A. (Hon.)*** **Masters of Arts** (M.A.), Master of Applied Ethics and **Doctor of Philosophy** (D.Phil.) programmes.

Undergraduate Modules

Below is a summary of modules offered in the department.

Year One

Module Code	Module Name and Descriptor
PHI 111	**Critical Thinking & Reasoning Skills** This module introduces students to the centuries-old discipline of Logic. The module proffers basic concepts of critical thinking and reasoning. It discusses various ways in which thinking can be erroneous and how one can spot errors in thinking.
PHI 112	**Foundations of Philosophy** This module introduces students to the schools and systems of philosophy. Students realise that inasmuch as philosophy may *per se* not bake bread, it generates *ideas* for baking bread through critical reflection. Philosophy questions the grounds for our beliefs, prejudices, dogma, or conviction, thereby helping people to develop critical minds. Consequently, those that study philosophy become critical thinkers.
PHI 121	**Formal Logic** This module is a continuation of the critical thinking and reasoning skills module. It has two parts: categorical syllogisms and propositional logic. Categorical syllogisms deal with the logic of terms, forms and moods. Propositional logic deals with the derivation of rules of inference and the application of the same to validity proofs.
PHI 122	**Ancient Philosophy**

The module presents a broad and analytical view of the progress of ancient scholarly philosophy - the philosophy of the schools - from its origins around 650BC to its demise around 50BC. It thus focuses on the origin and evolution of scholarly philosophy during this period. Ancient scholarly philosophy stems from the Milesians as the first school of philosophy grounded in the philosophy of *physis*, sails through the apex of ancient Athenian philosophy whereby the paradigm shifts from *physis* to ethics, political philosophy and metaphysics, for example, and hence the emergence of the Athens-based trio of luminaries, Socrates, Plato and Aristotle. The module completes the Ancient philosophical tradition with a plethora of philosophical reasoning during the Hellenistic period.

Year Two

PHI 211 **Mediaeval Philosophy**

The module presents a broad and analytical view of the progress of Western philosophy during the Mediaeval period. It covers three clear but indistinct historical eras; the Early Mediaeval Period; the Mediaeval Era and finally the Late Mediaeval Period. It thus focuses on the nature and evolution of philosophy during the period roughly spanning from 300CE to 1300CE.

PHI 212 **General Ethics**

This module introduces students to the nature, origins and evolution of the discipline of ethics. Ethics refers to philosophical analysis of morality. It is the endeavour to understand moral concepts and justify moral principles and theories.

PHI 221 **Modern Philosophy**

The module presents a broad and analytical view of the progress of Western philosophy during the modern period. It covers three clear but indistinct historical eras; the Early Modern Era (the Renaissance Period); the Modern Era (the Enlightenment) and finally the Late Modern Era. It thus focuses on the nature and evolution of philosophy during the period roughly spanning from 1300CE to 1900CE

PHI 222 **Epistemology**

Epistemology is the branch of philosophy that studies knowledge. It attempts to answer the basic question: what distinguishes true (adequate) knowledge from false (inadequate) knowledge? Practically, this question translates into issues of scientific methodology: How can one develop theories or models that are better than other competing theories?

Year Three

PHI 311 **Metaphysics**

The Metaphysics module studies the general aspects of being and its principles. Traditionally the module was described as a study of *being qua* (insofar as) *being* and it was considered as one of the main branches of philosophy. This course is not restrictive to traditional understanding of being, but it also focuses on modern developments in the study of being.

PHI 312 **Biomedical Ethics**

This module introduces students to the basic principles of biomedical ethics. It further discusses some of the fundamental moral dilemmas faced by biomedical professionals and researchers. Biomedical ethics is a branch of applied ethics that examines moral dilemmas in biomedical practices. It draws on a variety of professions in a wide range of fields of inquiry such as law, theology, medicine, the life sciences and nursing.

PHI 313 **Business Ethics**

This module examines issues such as the relationship between the nature of business and ethics in business; different approaches to business ethics, from stockholder theories to stakeholder theories; and the nature and extent of corporate responsibility to individuals, communities and the environment.

PHI 321 **Research Methods**

In the midst of diverse and sometimes conflicting methods and methodologies in academic research, Philosophy Research Methods stipulates the guidelines for doing advanced undergraduate research and writing a report. It helps students develop the skills required to produce and present good philosophical research

PHI 322 **Social Philosophy**

This module studies the nature and form society. It explores the ideas and institutions that are claimed to render human beings social beings such as family, school and religious/cultural institutions. It also looks at problems that arise in the process of socialisation such as power, equality and false consciousness.

PHI 323 **Environmental Ethics**

The environmental ethics module introduces students to erstwhile philosophical attempts at applying ethical theories to the understanding of the relation of

humankind to the natural world. The module evaluates ethical dimensions of major environmental problems and solutions.

PHI 324 **Philosophy of Science**

This course explores the main constituents of Philosophy of Science. In trying to articulate this, two approaches are taken. These are: Historical and Philosophical. It has a historical approach because science cannot develop outside a historical context. This approach traces the origin and development of scientific thinking through philosophical thinkers ranging from the 6th to the 20th century AD. The philosophical aspect helps us to appreciate the many scientific developments with a critical mind.

PHI 314 **Logic and Scientific Methods**

Logic and Scientific methods deals with arguments and various forms of inference-techniques utilised in the sciences, such as natural science, psychology and medicine. The course analyses and questions the logical foundations behind these methods.

Year Four

PHI 411 **History of Political Philosophy**

This module introduces students to some of the prominent philosophers and their political visions of society. The module takes a historical approach to consider the views of these philosophers in various epochs dating from antiquity to the contemporary period.

PHI 412 **African Philosophy I**

African Philosophy I examines the position of philosophy in Africa from the time African and expatriate philosophers engaged in the debate on whether or not there is a uniquely African Philosophy. The course also evaluates African philosophical trends.

PHI 413 **Phenomenology & Existentialism**

This module is an exploration of phenomenology and existentialism. Briefly, phenomenology is the study of structures of first-person experience or consciousness, whereas existentialism is the study of the question of human existence. The two philosophies are so closely related that existentialism is most often considered as a phenomenology of consciousness; in other words, there is a thin line of demarcation between them.

PHI414 **Study of an Author/Theme**

The module offers selected philosophical themes and works of Philosophers. It allows students to explore in-depth some classical philosophical debates as expressed by different authors.

PHI 421 **Themes in Political Philosophy**

The module deals with recurrent themes and debates in political philosophy. It analyses key concepts such as freedom and equality that are involved in such debates.

PHI 422 **African Philosophy II**

The module illustrates how African Philosophy is done. It marks a paradigm shift from the 'debate' around the existence and identity of African Philosophy towards its 'practice'. The module has selected themes from the five main branches of philosophy namely Metaphysics, Epistemology, Logic, Ethics/ Political philosophy and Aesthetics.

PHI 423 **Critical Theory**

This module is a study of Critical Theory as an important trend in 20th century German Social Philosophy. A product of the Frankfurt School, Critical Theory offers important critical insights for the African postcolonial experience, especially Africa's problematic entry into European 'modernity'.

PHI 425 **Philosophy Dissertation**

The dissertation gives students the opportunity to display their writing and presentation skills. It is an exercise on the communication of ideas; appropriate to the students' chosen research topic, with the help and guidance from members of the academic staff. Students will have to obtain knowledge of issues pertaining to the dissertation topics and develop abilities to explore and present arguments drawn from standard texts relevant to the topic.

Bachelor of Arts Philosophy (Honours)

The following are the courses offered under BA – Philosophy (Honours):

Module Code **Module Name and Descriptor**

PHI 511 **Logic and Philosophical Method**

This module explores the nature and role of philosophic critique. It briefly reviews

the rudiments of critical thinking, then highlights recent development in theories of justification under "the postmodern challenge: It concludes by outlining how the looming challenges to humanity such as the future of technology and the environmental crisis remain matters of philosophical definition.

PHI 512 **Metaphysics and Epistemology (Theory of Knowledge)**

This module focuses principally on the explanation of the nature of metaphysics and epistemology. It also discusses the basic characteristics of the components of metaphysics, analyses the implications of the fundamental claims of aspirations. Above all, it pays special attention to two classical metaphysical theories about the mind-body dichotomy.

PHI 513 **Ethics**

This unit aims to introduce students to the prevailing misconceptions of objective reality and moral truths underlying fundamental policies and decisions. It, therefore, enables them to appreciate and develop sound foundations for social, economic, scientific and political choices.

PHI 514 **Political Philosophy**

Africa is currently going through a political revolution. From a long experience of colonialism and authoritarian rule, African countries are popularly opting for democratic systems of government, perhaps for the first time in the history of African politics. While formal change is easier to implement, the actual, practical one is hard to come by, since it presupposes appropriate attitude change. Thus, it is believed, modern African political systems can never be genuinely democratic without the requisite attitude change.

PHI 515 **Research Methods**

This module exposes students to a wide range of research techniques. Initially, it explains what research is all about and what a research paper or dissertation entails. Secondly, the unit explains where a research student must begin in the research project, how the research student ought to read sources, how to take notes and how the materials read should be summarised. In addition, the module explains techniques necessary for writing a research paper, primary or secondary research reports as well as a critical paper. Finally, the module focuses on how conclusions develop, how outlines are written, how evidence is reviewed and how it is incorporated into a text, and, more, importantly, how to avoid plagiarism.

PHI 516 **Supervised Field Research And Dissertation**

This module accords students an opportunity to study in-depth and systematically a particular philosophical topic under the supervision of an academic member of staff.

Master of Arts in Applied Ethics

Programme Description

The aim of the MAE programme is to provide students with knowledge, skills and competence to examine ethical challenges and dilemmas in professional and public life from a wide spectrum of worldviews and ethical theories. The programme provides students with grounding in principles of ethics. Students also develop skills that are necessary for analysing ethical issues and making ethically sound decisions. The programme adds value to continuing development in public and professional life. The following are the courses offered in the programme:

Module Code	Module Name and Descriptor
MAE 611	**African Moral Practice and the Ethical Theory (Core)** The module focuses on different moral practices and systems that characterise African societies and how they are reflected in the ethical theory. It investigates African ethical values and principles that were and are promoted in African traditional societies. Special focus is on *Ubuntu/Umunthu* ethics, which is mostly lived by the Bantu people living south of the Sahara.
MAE 612	**Moral Decision Making (Core)** The Moral Decision Making module focuses on techniques required for identifying, analysing and choosing alternatives based on values and preferences. It provides skills in critical thinking, moral situation analysis and social analysis which are required in making informed moral decisions.
MAE 613	**Business Ethics and Corporate Governance (Core)** The module discusses issues related to the nature of business and the place of ethics in business. It focuses on different approaches to business ethics, from stockholder theories to stakeholder theories; and the nature and extent of corporate responsibility to individuals, communities, and the environment. The module further indicates how corporate governance is informed by ethical principles as stockholders develop their work policies.
MAE 621	**Research Methods and Methodology (Core)** This module provides an overview of the important concepts of research design, methods, methodology, data collection process, statistical and interpretative analysis and final report presentation. The module helps students conduct both qualitative and quantitative research in a variety of settings.
MAE 622	**Environmental Ethics (Core)**

This module covers a range of topics from contemporary philosophical literature on environmental ethics, including the scope of moral concern (i.e. whether and how our moral theory should concern itself with animals, plants, ecosystems); whether nature is intrinsically valuable, or whether it possesses value only by being valuable to us; whether it is reasonable to search for just one overarching 'environmental ethic'; deep ecology; ecofeminism; the ethics of sustainability; the ethics of ecological restorations and the case for a distinctive environmental virtue.

MAE 623 **Biomedical Ethics (Core)**

The module presents theories in biomedical ethics and discusses a wide range of ethical dilemmas related to biomedical science, including issues raised by consent, confidentiality, genetic testing and enhancement, euthanasia and physician-assisted suicide, the use of animals in research, stem cell and human embryo research, and the pharmaceutical industry. The focus is on developing an understanding of varied ethical theories and how they apply to controversial biomedical issues.

MAE 614 **Development Ethics (Elective)**

The module offers an ethical reflection of policies/strategies and ends of socio-economic development more specifically in poor countries and regions of the world. It further investigates the impact of ethics on national development strategies. This module is designed to accommodate the idea that ethics plays a central role in development, similar to policy components that are often underlined in development studies. It analyses questions pertaining to obligations of rich countries in relation to developing countries, ethical issues related to technology and development and geo-effects of development.

MAE 615 **Public Health Ethics (Elective)**

The module focuses on systematic analysis of moral problems that arise in public health. Using insights from ethics, the module equips students with the skills to analyse moral dilemmas that arise within the context of contemporary public health and offer solutions to the same. The field of public health ethics deals primarily with the moral foundations and justifications for public health, the ethical challenges raised by promotion of public health, perceived tensions between individual liberty and collective benefits, and allocation of scarce medical resources.

MAE 616 **General Ethics (Elective/Bridging Module)**

This bridging module introduces students to the nature, origins and evolution of the discipline of ethics. Ethics refers to philosophical analysis of morality. It is the endeavour to understand moral concepts and justify moral principles and theories.

MAE 624 **Public Service and Private Sectors Ethics (Elective)**

The module discusses basic ethical elements required in public service and private sector. With regard to public service, the module links public governance as a profession and related public service ethical values. With regard to the private sector, it offers professional ethics that targets non-governmental organisations, industries and corporate entities.

MAE 625 **Morality, Law, Politics and Media (Elective)**

This module introduces students to ethical dimensions of the complex relationship that exists among law, politics (public policy) and the media.

MAE 711 **MA Thesis (Core)**

The thesis consolidates theoretical and practical aspects of the MAE programme. Students conduct research on a selected topic based on their area of specialisation and are expected to offer intellectual input in understanding and possibly suggest necessary measures that can be adopted to deal with ethical problems discussed in their research. In this module, students are expected to give at least a seminar on their research progress. Each student is assigned 1 primary and 1 secondary supervisor. Their role will be to guide the student throughout the thesis preparation process.

Master of Arts Philosophy Research

Entry requirements

Candidates for admission into the MA Philosophy research degree should normally have a minimum of lower second class (2.2) in their BA (Honours) degree or Bachelor's Degree with distinction or high credit majoring in Philosophy, with high/undoubted or marginal distinctions in the two or more majoring philosophy courses.

Previous research experience traditionally evidenced by a dissertation or research project or long essay is a necessary additional requirement.

Programme conditions

The MA Philosophy Research is only open to philosophy graduate majors who can satisfy the department that they have a prior sound grasp of the contemporary contending issues in their relevant and specific areas of study and have high and demonstrable potential to spontaneously initiate and conduct independent research with the support of supervisors or a supervisory committee.

In other words, successful MA Philosophy research candidates are expected to undertake independent research into a specific area in which they have prior special interest and demonstrable foreknowledge. Each candidate is allocated a research supervisor or supervisors who facilitate the candidate's research endeavors throughout the duration of course. For assessment purposes, a candidate is required to write

a dissertation of length from 40,000 to 60,000 words.

The candidate has finally to present and orally defend the thesis of his or her dissertation, that is, in a viva voce examination.

Periodical departmental and/or graduate class seminars form a crucial component of the integration process of the students in the MA Philosophy Research.

Doctor of Philosophy (PhD or DPhil) by Research

Requirements

Candidature to this demanding and highly competitive level of philosophical inquiry is open to candidates who have a Master of Arts Philosophy Degree, or an equivalent Postgraduate Philosophy Degree plus evidence of relevant teaching experience in philosophy.

Admission into the PhD or DPhil research requires a student's presentation of a draft research proposal to the department and the department's conditional acceptance of the draft research proposal. The accepted draft proposal should originally and succinctly articulate its thesis zeroing on contemporary social issues and paradigms in a specific and well-focused area of prior special interest and mastery.

The integration process of PhD or DPhil Candidates involves several intensive seminars and workshops at department, college, institutional, national or international levels.

Depending on need and the department's staffing levels, doctoral candidates may be requested to assist with teaching undergraduate classes on prescribed themes/topics directly relevant to their on-going research.

A student obtains the degree of Doctor of Philosophy (PhD or Dphil) after presentation and oral defense, i.e. in a viva voce examination, of the thesis of his or her written dissertation whose minimum length is 100, 000 words.

Students who completed their MA degree elsewhere may be requested to complete an additional programme determined by the department.

While every PhD or DPhil research student can expect close, stimulating and experienced supervision and mentoring and access to relevant sources and materials, in turn, the student is expected to clearly demonstrate consistent progress in his or her work and show a commitment to the pursuit of excellence.

Work at doctoral research level is a very demanding task and yet an intrinsically and (sometimes) extrinsically rewarding experience in philosophy. It involves direct engagement with one's own chosen field of study and through this, the chance to explore issues, ideas and problems in considerable depth and in innovative and creative ways. Unarguably, successful completion of a PhD or DPhil research represents the fulfillment of a person's intellectual potential and a major life achievement.

Department of Theology and Religious Studies

The Department of Theology and Religious Studies offers a full Degree programme leading to the award of the Bachelor of Arts (Theology). Entry to this programme is open to students selected for the Faculty of Humanities and also holders of the Diploma in Theology, with credit or distinction or pass with an average grade of 55, who enter at third year level. The modules are also open to Education Humanities

students in the Faculty of Education who may wish to take some Theology and Religious Studies as part of their degree programme. The Department's primary orientation is to Christian Theology and Biblical Studies, but substantial attention is also devoted to African Traditional Religions, Islam and other World Religions. There is an emphasis on topics which are of relevance to contemporary Africa and, in particular, to Malawi. The modules which students are required to take for a Degree programme are as follows.

Undergraduate Modules

Module Code	Module Name and Descriptor
TRS 111	**Church History: Early Church** The aim of this course is to help students gain an understanding of the origins, developments and growth of the early church.
TRS 112	**Introduction to the Context and Growth of the Old Testament** The aim of this module is to introduce students to the proper understanding of the Content and Growth of the Old Testament as the foundation of the broad perspective of the acts of God in the history of salvation.
TRS 113	**Systematic Theology** The course aims at introducing students to the study of Christian theology as an academic and existential discipline.
TRS 115	**Biblical Studies: Introduction to the Old Testament** The course is designed to introduce students to the proper understanding of the Old Testament as the foundation of the broad perspective of the acts of God in the history of salvation, thus introducing the students to the major theme of the Old Testament –God's redemptive acts. The course introduces students to the issues of the how the Bible (OT) came into being throughout the history of the salvation through the nation of Israel.
TRS 121	**Church History: The Medieval Church** The aim of this module is to help students understand the medieval roots of the present day church.
TRS 122	**The New Testament (Synoptic Gospels and the Book of Acts)** The aim of this module is to help students to explore the socio - historical context, the literary character and the theological perspectives of the Synoptic Gospels

and the Book of Acts.

TRS 124 **Theological Hermaneutics**

The aim of the course is to lay down the theological foundation for exploring the significance of the interpretational theory of texts, events, all human works and all reality, so as to equip students with adequate approach to biblical and theological interpretation.

TRS 126 **Introduction to African Traditional Religions**

The aim of this module is to provide an introduction to the study of religions in their conceptual, personal, social and ritual dimensions as a basis for further exploration of the varieties of religious experiences in the world.

TRS 211: **Church History: Reformation in Africa**

The aim of this module is to introduce students to the history of the Reformation of the Church in Africa**.**

TRS 212 **Biblical Studies (New Testament: Pauline Literature)**

The aim of this module is to introduce students to the Pauline literature in relation to its social-economic, political, cultural and religious context.

TRS 215 **Biblical Studies: Introduction to New Testament**

The aim of this course is to give students a general introduction to the New Testament

TRS 216 **Church History: The reformation Era**

The aim of this module is to introduce students to the history and theological thought of the Reformation Era.

TRS 221 **Church History: African Church History**

The aim of this module is to introduce students to the history of Christianity in Africa with special emphasis on Malawi.

TRS 222 **Biblical Studies 2: Old Testament**

The aim of this module is to introduce students to the Old Testament, its history and literary form.

TRS 223 **History of Islam in Africa**

The aim of this module is to help students to examine the spread of Islam and Muslims in Africa and the impact on African societies and religions.

TRS 225 **Introduction to Systematic Theology**

The aim of the module is to introduce the students to the major divisions/ branches, doctrines and theologians in systematic theology

TRS 311 **Sytematic Theology: Methodology/Christology**

The aim of this module is to equip students with methodological tools and skills for engaging in a critical theological discourse in systematic theology, especially Christology.

TRS 312 **Biblical Studies: Johanine Literature**

The aim of this module is to develop in the students an awareness of the main issues concerning the Johannine Writings and the distinctive theological positions of each and to help them acquire hermeneutic skills for reading the New Testament

TRS 313 **New Religious Movements in Primal Socities**

The aim of this module is introduce students to New Religious Movements.

TRS 314 **Islam and Politics**

The aim of this module is to introduce the concepts of Islamic political thought and their influence in history and in the contemporary word.

TRS 321 **Systematic Theology: God, Holy Spirit, Trinity, Ecclesiology**

This module is designed to allow students to engage in a critical discussion of the central themes of Christian theology on God, the Trinity, the Holy Spirit and the Church.

TRS 322 **Biblical Studies: Wisdom Literature and Psalms**

The aim of this module is to introduce students to theological understanding and interpretation of wisdom and poetic writings as well as how that affects their day-to-day lifestyles.

TRS 323 **African Traditional Religions**

The aim of this module is to introduce students to the basic facts, concepts and theories in the main areas of African Traditional Religions in Central Africa

TRS 324 **Islamic Jurisprudence (Shariah)**

The module aims to develop in students an understanding of the concepts of Islamic law and its application in history and in the contemporary world.

TRS 411 **Christian Ethics**

The aim of the course is to equip students with the knowledge of general principles and theories of Christian ethics and how these principles apply in the area of the relationships between the church and society, and in individual and social morality.

TRS 412 **Biblical Studies: Old Testament Theology**

The aim of this module is to help students reflect on the theology of the Old Testament in the multiple interactions of Israel's theologians in different historical and social circumstances.

TRS 413 **Islamic Philosophy**

The aim of this module is enable students reflect systematically and contextually upon the philosophical foundation of Islamic belief / faith.

TRS 414 **Modern Malawian Church**

The aim of this course is to introduce students to the modern Malawian Church**.**

TRS 421 **African Theology**

The aim of this module is to introduce students to African Theology in its origins, development, varieties, models, methodology, challenges, and enable them take a critical and active role in the development of theology in Africa (Theology from an African perspective).

TRS 422 **Introduction to New Testament Theology**

The aim of this module is to introduce students to New Testament Theology and its implications for life in Malawi.

TRS 423 **Oriental Religions**

The aim of this module is to help students understand oriental religions and their implications on religious life in Malawi

TRS 424 **Missiology**

The aim of this module is enable students understand the history and theology of missionary movements and their implications for the Church today.

Master of Arts in Theology

Send an email to jthipa@cc.ac.mw for details of this programme.

FACULTY OF LAW

The Faculty of Law offers an Honours Degree in Law, LLB (Hons), in four years, for students who have already completed one year of general education at any College of the University, or at some other approved University. The Faculty also admits applicants into its four-year programme if they have a degree or diploma from the University of Malawi or some other recognised University. The faculty also offers a Diploma in Law for public and private workers with legal practice background

Bachelor of Laws (Honours) (LLB)

Year One

Module Code	Module Name and Descriptor
LLB 111	**Introduction to Law**

LLB 111 facilitates the student's development of foundational core legal competences. It organises learning around the nature of legal education and the legal profession, understanding the law and the legal system, progressive demonstration of key legal skills for the study of the law, and progressive effective use of key legal methods and techniques.These competences are essential for a sound inception into the study of the law and the legal profession. In addition to the lecture, the module uses buzz groups, group working, short moots, simulation, educational visits, simulation, and much practice. Testing is frequent and regarded as a key learning strategy, gauging both multiple formative and summative learning outcomes on each learning competence area.

LLB 112 **Constitutional Law**

The aim of LLB 112 is to enable the student develop key competences essential to legal education and practice related to the theory and practice of constitutionalism. The competence-based learning outcomes of the module will contribute to the ability of LL.B (Hons) graduates to comprehensively explain the rationale for constitutional law; provide a critical account of the history of Malawian constitutional law; describe and critique the content of the Constitution of Malawi; and interpret and apply particular constitutional norms and rules to specific practical scenarios. These competences are important primarily because the Constitution is supreme to all other specific laws in Malawi. The module is delivered principally through lectures in the Socratic mode. Lectures supplement tutorials and other participatory activities. In their application, all the methods use both traditional and modern teaching and learning tools, including ICT. The approach and methods of delivery deliberately encourages critical legal thinking.

LLB 113 **Criminal Law I**

Criminal Law 1 facilitates the learner to acquire knowledge and skills on the substantive concepts, principles and theories in criminal law in Malawi. The module further analyses the nature and scope of criminal offences and the rules that govern imposition of criminal liability. Criminal law is an indispensable branch of law in every legal system as it sets out part of the foundation of the criminal justice system. The module is important, as it enhances the student's analytical skills and competences in criminal statutory interpretation. The moduleis delivered through class lectures, class discussions, moot court sessions, tutorials, and court visits.

LLB 114 **Law of Torts I**

Law of Torts I provides students with foundational competences of the law on of civil wrongs that result in personal injury, property damage, or economic injuries. The module seeks to develop knowledge, analytical and application skills with regard to fundamental principles of tortious liability with particular reference to the tort of negligence and breach of statutory duty. The module further develops competences to relate the Law of Tort with other key aspects in the legal systems, such as gender and human rights. The module is important because a key pillar of private law, governing liability for injuries in terms of involuntary horizontal interactions among persons. The module is delivered through presentation of theory and general principles in lectures and development of practical problem-solving skills through examination, tutorials, short moots, simulations and directed student research and reading.

LLB 115 **Clinical Legal Education I**

Clinical Legal Education I is a practical modulethat enables the student to learn the law through practice. Specific competences from the module include legal

research, study skills, ability to open, manage and close case files, and developing empathy to help vulnerable people and communities through the Chancol Legal Clinic. Students engage in practical research exercises, class presentations, clinical work, role plays, buzz sessions, client interviewing, Games, Opinion polls, Taking a stand, The PRES formula, Fishbowl, values clarification, and tutorials.

LLB 121 **Administrative Law**

LLB 121 enables the student to develop critical knowledge of the contribution of administrative law to legality, reasonableness and procedural fairness and skill to interpret and apply administrative law norms to factual situations in the context of provision of legal assistance. Such competences are essential primarily because of the growing significance of decisions made by public administrators in the lives of citizens and expanding range of the aspects of the lives of citizens that are affected by those decisions. The principal method to delivering the module is the lecture in the Socratic mode, supplemented by tutorials and other participatory activities. In their application, the methods use both traditional and modern teaching and learning tools, including ICT. The approach and methods of delivery is deliberately encourage critical thinking and progressive appreciation of the linkages between legal theory and practice.

LLB 122 **Gender and the Law**

This module lays the foundation for appreciating and understanding the gendered aspects of Malawian, regional, and international law. The student is, from the earliest stage, able to trace the development of early feminist legal theory to the current and emerging postmodern feminist theory, and feminist critique. Using feminist perspectives, the student is able to examine the different theories of law. The module is important because it enables students to understand and critique the ways and processes through which the law is gendered and how this contributes to the construction of gender inequality as well as how the law can be used as a tool for transforming such inequalities. The delivery of the module is predominantly through lectures (with the utilization of expert guest lecturers), use of case studies, group work, and tutorials. The studentis subject to continuous assessments aimed at appreciating the progress made.

LLB 123 **Criminal Law II**

Criminal law II develops the student's competences to analyse key criminal offences and defences under statute law in Malawi. Learners further develop competences critically to assess the substantive elements of criminal offences. Further, they learn how defences operate to negate criminal liability. The understanding of the specific offences under the laws in Malawi is essential to the proper prosecution and defence of criminal offences. The module is essential, as it equips students with skills and knowledge on how to identify the elements

of particular criminal offences and the defences that are applicable under the law. The technique can be used in the development of a theory that proves or disproves the commission of criminal offences. The teaching methods include the lecture method, case and statute analysis, court visits, mock trials and debates.

LLB 124 **Law of Torts II**

Law of Torts II builds on Law of Torts I to enable the student to develop competences to analyse civil wrongs, establish and defend claims for tortuous liabilities using principles and rules that govern specific tortious wrongs. Such wrongs include intentional torts affecting the security of a person, property, reputation and emotions. The module further links into related branches of law so that the students are able to relate principles and rules in the Law of Tort with situations about gender, human rights, and the environment. Through the competences gained, the learner has a solid ground to handle claims, defences, and remedies regarding common wrongs among people. In its delivery, the module uses lectures and development of practical problem-solving skills through examination, tutorials, short moots, simulation and directed student research and reading.

LLB 211 **Equity and Trusts Law I**

This module enables the student to develop foundational competences to understand, apply, and use equitable maxims and principles, trust notions, trust doctrines, and equity and trust related remedies in a legal system. The utility of equity as a body of principles and doctrines and elasticity of the trust device and relation as regulated by law have long been recognised as essential for individuals, property, and wealth, commerce, and society as a whole. A student of the subject develops both a broad and social-justice perspective of rules in other areas of the law. The trust concept and trust device are so flexible that they encompass aspects of other subjects and enable the student to solve new problems and attain desired goals in the enjoyment of rights and the performance of duties. The main method for delivering this module is lectures in the Socratic Tradition. Tutorials and other participatory approaches will also be employed.

LLB 212 **Land Law I**

LLB 212 enables the student to use key concepts, principles, doctrines, and rules on land as an excludable resource that is crucial for economic security and vulnerability. The module stresses technical conceptual clarity, competing ownership ideologies, the relationship between policy and law, and the law's social, economic, ethical, and legal determination of the acquisition rights and duties in land. Land Law is pivotal to the development of technical knowledge and skills for effective work in common law and other jurisdictions. The module is, further, a bedrock, for other modules, such as conveyancing, succession law, family law, commercial law, intellectual property law, and environmental law. The delivery and learning uses the law's primary sources of statutory law

and case law. In addition to buzz groups, group work, short moots, and visits, the delivery of the module uses case studies to deepen understanding of key principles and trends in land law.

LLB 213 **Law of Contract I**

This module provides the student with understanding, analytical, and application skills for the student regarding the necessary requirements and elements of a valid enforceable contract. Further, the graduate can analyse the contents of contracts following understanding of how terms in a contract are classified and interpreted. The module is important because legally enforceable contacts are free exchange in the marketplace is central to the functioning of society and the economy. Such interactions. This module is delivered through lectures, tutorials, moot courts, clinical work, seminars, guest speakers and field visits. Assessment is both continuous and through the final examination.

LLB 214 **Jurisprudence**

This module enhances the student competences for critical understanding of the law and its theoretical foundations and the skills to apply legal theories to practical situations.The moduleis structured to deliver learning outcomes in legal theories, law and society and the application of legal theory to practice. Legal education and practice require professionals who have a sound understanding of the theoretical foundations of the lawand a critical understanding of the relationship between the law and society that enables them to learn and practice law that is both doctrinally informed and socially contextualised. The principal approach and method to delivering the module is lecture supplemented by tutorials and other participatory activities, including moots, and debates. In their application, the methods use both traditional and modern teaching and learning tools, including ICT.

LLB 215 **Public International Law I**

Public International Law I provides the student with knowledge and skills on the functioning of global legal architecture including the key subjects of international law and the international law-making processes. The module is relevant as it contributes to the understanding of legal issues beyond the precincts of the State and how interstate cooperation enables the formulation of laws that resolve emerging transnational problems. The modulewill be delivered through the lecture method, group and class discussions, debates, tutorials, problem solving exercises, and case studies on specific areas of the law.

LLB 221 **Equity and the Law of Trusts II**

This module provides the students with the understanding and skills to analyse and use trust concepts, devices, doctrines, principles, rules, and tools on the

creation and existence of trusts and trust-like devices, fiduciary resource management, resources-control, resource protection, and remedies in trust relations. The module is relevant because the role of trusts and trust devices is dynamic and the rules developed or founded in the law of trusts are increasingly indispensable in most private and public law areas. The trust concept and trust devices are so flexible that they encompass aspects of other subjects and enable the student to solve new problems and attain desired goals in the enjoyment of rights and the performance of duties. The delivery of the module uses the Socratic Method, tutorials, and exercises. Assessment is both continuous and through the final examination

LLB 222 **Land Law II**

LLB 222 builds on LLB 212 to enable the student to apply the key notions principles, rules, and devices pertaining to holdings and encumbrances in land. Students can explain, analyse, and apply the legal conditions related to co-ownership in land, settlements and trusts for sale, licences, and leases, mortgages and charges, easements, profits a'prendre, covenants, roads, and restraints. The module is relevant because its graduatescan provide service for the attainment and preservation of economic security and social justice through land and land relations. Land Law II is further a bedrock for other subjects such as conveyancing, succession law, family law, and land-related aspects of commercial law. To increase effective learning, the module uses case studies to illustrate doctrines, principles, and rules with case law. In addition to buzz groups, group work, and moots, the delivery of the subject includes learning trips and contribution to the solution of actual problems obtained from the Department of Legal Aid, the courts, and communities.

LLB 223 **The Law of Contract II**

This module builds on LLB 213 to enable the student to analyse and apply rules that govern conditions for the validity of contracts and remedies for breach. The module is relevant because validity and remedies in contract are key considerations in contractual situations. In addition, the competences in the module are necessary for several subjects in private law, such as Banking, Insurance, Company Law, Employment Law, and Trust and Wills.The delivery of this module combines lectures and practical tutorials. The lectures offer an overview of the general principles while the tutorials are a combination of small group discussions of hypothetical problems and selected case or other readings.

LLB 224 **Public International Law II**

Building on LLB 214, Public International Law II enhances the students' knowledge and skills on international law's effectiveness in addressing emerging threats to transnational peace, security, regional integration and cooperation. The student further gains knowledge on how international law regulates intra and

interstate relations.The module is relevant as it evidences how States cooperate to resolve transnational and emerging problems, such as threats to sovereignty and regional integration, inter and intra State conflicts, terrorism, climate change, human rights and transnational crimes. The teaching methods include lectures, class debates, group work, case studies, seminars, and students reporting on current transnational problems and proposing solutions.

LLB 311 **The Law of Wills and Inheritance**

This module develops understanding and skills to work with the principles and rules related to wills and testate and intestate succession, including the administration of deceased estates in the Malawi. The module is relevant because the settlement of property and its management and control subsequent to an individual's death remains a crucial component of any legal system. Through this module, students understand the principles for planning property management and control in the event of death and discuss topical issues surrounding the law of succession in Malawi. Delivery and learning is primarily through lectures and tutorials, with participatory approaches such as buzz groups and moots will be utilised.

LLB 312 **Law of Human Rights I**

This module enables the student to gain understanding of theories, principles, institutions, mechanisms, and enforcement of human rights, with emphasis on the United Nations Treaty and Charter based systems and the African Union. Due to the rising awareness of human rights in Malawi and elsewhere and the potential contribution of human rights law to development, peace, justice and the quality of life, the study of human rights principles, concepts, and promotional and enforcement mechanism has become necessary in the training of lawyers. The delivery of the module combines lectures and tutorials. The teaching method will be interactive, with students expected to participate and to have read relevant reading materials prior to each class and participate actively. Students will have an opportunity to lead discussion in tutorials, as well as group exercises.

LLB 313 **Commercial Law I**

This module provides the student with the understanding and application of the foundational and organizing principles of commercial law as they relate to commerce, including gender and other economic power relations. The legal regulation of commercial transactions is a key aspect of economic dealings, which are important to national and global economies. A sound understanding and skills to use the underlying principles that regulate commercial transactions are key competences expected from lawyers in a world where trade is an important means of exchange. In addition, Commercial Law builds on the Law of Contract to be a bedrock for commerce-related subjects, such as International Trade Law, Banking Law, Insurance Law, and Labour Law. This module is

delivered through lectures, tutorials, moot courts, clinical work, seminars, guest speakers, and field visits.

LLB 314 **Company Law**

This module provides the student with understanding and skills for students to discuss the law's regulation of the formation, management, relationship, and liquidation of various types of companies. The module also relates the management of companies with various human rights affecting people in society. The module allows students to pick up main legal issues affecting the growth and governance of companies and to respond to such legal issues. The moduleis delivered through a combination of teaching methods that include; class lectures, class discussions, guided reading, presentations and group work and field visits. The students are given constant assignments and short examinations to test their knowledge and skills throughout the delivery of the module.

LLB 315 **Environmental Law**

This module promotes the learner's understanding, analyses, and application of the main features of Malawian environmental law in the wider context of regional and international law. Law is a key instrument of environmental management. However, the mere existence of a body of lawdoes not of itself guarantee a solution to environmental problems. What matters, however, is how those laws are implemented in practice. The successful implementation of environmental law ultimately depends on the ability of judges and lawyers to devise innovative legal solutions to environmental problems. This module equips learners with a broad knowledge of environmental law and intellectual flexibility, which in turn, helps them to deal more creatively and imaginatively with environmental issues. This module is delivered through lectures, seminars, tutorials, moot courts and clinical work

LLB 316 **Family Law**

Family law develops the student's knowledge, understanding and skills in the use of laws pertaining to marital and familial relations. Students' skills are enhanced, to use the legal framework governing relationships between family members and between family members and the state plus other cutting edge issues concerning the family in contemporary society. Family law is one of the most litigated areas of law. It is a relevant module of practical application acquainting students with the regulation of the most basic and fundamental social units of society. Delivery is through lectures and other participatory class activities like group work, class discussions, and tutorials.

LLB 317 **Intellectual Property Law**

This moduledevelops the student's capacity to describe how, using law, intellectual

property is protected and accessed and how value is extracted from IP assets. The student is able to assess and relate to facts the theories and fundamental principles, policies and functions that underlie intellectual property law with regard to the chief types of intellectual property: patents, copyright, trade secrets, and trademarks. Of late, IP has become an economically and politically important issue at national, regional and international levels. It is now widely acknowledged that IP is critical in key areas such as trade and industrial policy, education, public health, traditional knowledge and expressions of folklore, and information and communication technology. The delivery of the module combines a variety of teaching methods. It mostly uses the lecture and Socratic methods. Additionally, case law and case studiesare utilized to explain rules and principles.

LLB 321 **Customary Law**

LLB 312's focus is on the student's skills to work with customary law and legal rules in a plurality of national and international laws.Students increasingly are able to understand and use the nature, essential structures, processes, and utility of customary law in a changing world. The operation of rules that mediate the choice and application of Customary Law requires that both the student and the practitioners master working with such rules as he or she contributes to the experiential development of Customary Law. The module's approach is to stimulate reflection and discovery mainly through the application of critical legal thinking and re-examination of often-assumed premises in and about customary law. Group working, buzz groups, debate, moots, and solving of real cases complement lectures and student presentations. Continuous assessments are frequent and complement a final examination.

LLB 322 **Commercial Law II**

This module develops the learner's understanding and application of the basic legal principles, institutions, and processes on the laws that govern international trade contracts and investment. Through the module, the student understands the evolution and use of rules that regulate international trade and investment within the context of regional integration and internationalisation. The module is relevant because jurisdictions like Malawi belongs to regional integration groups, such as SADC COMESA, and NEPAD. The student and the legal practitioner must be competent to explain and apply basic principles related to treaties, guidelines, and norms on diverse matters, such as trade and gender, which affect or interact with international trade. LLB 322 is a bedrock for other branches of commercial law, usually studied at postgraduate level, such as International Banking and Financial Law, WTO Law, and International and Comparative Intellectual Property Law. This module is delivered through lectures, tutorials, moot courts, clinical work, seminars, guest speakers and field visits. Assessment is continuous and through a final examination.

LLB 323 **Law of Business Organisations**

This module enables the student to apply the laws that regulate the formation and governance of various business organizations, other than the company. The student develops the capacity to apply the law with regard to cooperatives, partnerships, trusts, sole proprietorship, joint ventures, and public-private partnerships. The Law of Business Organizations is relevant because it relates the utility of the law in its regulation of business forms that can be used to improve life or result in gender and other exclusion. The moduleis taught through various methods such aslectures, guided reading, class presentations, group work and field visits. The students' knowledge and skills are tested through various assignments and examinations.

LLB 324 **Conflict of Laws**

This module provide the students with a conceptual, theoretical and practical understanding of the legal problems arising out of cases and transactions that are connected with more than one jurisdiction. COL deals primarily with questions of jurisdiction, choice of law, and recognition and enforcement of foreign judgments/arbitral awards. The advent of globalization and the existence of diverse municipal legal systems has made it imperative that students be exposed to the study of COL. Occasions are numerous when lawyers from one legal system have to deal with cases or transactions that have foreign elements. Consequently, knowledge of COL is essential to lawyers that aspire to work in areas of legal practice that transcend national/state boundaries. This module thus equips students with the essential knowledge and skills to be able effectively to solve transnational legal problems. The module is delivered through directed readings, lectures, seminars, tutorials, moot courts and workshops.

LLB 325 **Legal Research**

LLB 427 enables the student to undertake informed and effective practice-related and academic research, grounded on scientific principles of research design, data collection, data analysis, and reporting of research results. These competences are essential to legal education and practice primarily because, regardless of the particular context in which law graduates operate, legal and socio-legal research are essential to the efficient and effective generation of knowledge about the law and its operation in a social context. The approach and methods of delivery deliberately encourage critical thinking and progressive appreciation of the linkages between legal theory and implications for practical research. The primary method of delivery is the lecture in the Socratic mode, supplemented by participatory, practical activities in which the students are required to demonstrate their acquired skills in research. In their application, all the methods of delivery use all available teaching and learning tools, including ICT.

LLB 326 **Natural Resources Law**

This module enhances the learner's understanding of the main features of Natural Resources Law in the wider context of regional and international law. In addition to giving the learner an overview of the various rules and regulations impacting upon natural resources management, this module has been designed to generate the student's awareness of the ethical, social and philosophical foundations underpinning the law. The successful implementation of the law ultimately depends on the ability of judges and lawyers to devise innovative legal solutions to challenges facing the natural resources sector.This module is delivered through lectures, seminars, tutorials, moot courts and clinical work

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LLB 327 **The Law of Human Rights II**

This module develops the student's use of rules on types of substantive human rights and their correlative state and other obligations. In developing such capacities, the module focusses on civil and political rights, social, economic and cultural rights, and the rights of specific categories of people, including vulnerable groups, such as women, children, refugees, persons living with disabilities, the elderly, and sexual minorities. The module is relevant because, globally, there is a significant recognition of the emerging rights of specific categories of people that may not be enjoying their human rights as much as others. In addition, it is expectedfrom legal practitioners that they understand normative contents and key rules in the various types of human rights within the context of global challenges, such as HIV/AIDS climate change, terrorism, and poverty. The method of delivery is a combination of lectures, tutorials, guest speakers and field visits. Assessment will be both continuous and through the final examination.

LLB 328 **Labour Law**

This module enables students to develop in students' competences thorough understanding and ability to use labour law in both formal and informal employment relations with to contribute to a conducive and fair labour market and resolving factual labour situations. Labour law is a relevant as it is of practical application transcending the labour market to affect the country's economy and development. The module. Delivery will be through lectures and other participatory class activities, such as group work, class discussions, tutorials and visits to labour institutions.

LLB 411 **Civil Procedure I**

This module enables students to become civil litigation lawyers through the development of competencies on the use and application of the rules and regulations governing civil litigation, from the initiation of a civil claim to the obtaining of pre-emptive remedies. A litigation lawyer is critical to the delivery of justice and to the development of civil, political, and socio-economic

development of any democratic country, as people need to resolve disputes and attain aspirations. The moduleis delivered using a variety of teaching methods, including Socratic lecturing, group working, simulations (trials), case studies, and court visits. Essentially it will be learning by doing and critical discussion of the rules and regulations of the procedural law.

LLB 412 **Criminal Procedure**

This module engages students with the rules of procedure followed in criminal matters before the courts of law in Malawi. Students consolidate knowledge and skills, in commencing proceedings, prosecuting before various courts, adjudication, and appeals in a manner that ensures a proper balance between the rights of victims, witnesses, and those accused. These are expected key skills for all legal practitioners of all types. The delivery of the module is through lectures, court visits, role-plays, mock trials, group work, and tutorials. The students will be subject to continuous assessments aimed at appreciating the progress made, including participation in a major mock trial.

LLB 413 **The Law of Evidence**

This module enables student to consolidates knowledge and skills to use rules for the identification, handling, and proof or disproof of facts are necessary for a court of law or tribunal to resolve a dispute according to law. Key among the competences for legal professionals are knowledge on matters that do not require formal proof, selection of material sufficient evidence for purpose proof, and skills to use rules on the admissibility of evidence. The module is delivered using hypothetical scenarios, simulations, moots, and mock trials. Assessment is frequent through assessable practical exercises, examinations during the module of the semester, and a final examination at the end of the semester.

LLB 414 **Accounting**

The module aims at understanding of the underlying principles, concepts and regulations relating to financial accounting, and the process of producing and reporting financial information that is useful to the economic decision-making needs of a wide range of users. Financial information is at the core of most business transactions. Every lawyer be involved in a business transaction and will be called upon to deal with financial information whether as part of the management of an organization, in finance-related litigation as counsel, or in making financial decisions in his/her firm. The module is delivered primarily through lectures, group class exercises, individual exercises, and tutorials.

LLB 415 **Dissertation I**

This module facilitates the student to formulate and undertake research. Linking and consolidating theory knowledge, analytical, and application skills acquired

in previous modules, especially LLB 214, this module develops the research capacity of the student to conceptualize, design, plan and implement a research project up to data analysis stage. The module is delivered through Lectures and assessable tutorials, exercises, research presentations, and peer reviews. A key deliverable at this stage is an approved research proposal.

LLB 416 **Clinical Legal Education II**

In this module, students learn to work with facts and law in real-world settings. Through handling of real cases with live clients, students develop lawyering skills such as case management, alternative dispute resolution, trial advocacy and interpersonal skills including professional ethics and responsibilities. Clinical legal education equips students for the ever-changing legal, political and social environments. This is also an effective means to inculcate a sense of service to the community among law students as they finalize their preparation to becoming qualified lawyers. The method of delivery involves class lectures, class student presentations, prison visits, mock trials, moots, use of resource persons, courts visits, and legal aid to communities around Zomba, among others.

LLB 42 **Civil Procedure II**

This module builds on LLB 411 to enable the student to become a lawyer who is competent, skilled, and ready to litigate a civil trial. The module aims at the development of competencies on trial preparations, conduct of civil trial and effective use of remedies after obtaining court order/judgment. A properly trained litigation lawyer is an agent of results in the justice system and justice sector for clients, the administration of justice, the legal profession, and society as a whole. The module is delivered using a mix of teaching methods such as discussions, group work, simulations, mock trials, case studies, debates, drafting court documents, and court visits. Assessment focusses on each key stage in the trial processes, using practical exercises and examinations.

LLB 422 **Drafting**

This module enables the student to develop skills to comply and use substantive and formal rules through the drafting of key and common predominantly non-court process-related documents. The legality, validity, and accuracy of key legal documents is key in effecting the intentions of clients and other instructors not only in key areas such as land matters and commerce, but in general social socio-economic endeavour. Following short lectures, the moduleis mainly delivered through drafting and redrafting of documents individually and in groups.

LLB 423 **Revenue Law**

The module facilitates the student to consolidate basic skills on the use of key concepts, principles and rules in Taxation Law and the computation of various taxes in Malawi. Such skills are essential for any lawyer dealing with the results

of how the legal framework on taxes regulates the relationship between the Government and the taxpayers. The module is delivered through class lectures, tutorials, class exercises, group solving problems, individual solving problems, and iterative practices.

LLB 424 **Dissertation II**

The aim of this module is to facilitate the student to prepare and present a supervised dissertation. Under this module, students spend time preparing their dissertations, based on research done under LLB 415. The module is important to develop skills to present research results clearly and coherently in a disciplined, orderly, persuasive, and academic manner. Throughout the semester, each student has to deliver a milestone leading to the ultimate deliverable for the module: submission of an academic dissertation.

LLB 425 **Clinical Legal Education III**

This module builds on LLB 416 to induct the student into practical legal professionalism, including legal practice. As they handle cases and undertake clinical work as under LLB 416, students learn and simulate how to work as legal professionals in real life and work settings, including legal practice, commerce, and civil society. The module is important for the student to have a hand on learning experience of the workplace and likely experiences for the law, in readiness for actual work. Through the module and other voluntary clinics, students give to society as they learn. The method of delivery involves lectures, student presentations, prison visits, community visits, visits to courts and other arenas of legal practices, mock trials, moots, use of resource persons, and the provision of aid legal assistance to communities around Zomba.

FACULTY OF SCIENCE

Undergraduate Programmes

University Certificate in Computer Science
Bachelor of Science in Family & Consumer Sciences – 4 years
Bachelor of Science – 4 years
Bachelor of Science in Biological Sciences – 4 years
Bachelor of Science in Computer Sciences – 4 years
Bachelor of Science in Computer Networking Engineering – 4 years
Bachelor of Science in Electronics – 4 years

Bachelor of Science in Food & Nutrition – 4 years
Bachelor of Science in Information Systems – 4 years
Bachelor of Science in Mathematics – 4 years
Bachelor of Science in Physics – 4 years
Bachelor of Science in Statistics – 4 years
Bachelor of Science (Hones) in Chemistry – 5 years.

Postgraduate Programmes

Postgraduate Diploma in Computer Science
Master of Science in Applied Chemistry
Master of Science in Conservation Biology
Master of Science in Biostatistics
Master of Science in Environmental Science
Master of Science in Geography
Master of Science in Informatics
Master of Science in Mathematical Sciences
Master of Science in Water Resources Modeling and Governance
PhD in Biology
PhD in Biostatistics
PhD in Chemistry
PhD in Mathematical Sciences

Department of Biological Sciences

Undergraduate Modules

Year One

Module Code	Module Name and Descriptor
BIO 111	**Introduction to Cells & Microscopy**
	This course introduces students to the study of life, particularly at cellular level. The course equips students with skills to study the microbial world. It prepares them for later courses in biology by introducing biological principles that are requisites for the courses.
BIO 112	**Introduction to Botany**
	This course introduces students to the plant sciences. It provides insights into plant life styles and ways in which plants have evolved from aquatic to terrestrial environment. It describes major plant groups and their characteristics (ranging from algae to angiosperms).

BIO 121 **Introduction to Vertebrate Zoology**

This course introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa of vertebrates.

BIO 122 **Introduction to Invertebrate Zoology**

This course introduces the systematics, morphology, anatomy, physiology, ecology, behaviour and functional organisation, including the evolutionary history and relationships of different taxa in invertebrates.

The prerequisites are MSCE Biology, Physical Science (or General Science), and Mathematics.

Year Two

Bio 211 **Plant Form, Function and Systematics**

This course generally introduces students to basic plant morphology that includes root, stem and leaf structure and function, metabolism in plants, growth and development in plants, taxonomic characters and angiosperm families, and to teach students practical aspects of plant morphology and anatomy.

BIO 212 **Vertebrate Form and Function**

This module is a system-based study of the gross and micro-anatomy of vertebrates, with special emphasis on functional morphology and embryonic development. It aims at equipping students with the foundation of understanding vertebrate body form and function; that is, cells, tissues, organs and systems. It also compares the evolution of body form and function among vertebrate classes.

BIO 221 **Introduction to Genetics and Evolution**

This course is intended to introduce students to the field of genetics. It provides students with a foundation of knowledge needed for fourth year genetics. It is introduced through such biologically important macromolecules as nucleic acids and proteins, classical and population genetics.

BIO 222 **Introduction to Ecology**

This course introduces students to the study of interactions between organisms and their environment. It explains the distribution and abundance of organisms in nature through an understanding of how organisms interact with their abiotic and biotic environments.

BIO 223 **Introduction to Environment and Natural Resources Management**

This course introduces students to the major components of natural resources, their formation and how they interact. Major characteristics of the elements of biodiversity (soil, water, forests, minerals etc), their values and problems leading to their degradation and mitigation and remedial measures in natural resources management are discussed.

Year Three

BIO 311 **Biochemistry**

This course introduces students to biochemical principles using structure and role of lipids, carbohydrates and proteins in living things as examples to develop students' understanding of metabolic processes, photosynthesis and respiration.

BIO 312 **Cryptogamic Botany**

This course introduces students to cryptogamic botany. It covers the evolutionary overview and phylogenetics of cryptogamic plants. The ecological and environmental importance of cryptogams are studied.

BIO 313 **Invertebrate Zoology**

This course deals with the systematics, morphology, physiology, ecology and behaviour of the non-vertebrates. The course synthesises and integrates both systematic and functional approaches, describing the range and diversity of invertebrates and the way they work, all presented from an evolutionary viewpoint. In particular, special consideration is given to parasitic species and groups. This vast array of organisms covers at least two kingdoms and perhaps 75 phyla and consequently only the more important of Malawi's phyla are examined.

BIO 314 **Ecology**

This course introduces students to the science of ecology, the study of the physical, chemical and biological interactions that determine the distribution and abundance of organisms. Some of the major questions concerning the organisation and dynamics of populations, communities and ecosystems are discussed. Examples and case studies, drawn mainly from African savannah and lake ecosystems, are used to illustrate methods and results of ecological inquiry.

BIO 315 **Microbiology**

This course introduces students to different types of micro-organisms and familiarises them with the basic aseptic techniques in microbiology

BIO 316 **Plant Anatomy**

This course introduces students to the various applications of plant anatomy. It teaches students the relationship between anatomy, function and development. Practical aspects of plant anatomy are covered. Further, cells and tissue organisation that exists within plant bodies which allows plants to exist in diverse environments are covered.

BIO317 **Parasitology**

The module focuses on medically and veterinary important parasites that cause diseases in humans, domestic animals and fish, including their preventive and control measures. Lectures focus on the morphology, life cycles, physiological adaptations, evolution and ecology of the major parasitic organisms of humans and domestic animals. It also encompasses the fields of pathology, immunology, diagnosis, treatment, ecology, entomology, epidemiology and systematics and other related disciplines

BIO 318 **Immunology**

This course introduces students to general understanding of how immune systems work in protecting the body from infections.

BIO321 **Animal Physiology**

This course provides students with the necessary background to understand the life processes of animals from the molecular level to organ systems. Emphasis of this course is on mammalian physiology.

BIO322 **Plant Systematics**

This course introduces students to the various applications of plant taxonomy. It teaches students the relationship between taxonomy and other disciplines in biological sciences. Students are taught specimen collection, identification, classification and nomenclature.

BIO 323 **Herpetology and Ornithology**

The module focuses on the identification of herpetiles (amphibians and reptiles) and birds and their evolution and ecology. It is aimed at understanding species diversity among amphibians, reptiles and birds; their ecology and how they are adapted to different environments.

BIO 324 **Biostatistics and Computing**

This course aims at familiarising students with the application of statistical principles in solving biological problems.

BIO 325 **Limnology**

This course introduces students to a balanced, comprehensive and contemporary view of limnology, the study of inland waters. It also aims at enabling students to understand the interaction of physical, chemical and biological water parameters and their implications in water quality management, growth and productivity of aquatic organisms.

BIO 326 **Animal Systematics**

The module focuses on comparative and functional anatomy within animal taxa, invertebrates and vertebrates. General anatomy and embryology is studied on the basis of genetic relationships and taxonomy. Evolutionary relationships and use of keys for animal identification are done to provide a good understanding of what animals exist, how they are distinguished from other animals and what their form and function are.

BIO 327 **Evolutionary Biology**

This course covers the growth of evolutionary ideas from Darwin to the present day. It demonstrates how the theory of evolution is a major unifying concept in biology and how central it is to the understanding of biological processes, from cellular to ecosystem level. The module also illustrates to students the practical applications of evolutionary biology in areas such as medicine and agriculture.

BIO 328 **Research Methods**

This course aims at developing an understanding of the different paradigms of both quantitative and qualitative research. It lays a vital didactic background for designing experiments as well as collecting, handling, analysing and interpreting data in the biological sciences. The course imparts basic statistical concepts and skills that enable students to critically interpret research literature in biological sciences, to formulate basic research questions and successfully publish their findings.

Year Four

BIO 411 **Genetics**

This course has been designed to introduce students to nearly all of the fundamental concepts of genetics. The first half of the course focuses on the basic principles of classical (Mendelian) genetics, while the second half of the course deals with the modern discoveries of molecular biology and their applications

in today's world. Although the primary function of this course is to prepare the biology major for more advanced course work in genetics, topics are covered in sufficient detail to provide other science majors with a good understanding of the field of genetics.

BIO 412 **Plant Physiology**

This course deals with the integration of physiological mechanisms in the overall growth and development of higher plants at cellular, tissue, organ and whole plant levels. The course builds on the foundation laid in Plant Form, Function & Systematics and Biochemistry courses.

BIO 413 **Behavioural Ecology**

This module focuses on fundamental concepts of animal behaviour. Emphasis is placed on the evolutionary development and ecological significance of behaviours displayed by living organisms i.e. the adaptive function and the survival value of behaviour.

BIO 414 **Research Project**

This course aims at training students to undertake research, analyse results and write up their findings in a scientific manner.

BIO 415 **Entomology**

The aim of this course is to introduce students to the systematics, morphology, physiology, ecology and behaviour of insects.

BIO 416 **Plant Pathology**

The course is designed to equip students with basic knowledge in plant disease and provide them with skills necessary in the field of plant pathology. It introduces students to fundamental epidemiological aspects of plant disease. Principles and practice of plant disease management are also introduced that students may be equipped to tackle plant disease challenges in the country.

BIO 417 **Ichthyology**

Fishes represent a unique vertebrate group with diverse adaptations for life in water; hence, this course takes a broad view by exploring systematics, anatomy and distribution of fishes, ecology, physiology, evolution and behaviour of fishes.

BIO 418 **Environmental Impact Assessment**

This course introduces students to the concept of Environmental Impact Assessments (EIA), in development projects and why it is required, including the techniques used to make assessments. It also aims at equipping students with skills on how to prepare various documents required during the EIA process using Malawian requirements and international standards or requirements

BIO421 **Molecular Biology**

This course introduces students to the molecular and phylogenetic techniques and their applications

BIO 422 **Applied Botany**

In this module, students are introduced to the practical aspects of plant science by studying plants and plant products with major uses in human life. The role of botany in biodiversity conservation is emphasised. Practical examples are drawn from both the public and private sectors in Malawi, the region and beyond.

BIO423 **Mammalogy**

This course equips students with the knowledge to recognise characteristics, diversity and zoogeography of mammals worldwide. Students are also required to know the mammalian orders and families, including the anatomical, morphological, behavioural and ecological features that characterise each taxon. It also aims at equipping students with mammalian field and laboratory study techniques such as collection methods and specimen preservation methods.

BIO 424 **Environment and Natural Resource Management**

This course equips students with the skills to articulate the importance of natural resources management for sustainable development. It describes the linkages between biological and physical properties of natural resources. It teaches students the holistic approach to natural resource management by employing problem solving, decision making, communication and team management skills. Practical work that integrates research, problem solving and statistical analysis is integrated in this course.

BIO 425 **Biotechnology**

The module introduces students to the science of biotechnology, its applications and how it is regulated.

BIO 426 **Applied Entomology**

This course introduces students to the modern theory, concepts and practices of Applied Entomology with emphasis on applications in medical, agricultural and public health sectors. It also provides students with an overview of insect pest control techniques, placing particular emphasis on cultural, chemical, biological control and relatively novel management strategies, and how the components may be integrated.

Master of Science in Conservation Biology

This is a two-year programme comprising taught and research components. In the first 12 months students take modules which they must pass before proceeding to the second year, which involves the research component. Modules covered in the first year include:

Semester 1

Module Code	Module Name and Descriptor
BIO 600	Ecology
BIO 610	Biodiversity and Conservation
BIO 621	Experimental Design and Statistical methods
BIO 622	Research and Scientific Skills
BIO 630	Limnology, Marine Biology and Aquaculture

Semester 2

BIO 641	Remote Sensing and Geographical Information Systems
BIO 642	Environmental Impact Assessment
BIO 650	Integrated natural Resources and Environmental Management
BIO 661	Molecular Biology
BIO 662	Biotechnology
BIO 671	Waste Management
BIO 672	Research Proposal writing

In the second year, only one module is offered, *BIO 680 : Research Project*. This involves research proposal development and presentation, data collection, data analysis, thesis seminar presentation as well as submission of thesis for examination.

Department of Chemistry

Bachelor of Science (Honours) in Chemistry

Year One

Module Code	Module Name and Descriptor
CHE111	**General Chemistry I**
	This module provides students with an introduction to some of the chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical principles. It covers the following topics: atomic structure and the periodic table, chemical bonding, chemical reactions and the mole concept.
MAT111	**College Algebra**
	The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.
LAN112	**Reading and Listening Skills for Science**
	This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.
PHY111	**Mechanics and Properties of Matter**
	The module provides students with the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning course in mechanics and properties of matter. Mechanics is broken down into its three components: statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also introduced to the various groups of properties of matter.
CHE121	**General Chemistry II**
	This module extends the coverage of CHE 111 to provide students with further introductory chemical concepts and theories that are fundamental to the study of chemistry and other disciplines requiring the understanding of chemical

principles. The module covers the following topics: the gaseous state, chemical equilibrium and aliphatic hydrocarbon

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organizations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

The module provides students with the background needed for the further study of university level physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

Year Two

CHE211 **Basic Thermodynamics and Chemical Kinetics**

This module introduces students to some fundamental concepts in physical chemistry and other disciplines requiring the understanding of chemical principles. It covers applications of the laws of thermodynamics to chemical and physical equilibrium processes. The topics covered include thermodynamics, electrochemistry and chemical kinetics.

CHE212 **Functional Group Chemistry**

In this module, students are introduced to different types of functional groups that are used in organic chemistry and other disciplines requiring the understanding of chemical principles. The emphasis is on nomenclature, physical and chemical properties, and synthesis and conversion routes.

MAT211 **Calculus I**

The module develops concepts in calculus and equips students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

CHE221 **Acids, Bases and Spectroscopy**

This module provides students with basic knowledge and application of the Bronsted theory of acids and bases. In addition, the module introduces students to the theory behind various spectroscopic techniques.

CHE222 **Periodicity, Molecular Bonding and Coordination Chemistry**

This module provides students with an understanding of chemistry at the molecular level and lays the foundation for later courses in inorganic chemistry. It provides detailed coverage of the chemistry of elements in group I, II and VII and introduces molecular bonding.

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MAT221 **Calculus II**

This module provides students with further knowledge of calculus and its application to various disciplines such as biology, ecology and dynamical systems to topics including polar coordinates and parametric equations. It extends the set of real numbers to the set of complex numbers.

Year Three

CHE311 **Chemical Thermodynamics**

This module provides students with an understanding of equilibria both within and between phases, which is central to the understanding of many natural processes and to the design and operation of reactors and separation processes used in the chemical industry. The module deals primarily with equilibrium properties of macroscopic systems, vapour-liquid equilibrium, liquid-liquid equilibrium and vapour-liquid-liquid–equilibrium, chemical equilibrium of reactions in gas and solution phase and chemical equilibria in electrochemical systems.

CHE312 **Chemistry of Aromatic Compounds, Isomerism and Introductory Spectroscopy**

In this module, students are introduced to 3-dimensional properties and reactions of molecules, the four spectroscopic techniques used in organic chemistry for

structural determination, and the chemistry of aromatic compounds.

CHE313 **Theories of Acids and bases, Solid State Chemistry and p-block Elements**

This module aims to help students rationalise the properties of solids from their crystal structures and account for different properties of acids in aqueous and non-aqueous solvents, describe and explain the properties of p-block elements and their compounds. Topics covered include solid state chemistry, theories of acids and bases and chemistry of p block elements.

CHE314 **Environmental Chemistry I**

Knowledge of chemistry can be used to solve environmental problems. This module provides students with the knowledge of how the chemical principles covered in physical, organic, inorganic and analytical chemistry courses are applied to environmental analysis and prediction of the fate of chemicals in all the compartments of the environment. Central themes are the interaction between life and the environment, air pollution and their effects, water and water pollution, and the lithosphere.

CHE321 **Quantum Mechanics, Kinetics and Catalysis**

This module provides students with an introduction to quantum mechanics, starting from the historical development of quantum theory, properties of particles and waves, wave mechanics to its applications to simple systems - the particle in a box, the harmonic oscillator, the rigid rotor and the hydrogen atom to molecular structure and spectroscopy. After the coverage of introductory quantum mechanics, the module consolidates the principles of chemical kinetics started in the second year.

CHE322 **Named Organic Reactions**

This module provides students with the knowledge of the reaction mechanisms of selected named organic reactions. Formation of enols and enolates, reactions at the α Carbon of carbonyl compounds are explained. Students are also introduced to the disconnection approach (retro synthesis) to organic synthesis.

CHE323 **Quality Assurance and Classical Methods of Analysis**

The module introduces students to the essential concepts and processes in analytical chemistry with special emphasis on quality assurance and classical methods of analysis.

CHE324 **Industrial Chemistry I**

Chemistry graduates often find themselves working in the chemical industry. Industrial companies are often keen to employ graduates who understand

chemistry at the molecular level because that is where many advances are currently taking place, but are also able to translate that knowledge into tangible products. This module provides students with knowledge of how of the chemical principles covered in chemical thermodynamics and chemical kinetics are applied to the chemical industry. The module deals with the general concepts of mass and energy balances, thermodynamics and also calculation of flow rates and compositions around a process flow sheet.

Year Four

CHE411 **Dynamic Electrochemistry, Molecular Symmetry and Surface Chemistry**

This module is intended to provide students with further coverage of the principles and applications of physical chemistry. In particular, the module extends the concepts of equilibrium in electrochemical to consider their kinetics and applications to corrosion control and electroanalytical techniques. In addition, the module introduces the concepts of molecular symmetry and the chemical applications of group theory and also concepts in surface chemistry, with particular emphasis on surfactants. This selection of topics is important to prepare the students for further study of chemistry.

CHE412 **Spectroscopy and Heterocyclic Chemistry**

This module enables students to understand the application of 1D and 2D NMR, IR and MS spectroscopy to determine structures of organic compounds. Students also learn about the use of fused heterocyclic systems in synthesis of important organic drugs and biomolecules such as DNA. Topics covered include organic spectroscopy and heterocyclic chemistry.

CHE413 **Chemistry of d and f Block Elements**

The module equips students with the knowledge of the physical and chemical properties of d and f block elements and their compounds. Topics covered include theories of bonding in metal complexes, transition metal organometallic chemistry, electronic configuration and states and the chemistry of f block elements.

CHE414 **Environmental Chemistry II**

Chemical principles are key to understanding the natural distribution of chemicals in the environment, and, hence, environmental protection. The module provides an understanding of how knowledge of chemistry is used to understand how pollutants are transported and accumulate in the environment. The central concepts are around environmental organic chemistry.

CHE421 **Food Chemistry**

This module provides students with knowledge of the applications of chemical principles used in the food industry. The module covers the chemistry of major food components such as water, lipid, carbohydrate and protein including food enzymes. The basic functions of these components are also introduced. Some chemical reactions involving these molecules in relation to food processing and storage are discussed.

CHE422 **Natural Products and Medicinal Chemistry**

This module introduces students to the techniques used in the extraction, isolation and identification of selected classes of natural products, including bio pesticides, peptides and proteins, pharmaceuticals and flavours. Students are also introduced to the history of medicines and the concepts behind drug design and development.

CHE423 **Instrumental Methods of Analysis**

This module provides students with a comprehensive coverage of modern techniques of chemical analysis. It gives an outline of the analytical principles of potentiometric, voltametric, electrogravimetric, coulometric, atomic spectrometry and chromatographic methods of analysis

CHE424 **Industrial Chemistry II**

This module is intended to provide students with extended coverage of the application of chemical principles covered in chemical thermodynamics to the chemical industry. The module deals with the general concept of equilibrium (thermodynamics) and energy and mass balances are used to rate and design equilibrium staged separation unit operations. The module introduces unit operations such as distillation, extraction, absorption and stripping, drying, adsorption and evaporation.

Year Five

CHE511 **Statistical Thermodynamics and Group Theory (Core)**

The module is intended to introduce students to the principles of statistical thermodynamics and the chemical applications of group theory, such as spectroscopy and molecular bonding.

CHE512 **Bioinorganic and Inorganic Cluster Chemistry (Core)**

The module is intended to equip students with knowledge in the application of chemistry in the chemical industry and biosphere. Topics covered include inorganic clusters, kinetics of inorganic reactions and bioinorganic chemistry.

CHE513 **Project Proposal Development and Management (Core)**

This module provides coverage of skills in research proposal development, presentation, implementation, management and team working and general leadership. Topics covered include scientific writing and presentation skills; choosing a call for proposal; proposal development; contract negotiation; managing the research; uptake and communicating research outputs; monitoring and evaluation of research.

CHE514 **Industrial Organic Chemistry (Elective)**

The module aims at providing students with knowledge about some industrial applications of organic chemistry. The module covers the chemistry of coal and petroleum and the manufacture of some common products used in everyday life such as soaps, detergents, skin and hair creams, cooking oils, plastics, pharmaceuticals and pesticides.

CHE515 **Inorganic Materials Chemistry (Elective)**

The module aims at providing students with some advanced knowledge in the synthesis and characterisation of inorganic materials. Topics covered include basic crystallography and x-ray diffraction spectrometry, synthesis of inorganic materials, physical properties of inorganic materials and the chemistry and applications of nanomaterials and other functional inorganic materials

CHE516 **Main Group Elements and Transition Metals in Organic Synthesis (Core)**

This module aims at introducing students to some of the applications of main group and transition metal elements in organic synthesis. In the first part, the use of elements such as boron and silicon bonded covalently to carbon and hydrogen and their role in effecting important synthetic transformations are covered. In the second part, special emphasis is placed on the application of palladium and tin in C-C bond forming coupling reactions and the use of ruthenium in metathesis reactions.

CHE517 **Waste Treatment and Management**

The module provides students with in-depth coverage of the environmental problems associated with waste and techniques for managing a range of waste types.

CHE521 **Reaction Mechanisms and Catalysis (Core)**

This module aims at equipping students with advanced concepts in physical chemistry and their application in industry. Topics covered include photochemistry, heterogeneous catalysis and elucidation of reaction mechanisms.

CHE522 **Transition Metal Catalytic and Organometallic Chemistry and Organometallic Chemistry of Main Group Elements (Core)**

This module aims at providing students with knowledge about some applications of inorganic chemistry to industry. Topics covered include organometallic chemistry of transition and main group elements as well as catalytic chemistry of transition metal elements.

CHE523 **Independent Research Skills (Core)**

This module provides students with skills in conducting independent research and consolidating utilisation of specialised laboratory and instrument techniques. Students conduct independent research under the supervision of a senior member leading into a thesis.

CHE524 **Food Analysis (Elective)**

This module provides students with an overview of the common principles, methods and techniques of qualitative and quantitative physical, chemical and biochemical analyses of foods.

CHE525 **Agriculture Chemistry (Elective)**

This module focuses on the structure and chemistry of soil and its importance for mineral nutrition in plant growth. The module further provides students with basic information on chemicals used in agriculture, their mode of action and fate in the environment

CHE526 **Occupational Hygiene and Toxicological Chemistry (Elective)**

This module presents students with the concepts and methodologies of occupational hygiene, including the anticipation, recognition, evaluation, communication and control of environmental stressors in, or arising from, the workplace that may result in injury, illness, impairment, or affect the well-being of workers and members of the community. Toxicological principles relevant to developing an understanding of workplace health hazards are also reviewed such as dose response relationships, types of toxic effects and the elimination and detoxification of chemicals and biological agents.

CHE527 **Chemistry of Drug Design (Elective)**

This module introduces students to the principles and elements of drug design. More specifically, the module covers interactions of drugs with their biological targets (receptors, enzymes and DNA), modes of actions drugs on the targets and methods of their synthesis. The chemistry underlying relevant biological processes are also covered.

Master of Science in Applied Chemistry

This is a postgraduate programme intended to produce graduates conversant with scientific principles underlying the industrial production of useful chemicals, and thus prepare them for a career in the chemical allied industries where applied chemistry forms an integral part of the development.

The programme also aims at encouraging the establishment of entrepreneurial activities such as small-scale chemical manufacture. The duration of the programme is two years, sub-divided into two sections: the first academic year deals with lectures, tutorials and seminars, and the second with research and dissertation.

The taught module includes general chemistry, applied chemistry and analytical chemistry, industrial chemistry, and business and management studies.

Master of Science in Chemistry by Research

The programme is offered to students with a 2/1 B.Sc (Honours) degree in Chemistry or a B.Sc in Chemistry with credit, with three years' experience and/or postgraduate certificates.

The areas of Research for the Masters programme include:

Chemistry

Environmental chemistry

Water and soil analysis

Nutritional evaluation and quality assessment of indigenous fruits, vegetables, roots and tubers

Product development and antinutritional factors in foods, and

Natural products including extraction and characterisation of essential oils and medicinal plants and herbal medicine.

Department of Computer Sciences

Bachelor of Science – Computer Science

Year One

Module Code	**Module Name and Descriptor**
COM111	**Introduction to Computer Science**
	This course aims at introducing students to the basics of computing, covering principles of computing, components of computer systems, and common computer software. The module covers topics such as computer organisation, data representation, computer hardware, standard operating systems and data communication. In addition, the course provides students with an opportunity to develop skills in software packages like word-processors and spreadsheets.

COM121 **Introduction to Computer Programming**

The aim of this course is to equip students with concepts of computer programme development in solving problems. More specifically, the course equips students with skills in how to gather software requirements, design algorithms, develop software, as well as test and document programmes developed.

COM122 **Introduction to LINUX Systems Administration**

The course introduces students to the Linux operating system, covering commands, functions and utilities. The course also covers the use of Linux editors and the basics of systems administration.

Year Two

COM211 **Operating Systems**

In this course, students are introduced to key concepts of computer operating systems, including their design, implementation and aspects of operation. Students also have an opportunity to develop practical skills regarding the use of common operating systems.

COM211 **Advanced Computer Programming**

This course introduces students to concepts of advanced programming and software development frameworks, covering key issues in computer science such as object oriented programming, parallel programming, development of graphical user interfaces, network programming, client-server architecture and database programming. In the end, the module provides students with programming and problem solving skills necessary for them to do well when attempting more advanced topics in computing.

COM223 **Database Systems**

This course introduces students to the foundations of database systems, focusing on basics such as database management systems, entity relationship modelling, relational algebra and data model, schema normalisation, query optimisation and transactions. An understanding of databases is essential in the development of simple and complex software solutions that must store, retrieve and process data.

Year Three

COM311 **Software Engineering**

This course introduces students to the fundamentals of software engineering, covering principles, practices and methodologies to the creation, operation and maintenance of software systems. In studying the course, students develop a

systematic and disciplined approach to software development.

COM312 **Human Computer Interaction**

The module focuses on principles, conventions and rules guiding the design of the visual boundary between computer systems and their human users, called the user interface. It helps students to learn how to design software that not only works but provides a good user experience.

COM313 **Computer Security**

This module introduces students to the vulnerabilities and threats that assail current networked computers and their operating systems. It allows students to examine these vulnerabilities and recognise the need for security measures, security audits and security policies. The module examines the common vulnerabilities in protocols, designs and programmes and discusses how to eliminate or minimise the impact of the same on current networked computers, emphasising the central role the end-user plays in attaining and maintaining system security.

COM314 **Algorithms and Data Structures**

Storage of data and determination of efficient ways to access and process that data, as well as the complexity of attempting to solve computational problems is a core concern in computing. This course provides students with skills in mathematical reasoning to establish the properties of simple algorithms, as well as determine the complexity and efficiency of searching and sorting algorithms applied to a variety of data structures. Students also develop skills in how to select and implement appropriate searching and sorting algorithms, and related data structures, to solve particular problems

COM321 **Automata Theory, Languages and Computation**

This module introduces students to the application of mathematical models of computation. The module provides students with an opportunity to develop skills in various automata theoretic models of computation. Using the fundamental ideas of (non-) computability and complexity presented in this module, the students are able to discuss the practical and theoretical significance of the various computational models.

COM322 **Computer Networks**

This module introduces students to the operational and organisational contexts of computer networks. It affords students the opportunity to describe the principles of communication channels and the ability to explain the hierarchy of their protocols. The module also introduces the layered approach and its role in the

different network models which allows students to design information strategies based on either distributed or client/server architectures.

COM323 **Object-oriented Systems Analysis and Design**

This course introduces students to the Object-Oriented model as an aid to understanding a system under study and representing the system's requirements. The course discusses a wide range of issues pertaining to object oriented analysis and object oriented design with much emphasis on a seamless transition between them. Students should be able to carry out the main phases of object oriented analysis and object oriented design.

COM324 **Computer Graphics and Multimedia**

This module introduces students to various graphic systems, teaching them the fundamental techniques and algorithms in graphics design. Students are also exposed to computer animation principles and the use of various multimedia techniques. The module also highlights to students how the technologies of computer graphics, multimedia and animation have pervaded most of the activities of business, communication and education.

COM324 **Artificial Intelligence**

This module introduces students to artificial intelligence (AI) techniques in determining and analysing problems from an AI perspective. It also teaches students how to employ AI methods to solve these problems. It is, therefore, a general introduction to artificial intelligence, its techniques and main subfields; knowledge representation, rule-based systems, search, learning, vision, robotics, natural language processing and machine learning.

Year Four

COM411 **Mobile Applications Development**

This course introduces students to current mobile technologies, application architectures, platforms and tools. It builds on key principles of software engineering techniques, human computer interaction designs, and object-oriented programming skills to develop interactive mobile applications. It also highlights the various technical, ethical and social issues in the development of mobile applications

COM412 **Project Management**

This course provides students with project management skills. The course examines project management in theory and practice and the roles and responsibilities of the project manager. The course offers a practical approach

to managing projects, focusing on organising, planning and controlling the efforts of the project throughout the project life cycle. Students take a case study through the essentials of a four-phase project planning process, learning about the challenges at each stage. The course is based on the best and most current thinking in the field, particularly the Project Management Institute's PMI®) approach.

COM413 **Geospatial Computing**

This module introduces students to the fundamentals of geographical information systems covering spatial data models and elementary spatial analysis. It then builds on this to: design and implement spatial databases; develop, execute, and share geo-processing workflows using python scripting; and also extend GIS application functionalities using python scripting. The modules also introduces techniques of spatial data sharing through web mapping tools.

COM414 **Machine Learning**

This module provides an overview of concepts, theories and techniques used in the creation of algorithms that can learn from and make predictions on data. The module gives students the basic ideas and intuition behind modern machine learning methods as well a formal understanding of how, why, and when they work.

COM415 **Game Development**

This course is a general introduction to game development. It provides knowledge and insights into the process of developing computer/video games as it covers aspects of game production, structure of a game, technologies such as game engines and how a game can be implemented. The course enhances students' hands-on ability to design and develop computer games ranging in complexity from small interactive apps.

COM421 **Research Methods and Ethics in Computing**

This module familiarises students with the scientific research processes in computer science and allows them to apply varying research methods in their research. The module affords students the ability to identify assumptions, limitations and premises of research approaches and methodologies. From this understanding, students can then discuss ethical aspects of research designs and dissemination mechanisms available in computer science

COM422 **Cloud Computing**

This course provides an introduction to cloud computing and its techniques, issues, ecosystem and case studies. It provides a comprehensive study of Cloud concepts and capabilities across the various Cloud service models including

Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Business Process as a Service (BPaaS). The course also covers the Cloud security model and associated challenges and explores the implementation and support of high performance computing and programming patterns for Big Data applications on the cloud.

COM423 **ICT Project**

This course provides students with practical experience in the use of structured methodologies in the design and construction of computerised information systems. The course draws from knowledge gained in previous courses such as programming, software engineering, databases, systems analysis and design and human computer interaction. The project must be guided by project management rules and must include a research component, even if the focus is on developing an applied system.

COM424 **Business Management for Computer Scientists**

This course introduces students to the fundamentals of business environments, operations and management. In taking this course, students have an opportunity to learn both theoretical and practical skills in how to conceptualise business ideas, conduct market research, develop business plans and make considerations on how to source funding, and implement their business plans. Knowledge on how to plan and manage businesses is an essential component of modern curriculum in computing, especially in a country like Malawi where there is significant need for job creation.

COM425 **Model Driven Software Development**

In this module, students learn to develop software using the modern model driven approach, whereby the entire software life cycle is seen as a process of production, refinement and integration of models.

Bachelor of Science in Computer Network Engineering

Year One

Module Code **Module Name and Descriptor**

LAN112 **Reading and Listening Skills for Science**

This module introduces students to reading, listening and communication skills and their application in computer science, information systems and network engineering. The module is designed to enable students develop academic skills required to successfully complete their studies at college level, through strengthening their competence in English as the medium of communication.

COM111 **Introduction to Computer Science**

This module aims at introducing students to the basics of computing, covering principles of computing, components of computer systems, and common computer software. The module covers topics such as computer organisation, data representation, computer hardware, standard operating systems and data communication. In addition, the module provides students with an opportunity to develop skills in software packages like word-processors and spreadsheets.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. The module covers in-depth college algebra that is needed for college mathematics.

PHY111 **Mechanics and Properties of Matter**

The module provides the background needed for the further study of university level physics. It exposes students to a beginning module in mechanics and properties of matter. Mechanics is broken down into its three components: statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also introduced to the various groups of properties of matter.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of science: communication across organisations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students to enhance individual and group work in their studies and career as scientists.

COM121 **Introduction to Computer Programming**

The aim of this module is to equip students with concepts of computer programme development in solving problems. More specifically, the module equips students with skills in how to gather software requirements, design algorithms, develop software as well as test and document programmes developed.

MAT121 **Trigonometry & Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. The module covers trigonometry as well as introduce basic calculus concepts.

PHY121 **Vibration and Waves & Electricity and Magnetism**

This module provides students with the background needed for the further study of university level physics. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

Year Two

MAT211 **Calculus I**

The module aims at developing concepts in calculus to equip students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules.

MAT212 **Discrete Mathematics with Applications**

In contrast to the continuous real number line from calculus, "discrete" mathematical structures are made up of distinct, separate parts. The instructor chooses a few topics to cover from the many available discrete mathematics topics, including mathematical language and syntax, proofs and logic, circuits, cryptography, graphs (i.e., relationships among people, agencies, machines, etc.), number theory, combinations and permutations. The relationship of mathematics to computer science features prominently.

ELE211 **Introduction to Analog Electronics**

This module provides the theoretical background needed for the further study of analogue electronics. With the background provided, students are able to demonstrate an understanding of the basics and applications of active devices, basic logic concepts and gates. Beyond this, they should be able to demonstrate an understanding of circuit theorems and their application in the analysis of alternating and direct current circuits.

NET211 **Introduction to Computer Network Engineering**

This module aims to provide students with an understanding of the principles and practice of network engineering. The module introduces the OSI reference model which is used as a framework for examining internetwork communication issues.

COM211 **Operating Systems**

In this module, students are introduced to key concepts of computer operating systems, including their design, implementation and aspects of operation. Students also have an opportunity to develop practical skills regarding the use of common operating systems.

MAT221 **Calculus II**

This module aims at providing students with advanced skills and knowledge in calculus for the study of other mathematics modules. The module enables students learn the application of mathematics in biology, ecology and dynamical systems, among others.

ELE221 **Introduction to Digital Electronics**

This module provides knowledge of fundamental digital design and systematic methods of analysis and design of digital systems. Among the expected techniques and methods of analyses, students will be able to convert between different number systems and describe some different codes, explain the function of basic digital combinatorial circuits and sequential circuits, employ Boolean algebra to describe the function of logic circuits and design circuits which represent digital logic expressions.

COM221 **Advanced Computer Programming**

This module introduces students to concepts of advanced programming and software development frameworks, covering key issues in computer science such as object-oriented programming, parallel programming, development of graphical user interfaces, network programming, client-server architecture, and database programming. In the end, the module provides students with programming and problem solving skills necessary for them to do well when attempting more advanced topics in computing.

COM222 **Database Systems**

This module introduces students to the foundations of database systems, focusing on basics such as database management systems, entity relationship modelling, relational algebra and data model, schema normalisation, query optimisation and transactions. An understanding of databases is essential in the development of simple and complex software solutions that must store, retrieve and process data.

NET221 **Network Design and Management**

This module provides students with an understanding of requirements gathering,

requirements analysis and the development of logical design to physical application of a computer network. Students are expected to be able to understand how to install, maintain and manage Local Area Networks and internetworks. They have an understanding of network management architectures and protocols and become familiar with using the different TCP/IP Protocols and a variety of network management tools.

Year Three

NET311 **Introduction to Cryptography**

The module aims to enable students acquire an understanding of how to safeguard the privacy of communications and information. Students are challenged with a range of security objectives, different levels of security that can be achieved and available cryptographic techniques that can be employed.

COM314 **Algorithms and Data Structures**

Storage of data and determination of efficient ways to access and process that data, as well as the complexity of attempting to solve computational problems, is a core concern in computing. This module provides students with skills in mathematical reasoning to establish the properties of simple algorithms, as well as determine the complexity and efficiency of searching and sorting algorithms applied to a variety of data structures. Students also develop skills in how to select and implement appropriate searching and sorting algorithms, and related data structures, to solve particular problems.

COM315 **LINUX Systems Administration**

The module introduces students to the fundamentals of Linux systems administration, enabling them to install and configure Linux systems. The module covers topics ranging from Linux operating system architecture, installation and package management, user interfaces, common administrative commands, systems services, networking and security.

ELE313 **Device Electronics I**

This module provides students with the background needed for the further study of university level physics in order for them to demonstrate an understanding of semiconductor physics for intrinsic and extrinsic materials. These materials lay the foundation for the understanding of semiconductor diodes, Bipolar Junction Transistors (BJTs) and their small signal and high frequency analysis. Additionally, students are equipped with skills to analyse the performance of Field Effect Transistors (FETs), rectifier and regulated circuits.

ELE315 **Network Analysis**

This module aims to equip students with the knowledge and techniques of analysing electrical networks, especially two port networks. Thus, students should be able to model and analyse the linear time-invariant behaviour of electrical and electronic systems, in both the time and frequency domain; analyse AC steady-state responses and transient response of resistance, inductance and capacitance in terms of impedance and its inverse in two port networks. Additionally, using software tools, they should be able to simulate the behaviour of linear electrical networks and design, construct and test passive and active electrical networks that achieve specified linear time-invariant behaviour.

COM321 **Automata Theory, Languages and Computation**

This module introduces students to the application of mathematical models of computation. The module provides students with an opportunity to develop skills in various automata theoretic models of computation. Using the fundamental ideas of (non-) computability and complexity presented in the module, students are able to discuss the practical and theoretical significance of the various computational models.

NET321 **Network Routing and Switching**

This module provides students with an introduction to fundamental aspects of routing and switching in computer networks. The module is designed to examine how the Internet is integrated into the computing environment in order to enable organisations share resources, collaborate and meet organisational goals. Specifically, the networking essentials and the creation of simple Local Area Networks (LANs), Networking Technologies, are expanded upon to incorporate the linking of these simple networks to each other and to the Internet, to create a wide area network (WAN).

NET322 **Network Programming and Application Development**

This module provides students with fundamental practical knowledge of network programming. The module explores how the World Wide Web makes the Internet easy to use by providing multimedia contents for the users.

COM325 **Artificial Intelligence**

This module introduces students to artificial intelligence techniques in determining and analysing problems from an AI perspective. It also teaches students how to employ AI methods to solve these problems. It is, therefore, a general introduction to artificial intelligence, its techniques and main subfields; knowledge representation, rule-based systems, search, learning, vision, robotics, natural language processing and machine learning.

ELE324 **Device Electronics II**

This module provides grounding in electronics which is intended for physics students and those who wish to specialise in electronics or electronics related disciplines. Students should be able to estimate bulk semiconductor properties from energy band diagrams and basic formulae. Additionally, students should be able to analyse carrier statistics and densities in semiconductors, biased and unbiased operations of PN junction diodes and Schottky contacts, biased and unbiased operations of field effect transistors and bipolar junction transistors.

Year Four

COM412 **Project Management**

This module provides students with project management skills. The module examines project management in theory and practice and the roles and responsibilities of the project manager. The module offers a practical approach to managing projects, focusing on organising, planning and controlling the efforts of the project throughout the project life cycle. Students take a case study through the essentials of a four-phase project planning process, learning about the challenges at each stage. The module is based on the best and most current thinking in the field, particularly the Project Management Institute's PMI®) approach.

COM414 **Research Methods and Ethics in Computers**

This module familiarises students with the scientific research processes in computer science and allows them to apply varying research methods in their research. The module affords students the ability to identify assumptions, limitations and premises of research approaches and methodologies. From this understanding, students can then discuss ethical aspects of research designs and dissemination mechanisms available in computer science.

NET412 **Network Security**

This module provides students with the fundamental knowledge, both theoretical and practical, which enables them gain understanding of network vulnerabilities, threats and attacks caused by viruses and other malicious software. The module also explores the number of ways in which various types of security measures and technologies can be employed to protect a computer network from attacks.

NET413 **Network Monitoring and Bandwidth Optimization**

The module aims to provide students with a comprehensive introduction to the theory and practical methods and tools required to conduct meticulous monitoring, performance analysis and optimisation of computer networks. Students are also provided with the theoretical knowledge of the relevance of tools and techniques

for managing a computer network, as well as the practical knowledge of utilising these tools and techniques for monitoring and troubleshooting a computer network. Students are required to demonstrate the ability to identify common network performance bottlenecks and failing components, and determine how best to improve the performance.

NET414 **Wireless and Mobile Networks**

This module provides an introductory and comprehensive study of wireless and mobile networks architectures, technologies and data communications. It discusses cellular network technologies, wireless network architectures and protocols, thereby providing students with a broad understanding of mobile wireless networks.

NET421 **Network Simulation**

This module introduces the fundamentals of network simulations and the knowledge of a various simulation tools utilised in order to analyse computer networks, as well as the protocols and data traffic within the network. Students are provided with the skills and knowledge to use simulation tools in order to analyse data communications within a network.

COM421 **Cloud Computing**

This module provides an introduction to cloud computing and its techniques, issues, ecosystem and case studies. It provides a comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Business Process as a Service (BPaaS). The module also covers the Cloud security model and associated challenges and explores the implementation and support of high performance computing and programming patterns for Big Data applications on the Cloud. Through hands-on assignments and projects, students learn how to design and implement scalable Cloud applications.

COM422 **ICT Project**

This module provides students with practical experience in the use of structured methodologies in the design and construction of computerised information systems and networks. The module draws from knowledge gained in previous modules such as Programming, Network security, Device electronics, Wireless and mobile networks. The project must be guided by project management rules and must include a research component. Project milestones must include the following: problem identification document, requirement specification

document, design document, a prototype and project documentation (including manuals). Students may apply to work in groups as long as the individual roles and assessments are clearly defined.

COM423 **Business Management for Computer Scientists**

This module introduces students to the fundamentals of business environments, operations and management. In taking this module, students have an opportunity to learn both theoretical and practical skills in how to conceptualise business ideas, conduct market research, develop business plans and make considerations on how to source funding, and implement their business plans. Knowledge in planning and managing businesses is an essential component of modern curriculum in computing, especially in a country like Malawi where there is significant need for job creation.

COM424 **Machine Learning**

This module provides an overview of concepts, theories and techniques used in the creation of algorithms that can learn from and make predictions on data. The module provides students with the basic ideas and intuition behind modern machine learning methods as well a formal understanding of how, why and when they work.

Bachelor of Science in Information Systems

Year One

Module Code **Module Name and Descriptor**

LAN112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in actuarial sciences, mathematics, statistics, economics and business management. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and to give students a basic working competence in modern business which focuses on English as a medium of communication.

COM111 **Introduction to Computer Science**

This module aims at introducing students to the basics of computing, covering principles of computing, components of computer systems and common computer software. The module covers topics such as computer organisation, data representation, computer hardware, standard operating systems and data communication. In addition, the module provides students with an opportunity to develop skills in software packages like word-processors and spreadsheets.

MAT111 **College Algebra**

The module provides students with a foundation in mathematics and analytical skills needed for subsequent modules in computation and mathematics. The module provides a detailed coverage of mathematical logic, set theory, functions, graphs and related interpretations, as well as exponential and logarithmic functions.

COM121 **Introduction to Computer Programming**

The aim of this module is to equip students with concepts of computer programing in solving identified problems. More specifically, the module equips students with skills for gathering software requirements, designing algorithms, developing software, as well as testing and documenting programmes developed.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of science: communication across organisations and technical operations, technical editing, writing in social media and emerging technology, for effective communication purposes. The module is designed to develop writing skills in students to enhance individual and group work in their studies and career as scientists.

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. The module covers trigonometry and basic concepts in calculus.

Year Two

INF211 **Foundations of Information Systems**

This module creates an awareness of the scope of the information systems (IS) subject area, including an exploration of the nature of information and its importance in the day-to-day management of organisations. It also develops an understanding of electronic commerce and how it is changing the face of business, how technology can be used to mobilise the workforce, how IT can impact security and privacy, and the emerging trends in IS.

INF212 **E-Business Techniques**

In this module, students examine and experiment with critical information technologies that provide a basis for electronic commerce, and their application

in a variety of sectors and industries. It begins with coverage of models and business concepts that surround the emergence of electronic commerce and the consequences of applying these information technologies to different commercial processes from both an operational and strategic perspective.

COM211 **Operating Systems**

In this module, students are introduced to key concepts of computer operating systems, including their design, implementation and aspects of operation. Students also have an opportunity to develop practical skills regarding the use of common operating systems.

STA211 **Foundations of Probability and Statistics**

The aim of this module is to provide students with an understanding of basic ideas about probabilities and elementary probability distributions and their uses. Students are expected to be able to explain basic concepts of probability and probability distributions. Students are also be to derive measures of central tendency and variation given a particular probability distribution.

INF221 **Web Design and Development**

The module introduces students to theoretical and practical aspects of web programming as an essential skill in Information Systems. It helps students to begin understanding and utilising the internet and World Wide Web as a deployment platform for Information Systems.

INF222 **Enterprise Architecture**

This module introduces students to mainstream enterprise architecture frameworks used in the industry today and helps them to become familiar with the underlying reference model that should be used to relate to them, understand their relative merits and leverage them to support industry-specific needs. It provides students with strategies for infrastructure management, data/information architecture, software selection, total cost of ownership calculation and Information Technology investment analysis.

COM221 **Advanced Computer Programming**

This module introduces students to concepts of advanced programming and software development frameworks, covering key issues in computer science such as object-oriented programming, parallel programming, development of graphical user interfaces, network programming, client-server architecture and database programming. In the end, the module provides students with

programming and problem solving skills necessary for them to do well when attempting more advanced topics in computing.

COM222 **Database Systems**

This module introduces students to the foundations of database systems, focusing on basics such as database management systems, entity relationship modelling, relational algebra and data models, schema normalisation, query optimisation and transactions. An understanding of databases is essential in the development of simple and complex software solutions that must store, retrieve and process data.

Year Three

INF312 **Information Technology Service Management**

This module discusses the manager's responsibilities for problem solving and decision making and how computers can be used as tools to gain the insight needed to support selection of decision alternatives. The module examines decision support systems, group decision support systems, executive information systems, data warehouses, expert systems and their implementations.

COM311 **Software Engineering**

This module introduces students to the fundamentals of software engineering, covering principles, practices and methodologies to the creation, operation, and maintenance of software systems. In studying this module, students develop a systematic and disciplined approach to engineering software products.

COM312 **Human Computer Interaction**

This module discusses important considerations for human-centred design of interactive computer systems and across platforms (desktops, mobile devices, wearables, etc.). In line with this, the module addresses abilities and limitations of both humans and computers, cognition, design and implementation of user studies, rapid prototyping of systems, usability principles and how to perform usability studies. The coverage of this content is meant to provide students with theoretical and practical skills required to design for optimal user experiences in the use of computer systems.

COM313 **Computer Security**

This module introduces students to the vulnerabilities and threats that assail current networked computers and their operating systems. The module provides students with an awareness of security policies and measures, as well as skills to examine system vulnerabilities, conduct system audits, and devise solutions that

eliminate or minimise the possible impact of system vulnerabilities. To achieve these objectives, the module covers both technical and user-related aspects of computer security.

COM315 **LINUX Systems Administration**

The module introduces students to the fundamentals of Linux systems administration, enabling them to install and configure Linux systems. The module covers topics ranging from Linux operating system architecture, installation and package management, user interfaces, common administrative commands, systems services, networking and security.

INF321 **Management Support Systems**

This module tackles the issue of control of the internet as an essential platform and engine for economic development, social justice and the protection of human rights. Students explore prominent narratives and issues, such as the concept of architectural openness and the promotion of Internet freedom. The module also provides insights into the possible future of the medium.

INF322 **Entrepreneurship – Theory and Practice**

This module provides an introduction to the theoretical literature on entrepreneurship. In doing so, the module allows students to develop their critical skills and to analyse the internal and external factors that impact on entrepreneurship and how they intertwine to create success. It examines the role of entrepreneurs in society and highlights the practical issues involved in identifying and approaching opportunities and setting up a business venture.

INF323 **Information Management for Business**

The module covers a range of types of information systems and services that can be leveraged to create and optimally use information in a business. Students learn how to master information systems for the capture, storage and presentation of business information. The module also highlights the basic components of a successful information system to enable students design and create Business Intelligence Systems.

COM322 **Computer Networks**

This module introduces students to the operational and organisational contexts

of computer networks. The module covers basic networking concepts, network models, protocols, design issues, types of networks, and security issues. The module also exposes students to key design and operational aspects of the Internet.

COM323 **Object Oriented Systems Analysis and Design**

This module introduces students to the object-oriented model as an aid to understanding a system under study and representing the system's requirements. The module covers principles, tools and best practices in object modeling, analysis and design. In addition, the module also evaluates the object-oriented approach to systems design, comparing it to other well established approaches.

Year Four

INF411 **Strategic Business and IS Management**

This module introduces students to the basic concepts and tools of strategic business management as it relates to information systems. It looks at how information systems are used in strategic planning and management of strategic change in an organisation, and how to align information systems strategy with the business strategy.

COM411 **Mobile Application Development Module**

This module introduces students to current mobile technologies, application architectures, platforms and tools. It builds on key principles of software engineering techniques, human computer interaction designs, and object-oriented programming skills to develop interactive mobile applications. It also highlights the various technical, ethical and social issues in the development of mobile applications.

COM412 **Project Management**

This module provides students with project management skills. The module examines project management in theory and practice and the roles and responsibilities of the project manager. The module offers a practical approach to managing projects, focusing on organising, planning and controlling the efforts of the project throughout the project life cycle. Students take a case study through the essentials of a four-phase project planning process, learning about the challenges at each stage. The module is based on the best and most current thinking in the field, particularly the Project Management Institute's PMI®) approach.

COM413 **Geospatial Computing**

This module introduces students to the fundamentals of geographical information systems covering spatial data models and elementary spatial analysis. It then builds on this to: design and implement spatial databases; develop, execute, and share geo-processing workflows using python scripting; and also extend GIS application functionalities using python scripting. The module also introduces techniques of spatial data sharing through web mapping tools.

COM414 **Research Methods and Ethics in Computing**

This module familiarises students with the scientific research processes in information systems and allows them to apply varying research methods in their research. The module affords students the ability to identify assumptions, limitations and premises of research approaches and methodologies. From this understanding, students can then discuss ethical aspects of research designs and dissemination mechanisms available in information systems.

INF421 **Information Technology Audit and Controls**

The main focus of this module is on understanding information controls, the types of controls and their impact on the organisation, and how to manage and audit them. It outlines the concepts of information technology students need to know in order to address the audit concerns in an IT environment. The module introduces frameworks that govern IT controls such as COBIT5 and ISO27001:2013. Upon completion of this module students should be able to conduct audits of information systems in a real world environment.

INF422 **Information Technology Practice and Consultancy**

This module familiarises students with the key concepts, practices and issues relevant to engaging and providing IS consulting services from the perspectives of both the client and the consultant. The module applies relevant theories of change management, behavioural science and social psychology to illustrate how IS consultants engage with organisations and help them solve business problems. This module also examines challenges and opportunities in contemporary business environments brought about by technological advancements such as the emergence of social media, the prevalence of big data and the availability of crowdsourcing possibilities.

INF423 **Internet Governance**

This module focuses on providing a standards-based frameworks for: 1) structuring and delivering IT-related activities and service delivery; 2) enhancing interactions of IT technical personnel with business customers and users; 3) increasing the quality, reliability and flexibility of IT services. The module

also investigates relationships of Information Technology Service Management (ITSM) processes (e.g., ITIL, COBIT, COSO) with other business process improvement approaches (e.g., TQM, Six Sigma, Business Process Management, etc.).

COM421 **Cloud Computing**

This module provides an introduction to Cloud computing and its techniques, issues and ecosystems. It provides a comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Business Process as a Service (BPaaS). The module also covers Cloud security models and associated implementation challenges, as well as high performance computing and programming patterns for Big Data applications on the Cloud.

COM422 **ICT Project**

This module provides students with practical experience to the design and construction of computerised information systems. The module affords students an opportunity to experience and perform the following aspects of information systems development: project planning and management, requirements capture and modelling, coding, documentation, testing, deployment and presentation. Students also get to learn the dynamics of group work.

University Certificate in Computer Science

This is a short course open to the public.

Postgraduate Diploma in Computer Science

For details contact the head of Computer Science Department.

Master of Science in Infomatics

Module Code	Module Name and Descriptor
COM702	**Informatics Project Management (15 Credits)**
	The module aims to equip students with knowledge and skills of project management in the context of informatics. The module coverage includes: general aspects of project management; project control: work content and scope, time scheduling and phasing, resource management, budgeting and cost control, change management, information management, procurement, and legal awareness; and organisational management: organisational structures and roles, communication, teamwork, leadership, conflict management and negotiation.
COM703	**Research Methodology (15 Credits)**
	The aim of this module is to develop the intellectual skills and knowledge required to understand and undertake research in the area of informatics and to present and interpret findings of a selected area of study in a suitable manner. It covers qualitative, quantitative and mixed research approaches, strategies, and methods and considers the contexts within which different methods are useful and how they should be applied in practice.
COM711	**Software Engineering Fundamentals (15 Credits)**
	The aim of this module is to orient students to a set of concepts, techniques and tools meant for the design, specification and implementation of informatics projects. The module provides students with an overview of the process of software development, including methods and techniques in terms of planning and management of the development process.
COM713	**Software Quality Management (15 Credits)**
	This module aims at introducing students to software quality management issues, as well as providing techniques and tools that help to assure software quality. It also allows students to know the principles for the implementation of a quality sistopic that matches the rapid growth of the software production industry and the expansion of its area of influence beyond industrial processes.

COM721 **Information Systems in Organisations (15 Credits)**

The aim of this module is to deal with issues related to Information Systems, in general and Management Information Systems (MIS), in particular in the context of organisations. In addition, the module covers issues related to the universe of uncertainty of the social sciences and administration, rather than with the certainties of technology.

COM724 **Analysis and Design of Dynamic Information Systems**

The aim of this module is to avail students the opportunity to reflect on the design and development process of interactive and dynamic Information Systems. Principles and concepts regarding the design of Information Systems in a social perspective are addressed. In this module, students also discuss the development and implementation of Information Systems in a global perspective, focusing on international support to local initiative as assurance of its integration in the international information network.

COM731 **Distributed Systems**

The aim of this module is for students to examine the fundamentals of computer information systems in a distributed environment, including network concepts, operating systems concepts, network operating systems, transaction management and time coordination. Emphasis is placed on the elements necessary for distributed information systems.

COM741 **Internetworking**

The aim of this module is for students to learn internetworking technology by exploring networks and layers, networking devices and IP addressing, among other topics. These are critical skills in a developing country like Malawi, when infrastructure for internet is being deployed, and there is need for expertise in this area especially in the domain of support.

COM742 **Network Management**

The module aims to equip students with knowledge and skills in Network Operating Systems, which have become part of the day–to- day running of information systems in work places. Microsoft products have come to dominate the world, and it is imperative that informatics students should know how these systems work. Linux is fast becoming the option for sustainable network administration in developing countries, thus, the need to know how it works. Knowledge of these basic systems will enable students to make informed choices for software in organisations.

COM743 **Data Communications**

The aim of this module is to equip informatics students with the knowledge in the alignment between networks and data communications and how the two platforms will benefit the industry. Such knowledge enables students to manage bandwidth efficiently so that the little that is available (as is the case in developing countries) is optimally used.

COM781j2 **Dissertation**

This module aims to provide students with an opportunity to engage in a substantial piece of scholarly research work in an appropriate area of specialisation under suitable supervisory guidance. The module covers critical literature review, selection of an appropriate research topic, methodologies, methods and data analysis techniques, analysis and presentation of qualitative and quantitative data, preparing research proposal and dissemination of research findings through papers, dissertation and oral presentations.

COM801 **Development of Information TechnologyCompetencies**

This module aims at contributing to the development of professionals skilled in teaching and supervision of computer use, and knowledge for planning and evaluating IT training and support.

COM802 **Development of Mobile Applications**

After completing the module, students should be able to analyse, design, implement and evaluate mobile services. Furthermore, the objective is to understand the theoretical background and know about common techniques, methods and technologies for developing and analysing mobile services.

COM803 **GIS**

COM805 **Information Technology Governance**

The aim of this module is to assist students in understanding the security problems that concern information systems, especially when they are distributed. Students are able to deal with issues of systems security proactively. They are also equipped with the right tools for policy making to ensure security, and also for recovery after disaster. In addition, students learn how to develop strategic plans for information systems.

COM806 **Business Management and Entrepreneurship**

Through this module, students understand the economic principles and concepts of domestic and international economies. They demonstrate competency by making decisions based on sound economic judgment. Instructional content covered by this activity includes:

- Economic models - use a model to explain an existing economic condition.
- Economic systems - compare various economic systems.
- Macroeconomics - analyse a macro problem and determine alternative government policies and consequences.
- Microeconomics - analyse a micro problem and determine appropriate actions for the individual consumer and the organization.
- Supply and Demand - analyse the economic components that are influenced by the law of supply and demand.

Department of Geography and Earth Sciences

Bachelor of Science in Geography

Year One

Module Code	Module Name and Descriptor

GEO111 **Contemporary Human Geography**

The module is intended to introduce students to a wide range of concepts in human geography. Emphasis is on the spatial organisation of human phenomena and topics included are population distribution, patterns of rural settlement, rural economic activity and urban settlement, land use, and economy. Measurement and analytical techniques, and theories relating not only to patterns but also to processes, are an important feature of the module.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

LAN112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication

skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.

GEO121 **Introductory to Physical Geography**

This module is a foundation module designed to provide background for later modules in Geography. Topics covered include major rock types in Malawi, their age, identification and mode of formation. The relationship between geology and topography, economic value of rocks, the solar system, seasons and time, isolation of the earth, the weather station, soil formation process, concepts of soil fertility, the concept of natural vegetation and man's impact on it are other topics studied.

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as: communication across organisations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

Year Two

GEO211 **Cartography, Map Analysis and Surveying Techniques**

The module introduces students to cartography, map analysis and surveying techniques. Topics include basic introduction to cartography and map reading techniques, analytical skills for site and situation, and constructing transect diagrams, relative relief maps and block diagrams. The module is also devoted to the case study of foreign and Malawian map sheets.

GEO212 **Fundamentals of Economic Geography**

Building on GEO111, this module focuses on the geographical aspects of consumption, production and exchange of goods and services. The module incorporates both theory and analytical techniques.

GEO221 **Advanced Physical Geography**

The module builds on GEO121 and introduces students to the system's view-point of the man-environment interaction. Topics covered include the origin and evolution of rivers and drainage network, slope erosion by water, moisture in the atmosphere, precipitation in anomalous sites in Malawi, causes and aerial extent, concepts of the eco-system and eco-system change, carrying capacity of land, and problems of the man-environment interaction in Africa.

GEO222 **Geographies of Development**

This module builds on GEO111 and 212 to give students a comprehensive understanding of the temporal and spatial dimensions of development with a focus on key theories and policy debates which inform poverty and development ideas and strategies. Topics covered include: the scope and nature of development, colonialism and development, development and thinking, globalisation and development and development in practice including the role of the state in development.

Year Three

GEO311 **Meteorology and Weather Forecasting**

The module provides students with fundamental scientific understanding of the earth's atmospheric systems and processes, including the science of meteorology and physical processes associated with weather and climate. Topics covered include: introduction to the atmosphere, weather map basics, energy temperature and atmospheric heat transfer, seasonal and daily temperature variation, condensation and precipitation, air pressure and winds, global circulation and weather forecasting.

GEO312 **Urban Geography**

The module commences with a review of theories of the internal structure of cities and later attention is focused on town planning, its objectives, scope and problems, its historical, theoretical, and legal foundations, its organisation and administration, its date requirements, and relevant analytical techniques

GEO313 **Pedology**

The module provides students with the historical development of soil science, factors of soil formation and composition, properties of soils, spatial variations of soils, soil classification, and principles and practice of soil mapping. A soil-mapping project is also incorporated within the module.

GEO314 **Population Geography**

The module introduces students to population issues with spatial and temporal perspectives. Topics covered include: sources of demographic information, population dynamics (fertility, mortality and migration), patterns of population distribution and statistical and cartographic techniques of population analyses.

GEO315 **Tourism Geography**

The module advances students' understanding of tourism as a geographical phenomenon, including the relationship between tourism and geography. Topics covered include the nature of tourism geography; space, place and tourism; tourism demand and supply, impacts on tourism, ecotourism and tourism policy and planning

GEO316 **Introduction to GIS**

The module introduces students to the basic and essential skills of using Geographical Information Systems and the collection, processing and analysis of remotely sensed data. Through this module, students are able to work with digital spatial data and make concrete interpretation to solve geographical problems. Topics covered include: Introduction to GIS, thematic characteristics of spatial data, georeferences, datum, spherical co-ordinates and co-ordinate transformation, spatial data modelling, attribute data management, data input and editing.

GEO317 **Rural Geography**

The course provides students with in-depth knowledge and understanding of the spatial and economic impacts of productive activities on rural areas. It analyses the social-economic phenomena in rural areas with focus on the significance and role of agricultural economy in the countryside. Topics include: conceptualisation of rural versus urban space, theorisation of rural space (rural-urban continuum, community-society, tradition-modern, and countryside-city), rural industrialisation, rural tourism and rural demography.

GEO321 **Climatology and Climate Change Science**

The module provides students with an understanding of the earth's climate and factors that influence and control them within the broader subject of meteorology. Topics include the atmosphere, hydrosphere, exosphere, local and regional climates and applications of climatology.

GEO322 **Spatial Organisation**

The module gives a broad introduction to theoretical geography, relating to modelling, perception studies, systems and location analysis. It focuses on concepts, theories and models, which include spatial structure and process, distributions, economic systems, the location theories, spatial organisation of agricultural production, industrial location model, transport and network analysis, spatial variations in production cost, industrial location decision in uncertain world, and the time dimension in space.

GEO323 **Geomorphology**

This course is designed to treat some of the concepts introduced in GEO221 from a theoretical view point as well as emphasise the system's nature of geomorphology processes and the place of man in this system. Topics include system's viewpoint of geomorphology; basic postulates in geomorphology; geomorphological processes, their physical, chemical and biological bases, and the nature of some selected processes.

GEO324 **Health Geography**

Health Geography introduces students to the spatial and environmental aspects of disease distribution and geographical approaches to health systems and health care provision and utilisation. Diseases and health are explained within the framework of human-environment interaction and the contribution of geography as a discipline to the understanding of health and health care inequalities within and between nations.

GEO325 **Agricultural Geography**

The module introduces students to an in-depth spatial analysis of agricultural activities with focus on the scope of agricultural geography, the spatiality of agricultural activities and world agriculture, agriculture development and environment and policies in world agriculture.

GEO326 **Introduction to Remote Sensing and Aerial Photography**

The module commences with an introduction to remote sensing as the art and science of recording measuring and analysing information about a phenomenon from a distance. Later, the module introduces students to the principles and application of aerial photography in geographical enquiry in such areas as climate change, urban studies and in earth sciences.

GEO327 **Introduction to Physical Planning**

The Module builds of GEO312 to give students a basic understanding of town planning with focus on the objectives, scope and problems, historical and theoretical underpinning of town planning. Other topics include the policy, legal and institutional foundations of town planning.

Year Four

GEO411 **Environmental Hazards and Disaster Management**

The module introduces students to the geography of natural hazards with particular focus on the concepts and types of natural hazards and their driving forces, including hydro-meteorological hazards, slope instability, drought and desertification, flooding, geophysical hazards, environmental pollution, mitigation and resilience and disaster response.

GEO412 **Principles and Practice of Regional Planning**

This module builds on GEO312, GEO322, GEO317 and GEO327 to enable students advance knowledge and skills for assessing the need for regional planning. After assessing the need for regional planning and reviewing the relevant theories, the module focuses on regional development policy issues and strategies. Case studies are an important feature.

GEO413 **Hydrology**

The module provides geoscience students with the physical principles of water flow on and under the surface of the Earth, and the management of water resources. The module is critical for water budgeting. Topics covered in this module include: Scope and historical development of hydrology, the hydrological cycle, hydro-meteorological elements, drainage basins and channel networks, groundwater and surface runoff.

GEO414 **Rural Development Studies**

With the aid of case studies, the module provides students with a comprehension of rural development in the context of traditional African farming systems and compares them with evolving semi-commercial and commercial farming systems. A number of theories are examined to assess their relevance in the African context.

GEO415 **Research Methods for Geographers**

This module provides students with practical skills in conducting research so that they are able to write a well-structured research project. Students identify a research topic in any study area of their choice within the geosciences, design

a research project, collect and analyse data, present the research findings and prepare a write-up on the research work as a dissertation.

GEO416 **Advanced GIS**

This module builds on GEO 316 in the application of GIS skills in geological modelling and solving geological problems. The module covers the following topics: Measurements in GIS, Queries, reclassification, neighbourhood functions, map overlays, rasterising and polygonisation; nearest neighbour analysis, drainage basin analysis, geomorphology; lengths, area, shape, aspect, slope, classification, buffering, multi-criteria evaluation and interpolation.

GEO421 **Environmental Studies and Resource Management**

The module covers environmental problems such as soil erosion, woodland removal, tropical diseases and pests and pollution as a basis for the study of resource management. Special attention is also given to the specific resources of Malawi and their management and mismanagement.

GEO422 **Advanced Physical Planning**

This module builds on GEO312 and GEO317 to give students an in-depth understanding of the principles and standards in town planning, the study of site characteristics and detailed planning design for town centres and residential areas, graphic presentation of plans, plan evaluation and programming with CPM and PERT, development control, urban development policy, and town planning in Malawi.

GEO423 **Biogeography**

This module provides a background to the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. The module covers the following topics: Description of the historical and ecological factors that influence the pattern of life on earth, appraisal of how evolutionary and climatic factors have shaped the distribution of organisms over geologic time, mapping the distribution and describe the nature of earth's major terrestrial biomes and a an analysis of how advances in palaeontology, climatology, evolution, plate tectonics and ecology have shaped the modern synthesis of biogeography.

GEO424 **Health and Development**

This module examines the relationship between health and development. It builds on GEO 324 to give students a practical understanding of how peoples' health is produced and reproduced in their communities. It also helps students to appreciate how peoples' health is affected by different factors in their communities because

of the various structures present in their environment and learn to apply effective intervention strategies to improve peoples' health in relation to geographies of Malawi.

GEO425 **Dissertation**

This module builds on the research skills gained in modules GEO212, GEO316, GEO326, GEO415 and GEO416 to train students in the design and execution of a research project and report writing by applying the various quantitative, qualitative and spatial skills. The module covers the following topics: Designing a research project, carrying out a literature review, and gathering of primary data from laboratory analysis or fieldwork, analysing primary or secondary data, interpreting observations, justification of conclusions and presentation of a report.

GEO426 **Advanced Remote Sensing and Aerial Photography**

This course focuses on the use of remote sensing to map land, ocean and atmospheric processes that are key to the environment. Emphasis is placed on the application of remote sensing methods and data processing for analysis of physical and human environments. The course presents dvanced techniques for further remote sensing and earth observation work and gives the student a strong basis from which to develop their analytical skills.

Bachelor of Science in Geology

Year One

Module Code **Module Name and Descriptor**

GLY111 **Earth materials**

This module gives an introduction to the fundamental concepts and theories relevant to the study of geology. The module covers the following topics: The major rock forming minerals, introduction to the three rock types: sedimentary, igneous and metamorphic rocks and the rock cycle.

GEO111 **Introduction to Physical Geography and Cartography**

This course offers an introduction to fundamental concepts in physical geography and earth sciences aimed at understanding the physical processes that have shaped our planet and landscape from formation of the solar system, through geological time, up to the present. The processes range in scope from the deep Earth to the surface and from the atmosphere to the oceans. The module also introduces concepts and theories of map making as a vehicle for communicating spatial ideas.

MAT111 **College Algebra**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.

LAN112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in the natural sciences. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.

GLY121 **Planet Earth**

This module provides students with an introduction to the evolution of the earth and other planetary bodies in space and time. Coverage of the module includes the following topics: The Big Bang and cosmology, the formation of the solar system, major geological features of the earth's surface, the earth's interior; structure, composition, temperature, pressure, plate tectonic theory and the geologic time scale.

GEO121 **Contemporary Human Geography**

This course introduces geoscience students to the fundamentals of human geography and shows its diversity as well as practical value. It emphasises the interaction of humans and the environment. The course includes the following topics: Understanding the scope of human geography, geography and cultures, settlement geography, geography of population, industrial geography and political geography.

MAT121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong writing and communication skills in related areas of actuarial such as:

communication across organisations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

Year Two

GLY211 **Mineralogy and Petrology**

This module builds on GLY 111 to provide students with in-depth knowledge of geological concepts and theories. The module comprises the following topics: Basic mineralogy and crystallography, optical mineralogy, basic petrology; igneous, metamorphic and sedimentary petrology and the rock cycle as an expression of plate tectonics.

GLY212 **Stratigraphy and paleontology**

In this module, geoscience students are introduced to the principles of stratigraphy, the practice of palaeontology, and their relationship to each other. It also exposes students to the two conflicting but complementary geological theories; uniformitarianism and catastrophism. The coverage of the module consists of the following topics: Stratigraphy, the theory of evolution, the tree life, fossilisation, systematic palaeontology, paleo-environmental interpretation, palaeontology and stratigraphy and stratigraphy of Malawi

GLY213 **Earth's Resources**

The module introduces geoscience students to the main types of geological resources found in and/or on earth and their formation, and the global context of their exploitation with the increasing population of the world. The module covers the following topics: The global context of geologic resource exploration and exploitation, mineral deposits, commodity classification, the mining cycle, formation, extraction and use of hydrocarbons, renewable and non-renewable energy, introduction to gemmology and geological resources in Malawi.

GLY221 **Earth Systems**

In this module, students are introduced to the earth as a system, the interactive nature of the various systems of the earth and the role humans play in influencing the behaviour or the systems. The module covers the following topics: Systems science, the interactions of the; atmosphere, hydrosphere and biosphere and lithosphere, Mantle-Lithosphere interactions and plate tectonics

GLY222 **Data Analysis and Statistics**

The module introduces geoscience students to the application of statistical concepts in solving geological problems. Students are equipped with skills for the collection, analysis and interpretation of geosciences data. Coverage of the module comprises the following topics: Empirical and deductive approaches to geology, basic statistics, definition and quantification of error, accuracy and precision, concepts of correlation and regression, factor and cluster analysis, statistics of spatial data and interpretation of statistical measures.

GLY223 **Field Geology and Geological Maps**

This module provides geoscience students with a practical comprehension of minerals and rocks in the field, and how maps and cross-sections are made and used to achieve a 4D understanding of geological evolution. Module coverage includes the following topics: Outcrop analysis, geological field mapping techniques, sample collecting, sampling, collation procedures as well as maps and cross sections production.

Year Three

GLY311 **Igneous Petrology**

This module extends the knowledge from GLY111 and GLY211 on the identification, description and formation of igneous rocks as one of the main rock types. Topics covered include: Classifications of igneous rocks, analysis and description of volcanic and plutonic rocks and the systematic approach to the identification of major igneous rock types.

GLY312 **Sedimentary Petrology**

This module extends the knowledge from GLY111 and GLY211 on the identification, description and formation of sedimentary rocks as one of the main rock types. The module covers the following topics: Flow regimes in fluids; relation to transport and deposition of clastic sediments, classification of clastic, chemical, volcanoclastic and pyroclastic rocks and analysis of their structures, diagenesis and lithification process and a systematic review of sedimentary environments.

GLY313 **Geophysics**

This module introduces students to the major geophysical properties of the earth and rocks and how they are measured. The module covers the following topics: Physical properties of minerals and rocks, geophysical character of the earth, seismicity and seismic monitoring and geophysical methods applied in learning the physical properties of the rocks: gravity, reflection and refraction, aeromagnetic, electrical and electromagnetic surveying methods.

GLY315 **Economic Geology**

The module is key to the exploration and exploitation of the mineral resources. The module provides students with an introduction to the main types of ore deposit; how and where they are found, their value and their processing. The module includes the following topics: Identification of common ore minerals as distinguished from gangue, classification of ore deposits by origin; magmatic, hydrothermal, residual, sedimentary, relationship of ore deposit type to tectonic setting and systematic analysis of ore deposit: formation, mineralogy, exploration technique, extraction technique, value and processing techniques.

GLY321 **Metamorphic Petrology**

This module extends the knowledge from GLY111 and GLY211 on the identification, description and formation metamorphic rocks as one of the main rock types. Topics covered include: The concepts of equilibrium, metamorphic grade, facies, index minerals, phase diagrams and the phase rule, classifications of metamorphic rocks, Metamorphic textures: fabrics and microstructures, metamorphic associations and systematic review of metamorphic rocks, including changing mineralogy with PT conditions

GLY322 **Structural Geology**

This module provides students with insights of structural geology through a descriptive approach to deformed rocks. The module covers the following topics: Definition of structural geology, relation of structural geology to tectonics and other sub-disciplines, distinguishing primary and tectonic structures, description of deformation; definition, description, classification and formation of geological structures; fractures, veins and stylolites, faults, folds, boudinage, fabrics and strain: and Shear Zones.

GLY323 **Geochemistry and Geochronology**

This module demonstrates how mineral and rock compositions are determined by chemical processes, and how rocks are dated via the most common systems of isotopic dating. Through this module, students learn how to assign estimated absolute ages to geological events. Coverage of the module includes: Review of basic principles of chemistry, thermodynamics and mineral stability, chemistry of aqueous solutions, chemistry of magmas, stable isotope geochemistry, radiogenic isotope geochemistry and main radiogenic dating systems; U-Pb, Rb-Sr, Ar-Ar, Sm-Nd.

GLY324 **GIS and Remote Sensing**

The module introduces students to the basic and essential skills of using geographical information systems and the collection, processing and analysis

of remotely sensed data. Through this module, students are able to work with digital spatial data and make concrete interpretation to solve geological problems. Topics covered include: introduction to GIS, thematic characteristics of spatial data, georeferences, datum, spherical co-ordinates and co-ordinate transformation, spatial data modelling, attribute data management, data input and editing; principles of remote sensing; satellite data acquisition systems; processing remotely sensed data and interpreting remotely sensed data.

GLY325 **Field Geology**

This module builds on the field skills gained in module GLY223 by introducing new techniques, developing and improving geological mapping and interpretative skills in the field. Geo-ethical issues are also introduced in this module to ensure a harmonious working relationship between geoscientists and the local people in communities where geological projects are being undertaken. The module covers the following topics, among others: Code of conduct for geological fieldwork, field observation and data collection, best practices in recording data in a field notebook, annotated field sketches, mapping procedures and techniques, use of prepared data sheets such as graphic logs, techniques of field identification of rocks as well as minerals and fossils.

Year Four

GLY411 **Advanced Igneous and Metamorphic Petrogenesis**

This module builds on GLY 311 in the application of the physical and chemical principles to the understanding of igneous and metamorphic rock petrogeneses. Topics covered include: Phase diagrams for igneous rocks, distribution coefficients and the Lever rule, geochemical discrimination diagrams for igneous rocks; tectonic settings of igneous rocks, textures of igneous rocks, metamorphic phase diagrams, PTt paths, tectonics and metamorphism and metamorphic textures; equilibrium and disequilibrium.

GLY412 **Geology of Africa and Malawi**

This module enables students to have an in-depth analysis of the geological evolution of Africa and the geology of Malawi. It offers the opportunity to local geoscience students to better understand the resource potential of their country and continent for possible exploitation. Some of the topics covered are: Geologic evolution of Africa; Archean cratons, the early Proterozoic orogenies, the mid Proterozoic orogenies, the late Proterozoic, formation of Gondwanaland, the Pan African, break-up of Gondwanaland in the Mesozoic, the Karoo magmatic sedimentary record and break-up of Africa in the Cenozoic into EARS and the geology of Malawi within the context of African geology.

GLY413 **Hydrogeology**

The module equips students with the knowledge of water flows between the hydrosphere and the lithosphere, and how it is stored, focussing on ground water resources, their assessment and management. Topics taught include: Introduction to hydrology and hydrogeology, origin and occurrence of groundwater, geologic formations as aquifers, definition of the terms; hydraulic head, hydraulic gradient, transmissivity, storage coefficient and specific yield as well as the fundamental principles of ground water movement.

GLY414 **Ore Deposit Geology**

This module provides students with knowledge of the nature and formation of ore deposits and industrial minerals in the world. The module covers the following topics: Formation processes of; magmatic, hydrothermal, sedimentary and residual types of ore body; global supply and demand of georesources; reserve estimation, the mining cycle; industrial minerals and rocks, identification, origin and occurrence of industrial minerals, precious and semi-precious minerals: identification, origin and occurrence.

GLY415 **Mapping Project**

This module builds on the field skills gained in module GLY223 and GLY 325 by further training geoscience students in field mapping, leading to a 4D understanding of the geological evolution of a field mapping area. The module empowers geoscience students to conduct an independent geological mapping project leading to the production of their dissertations. Topics covered include: Designing a field mapping campaign, a 3-week exercise of independent mapping of an area of about 10sq.km and report writing.

GLY416 **Global Paleo-environments**

This module provides students with knowledge on the nature, origin and changes of ancient environments on earth, including evolutionary processes and the environmental controls on species distribution using fossil and sediment archives. Topics in this module entail: Review of stratigraphy, sedimentology, geochemistry and palaeontology, an analysis of Earth's climate at various time scales of its evolution, development and use of proxies for environmental monitoring, ancient and modern environmental reconstructions and the ERAS as a case study.

GEO413 **Hydrology**

The module provides geoscience students with the physical principles of water flow on and under the surface of the earth, and the management of water resources. The module is critical for water budgeting. Topics covered include:

Scope and historical development of hydrology, the hydrological cycle, hydro-meteorological elements, drainage basins and channel networks, groundwater and surface runoff.

GLY421 **Advanced Structure and Tectonics**

This module builds on GLY322 by introducing the evolution of deformed terranes in space and time in the context of continuum mechanics of rocks. The understanding of the concept in this module has paramount significance to geotechnical and engineering works. Topics taught include: Geological displacements, relation of displacements to strain and deformation, strain analysis, kinematic analysis from fault slip data, stress theory, palaeostress analysis, rheology and analysis of multiple deformations.

GLY422 **Applied Geology**

This module introduces students to applications of geology in various disciplines such as mining, engineering and environmental geology and their significance in the Malawi context. Topics covered include: Mining geology, introduction to drilling techniques and core logging, geological mapping, mine site engineering and mapping, ore body models and modelling, blasting and mechanised excavation, mineral processing, engineering geology, rock mechanics, environmental geology and geohazards and geohazard risk assessment.

GLY423 **Geohazards**

This module provides students with knowledge of the main types of natural geohazards on earth, their causes and consequences. Coverage includes the following topics: Population growth and distribution of climatic hazards, understanding of common geohazards: earthquakes, tsunamis, volcanoes, landslides and coastal erosion and human consequences; urbanisation, environmental impact and risk assessment, business and insurance.

GLY424 **Basin Analysis and Petroleum Geology**

This module provides students with a comprehensive account of the formation of sedimentary basins and the accumulation of hydrocarbon deposits. The module is crucial as Malawi is in the process of exploring for potential existence of oil and gas in Lake Malawi. Topics taught include: Sedimentary basins, geophysical and structural analysis of sedimentary basins, reflection seismology, conventional hydrocarbon systems, transport-trap paradigm of hydrocarbons, organic geochemistry, burial history of hydrocarbons, reservoir geoscience in the African and Malawi context.

GLY425 **Dissertation**

This module builds on the field skills gained in modules GLY223, GLY 325 and 415 to train students in the design and execution of a research project and report writing. The module covers the following topics: Designing a research project, carrying out literature review, gathering primary data from laboratory analysis or fieldwork, analysing primary or secondary data, interpreting observations, justification of conclusions and presentation of a report

GLY426 **Advanced GIS**

This module builds on GLY 324 in the application of GIS skills in geological modelling and solving geological problems. The module covers the following topics: Measurements in GIS, queries, reclassification, neighbourhood functions, map overlays, rasterising and polygonisation, nearest neighbour analysis, drainage basin analysis, geomorphology; lengths, area, shape, aspect, slope, classification, buffering, multi-criteria evaluation and interpolation.

GEO423 **Biogeography**

This module provides a background to the field of biogeography and the ecological foundations needed to understand the distribution and abundance of species and their changes over time. The module covers the following topics: Description of the historical and ecological factors that influence the pattern of life on earth, appraisal of how evolutionary and climatic factors have shaped the distribution of organisms over geologic time; mapping the distribution and describe the nature of earth's major terrestrial biomes and a an analysis of how advances in palaeontology, climatology, evolution, plate tectonics and ecology have shaped the modern synthesis of biogeography.

Master of Science in Geosciences (Geography And Geology) by Research

The programme is offered to students with a good Bachelors Degree in related geosciences with at least more than two years of field experience after graduation.

Despite being a Masters program by research, remedial classes are held to strengthen students in the research methods and history of geographical thoughts where theoretical and conceptual frameworks are elaborated in addition to teaching them various philosophical and methodological perspectives within the discipline. The programme encourages students to be thinking and writing from the geo-scientific perspective. The duration of the programme is two years (24 months). The areas of research for the programme vary from one type of geosciences to another but being narrow enough for meaningful research.

Department of Human Ecology

Undergraduate Modules

Module Code	Module Name and Descriptor
HEFN 211	**Introduction to Foods** The course aims to help students understand and acquire knowledge in the science of food.
HEFN 221	**Introduction to Nutrition** The course aims to help students have in-depth knowledge and understanding of the basic nutrients and their roles in promoting and maintaining human health.
HEFN 312	**Community Nutrition** The course aims to help students get a holistic and detailed understanding of the nutritional problems affecting communities in Malawi and other developing countries.
HEFN 111	**Food Service Management** The course aims to enable students apply food science and management principles to plan and prepare nutritionally adequate and appropriate meals for different groups of people.
HEFN 112	**Experiments in Food Science** The course is designed to deepen studentss understanding of the physical and chemical properties of foods and their use in food processing.
HEFC 111	**Human Development** This course aims at enhancing students' knowledge and capabilities with which human development knowledge can be applied through various interventions to better the lives of children, youth, families and the elderly.
HEFC 112	**Introduction to Clothing and Textiles** The course aims to help students understand the importance of clothing, elements and principles of design, develop new designs by flat pattern methods and acquire skills in the selection of fabric and construction techniques.

HEFC 211 **Clothing and Textile Design**

The course aims at introducing students to the principles, approaches, skills and methods of constructing and designing apparel. Through theory and hands-on-experiences, the course takes students on the journey from basic to advanced knowledge, discovery and skills needed to fashion different clothing for different occasions and purposes.

HEFC 212 **Housing and Environment**

The aim of this course is to equip students with the knowledge and skills in housing issues and related problems with special emphasis on sound strategies to solve housing problems. The course covers factors that affect housing acquisition and provision in Malawi; the environment; building technology; and issues of gender in housing.

HEFC 222 **Family and Community**

This course aims at helping students to better understand how marriages and families work in contemporary societies in order to make meaningful contributions to enhance the quality of life and functionality of marriages and families.

HEFC 321 **Research methods**

This course aims at enabling students to gain in-depth knowledge and understanding of the theory and practice of research in food, nutritional and family sciences.

HEFC 322 **Theory and Practice in Early Childhood Education**

The course aims at developing students' abilities to effectively create quality learning experiences for the developing child in various set-ups.

HEFC 422 **Family Resource Management**

The course aims at providing students with skills and knowledge required in the critical analysis of resources and their management through ecological and systems perspectives.

HEFN 311 **Nutrition in the Lifecycle**

This course aims to examine and understand various nutritional needs of people from pregnancy, birth, infancy and childhood, adolescence, adulthood to old age

HEFN 322 **Nutritional Assessment**

This course equips students with in-depth understanding of principles of nutritional assessment and carry out nutritional assessment of individuals, households and populations using different methodologies and techniques.

HEFN 411 **Sensory Evaluation and Product development**

This course helps students understand and acquire skills in food product development and sensory evaluation.

HEFN 413 **Advanced Human Nutrition**

This course enables students to acquire in-depth knowledge and understanding of the absorption and metabolism of different nutrients in the human body.

HEFN 421 **Product development Project**

This course aims to help students understand and acquire skills in food product development and sensory evaluation.

HEFN 422 **Food Safety and Legislation**

The aim of the study is to equip students with relevant knowledge and skills in handling food to maintain its quality for the safety of consumers.

HEFN 423 **Nutrition and Disease**

This course aims to provide a deeper understanding and knowledge of the relationship and role of nutrition in managing and preventing various disease states.

HEFN 424 **Food and Nutrition Security**

This course equips students with in-depth knowledge and understanding of current food and nutrition security issues, and skills in developing, monitoring and evaluating food and nutrition security programmes, policies and interventions.

HEFC 221 **Developmental Assessment of Young Children**

This course aims at enhancing students' knowledge, capabilities and attitudes which can be positively applied in the various forms of assessment that children can be subjected to.

HEFC 311 **Consumer Education and Family Financial Management.**

The major aim of this course is to examine the various options in the financial world that consumers/families have to choose in order to improve their financial well-being.

HEFC 312 **Interior and Exterior Design**

This course aims at introducing and grounding students in the knowledge and skills of internal and exterior designing to the extent that they should be able to create and transform both interior and exterior environments in ways that would meet various aesthetic appreciations.

HOM 313 **Fundamentals of Fashion**

The aim of the course is to equip students with knowledge and skills of the fashion industry, design process, production, and marketing of the fashion product and how they can cope with the demand and supply of fashion products in a competitive market.

HEFC **Family Theories and Approaches**

The major aim of this course is to identify and analyse family theories and approaches to the study of contemporary families.

HEFC 411 **Research Project and Applied Statistics**

This course aims at providing students with skills and knowledge required for conducting research, analysing data as well as writing and presentation of research findings.

HEFC 412 **Family Dynamics and Gender**

This course aims at exploring elements that lead to change and adaptation of family living in light of the changing gendered socio-cultural and economic conditions of the society. The major focus is on the emerging issues of gender equality and equity, sexuality, HIV/AIDS and environment in relation to coping and survival strategies. Issues of changing family structures and relationships and domestic violence are discussed

HEFC 413 **Programme Design and Evaluation**

This course aims at providing students with skills and knowledge required for the planning, monitoring and evaluating family related programmes.

HEFC 421 **Policies for Children and Families**

The course aims at equipping students with knowledge and skills in analysing, appraising, creating and animating family and child policies.

HEFC 423 **Housing Policy and Economics**

This course aims at equipping students with knowledge and skills to analyse housing policy, economic and finance concepts for purposes of promoting decent living arrangements of individuals and families.

HEFC 424 **Gerontology**

This course aims at advancing students' knowledge and capabilities to effectively understand developmental issues and challenges of adulthood and aging such that they should be able to develop supportive activities and interventions to better the lives of families and the aging.

Department of Mathematical Science

Bachelor of Science in Mathematics

Year One

Module Code	Module Name and Descriptor
MAT111	**College Algebra**

The course provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent courses that require mathematics. The course covers in-depth college algebra that is needed for college mathematics.

MAT121 **Trigonometry and Elementary Calculus**

The course provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent courses that require mathematics. The course covers trigonometry as well as introduce basic calculus concepts.

The prerequisite is MAT 101

Year Two

MAT211 **Calculus I**

The course aims at developing concepts in calculus to equip students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical courses.

The prerequisite is MAT 121

MAT212 **Discrete Mathematics with Applications**

In contrast to the continuous real number line from calculus, discrete mathematical structures are made up of distinct, separate parts. The instructor chooses a few topics to cover from the many available discrete mathematics topics, including mathematical language and syntax, proofs and logic, circuits, cryptography, graphs (i.e., relationships among people, agencies, machines, etc.), number theory and combinations and permutations. The relationship of mathematics to computer science features prominently.

MAT213 **Mathematical Computing**

This course gives students basic knowledge in computing software used to solve mathematical problems. The course introduces students to different mathematical packages that are used to solve problems that do or do not have analytical solutions.

MAT221 **Calculus II**

This course aims at providing students with advanced skills and knowledge in calculus for the study of other mathematics courses. The course enables students to learn the application of mathematics in biology, ecology and dynamical systems.

MAT222 **Introduction to Linear Algebra**

This course provides students with the mathematical background needed for further study of mathematics. It mainly introduces students to matrix theory which is one of the most used in natural sciences.

MAT223 **Introduction to Financial Mathematics**

The course introduces students to fundamental concepts in financial theory and corporate decision making. Students attain advanced knowledge in the application of mathematics to finance. This knowledge lays the basis for academic advancement in the field of financial mathematics.

Year Three

MAT311 **Introduction to Real Analysis**

This course develops the theory of calculus rigorously from basic principles, giving students the ability to construct, analyse and critique mathematical proofs in real analysis.

MAT312 **Ordinary Differential Equations with Applications**

This is an introductory course in ordinary differential equations with application to the social and natural sciences. The emphasis is on formulation of equations (modelling), and analytical and graphical solutions (prediction). Phenomena in the natural sciences are modelled and interpreted by using the techniques in differential equations. MATLAB can be used to carry out computational experiments.

MAT313 **Number Theory**

The course introduces students to elementary number theory concepts and applications. Specifically, the course helps students delve deep into the structure and nature of numbers, and explore relationships among them.

MAT314 **Linear Optimisation**

The course provides students with techniques for obtaining solutions for models in mathematical programming, and to demonstrate their application in decision-making problems.

MAT315 **Linear Algebra with Applications**

This course prepares students for high level mathematical operations in topics such as matrices, determinants, systems of linear equations and Gaussian elimination, vector spaces, linear independence and many more other topics. Furthermore, the course introduces students to areas where linear algebra can be applied in social and natural sciences. The course also uses computing software to solve some problems.

MAT321 **Dynamical Systems**

The course provides students with knowledge and skills in the analysis of dynamical systems and the qualitative study of differential equations. Thus, students are able to find solutions of nonlinear dynamical systems and use various tools for the analysis and control of nonlinear systems. Furthermore, students learn to implement nonlinear dynamical systems in any computing software.

MAT322 **Multivariable Calculus**

This course covers the differential and integral calculus of functions of several variables. The primary objective of study is the derivative of functions of many variables. Students apply this knowledge to study the curvature of curves and surfaces as well as optimisation problems from other fields. The course is designed to equip students with analytical skills on functions of several variables and their graphical representations and applications in statistics and modelling.

MAT323 **Numerical Analysis**

This course is designed to enable students understand numerical methods for solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Students are also introduced to how they can implement numerical methods to solve different problems in computing software e.g. Matlab.

MAT324 **Abstract Algebra**

This course introduces students to the language of modern mathematics through the study of groups, group actions, the theory of rings and fields and with applications to number theory.

STA324 **Research Methods**

This course introduces students to general scientific research terminology, concepts and techniques. Students are required to do a project at the end of their studies and this course is a solid foundation towards that.

Year Four

MAT411 **Financial Mathematics**

The course provides students with an understanding of risk assessment and management in a financial institution. It also introduces students to asset pricing models and some other important models in finance.

MAT412 **Mathematical Modelling**

The module is designed to equip students with mathematical concepts, techniques and methods used in solving real life models. This gives students the platform to appreciate the relevance and application of mathematics in real life. It covers different topics in natural and social sciences that are analysed using mathematical techniques.

MAT413 **Introduction to Coding Theory and Cryptography**

This course equips students with knowledge and skills of various coding schemes and encryption systems. The course covers basic coding and cryptography concepts and schemes used in modern communication systems and networks.

MAT414 **Real Analysis**

This course builds on concepts and principles in the Introduction to Real Analysis module and presents real world applications for real analysis.

MAT415 **Partial Differential Equations**

This course introduces students to fundamental concepts of partial differential equations (PDEs) theory and analytical methods for solving physical problems that result in PDEs. It also enables students interpret solutions of PDEs as well as use mathematical software to find numerical solutions to some problems that use PDEs.

MAT421 **Graph Theory**

This course introduces the basic terminology and theories in graph theory. It links graph theory across the mathematical spectrum from parts of pure mathematics such as abstract algebra and topology, to parts of mathematics focusing on applications such as operational research and computation, through to other areas of science such as chemistry, biology and electronics.

MAT422 **Complex Analysis**

This course develops the theory of complex-valued functions, and emphasises on their geometric properties and indicating some applications. It further introduces students to a variety of operations, analyses and problems that may arise within the context. The course also enables students to apply some techniques and skills learnt in calculus and real analysis.

MAT423 **Calculus of Variations and Nonlinear Differential Equations**

The course enables students to master the techniques of solving calculus of variation problems and nonlinear ordinary differential equations. In addition, the course offers knowledge of the optimisation theory and applications in real life.

MAT424 **Mathematics Research Project**

The project is undertaken during the second semester in the fourth year of study and is equivalent to one course unit. A satisfactory research report must be completed, marked by both the student's supervisor(s) and the external examiner,

and presented in a final oral examination. The project is graded independently out of a maximum of 100 marks distributed throughout the course.

STA424 **Project Monitoring and Evaluation**

The aim of this module is to enhance students' knowledge and skills in methods for planning, monitoring and evaluating programmes. Students are expected to be able to analyse key elements of a project, develop a plan for a project and analyse the process of planning, monitoring and evaluating

Bachelor of Science in Statistics

Year One

Module Code	Module Name and Descriptor
LAN112	**Listening and reading skills for Science**

The aim of this module is to develop students' English language competence and generic skills appropriate to science. It enables students to develop critical listening skills, analyse critically texts of various patterns, and carry out note-taking and how to deal with heavy text and word texting.

COM113 **Introduction to Computer Applications**

This module aims at imparting knowledge and skills of ICT concepts and applications. It is designed to equip students with ICT background knowledge, including application of different software packages, describe computer components and computer types. It also introduces students to the Internet and the World Wide Web, types of information systems, database and introduction to software packages.

MAT111 **College Algebra**

The aim of the module is to provide students with the background needed for further study of mathematics and statistics. Students should be able to present a comprehensible mathematical argument using appropriate mathematical symbols, interpret different operations in set theory, manipulate functions and graph them and set up equations and solve them.

STA111 **The Statistical System**

The aim of this module is to provide students with an overview of statistics as a discipline and its application within the National Statistical System (NSS)

in Malawi. It explains functions of the NSS and explains important statistical information for decision making at all levels. Students should also be able to choose an appropriate data collection technique depending on the objectives of the collection and ensure quality in data collection.

LAN122 **Writing and Oral Skills for Science**

The aim of this module is to develop students' English language competence and generic skills appropriate for the National Statistics System. Students should be able to express themselves orally and in writing, searching and utilising information using appropriate techniques and evaluate team skills of themselves and others. It also provides skills on how to reference in academic writing, but also develop their speaking and oral presentation skills.

COM123 **Introduction to Computer Programming**

This module provides students with skills to analyse computer programme requirements; design algorithms using various techniques; code and test simple computer programmes. Preferably, C++, JAVA or any other object-related related programming language can be used to demonstrate the concepts.

MAT122 **Trigonometry and Elementary Calculus**

The aim of this module is to build the background needed for further study of mathematics and its application in statistics, computer science and other disciplines. Students should be able to manipulate trigonometric functions and graph them, evaluate limits of functions, differentiate elementary functions (single variable), integrate elementary functions (single variable) and apply calculus to solve various real life problems.

STA121 **Descriptive statistics**

The aim of this module is to introduce students to basic descriptive statistical analysis. Students are expected to produce descriptive statistical analysis, including summary statistics, tables and graphs, interpret common summary statistics, particularly measures of variation, and apply descriptive statistical analysis tools to answer practical questions.

Year Two

MAT211 **Calculus I**

The course aims at developing concepts in calculus to equip students with sufficient mathematics knowledge that will enable them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical courses.

MAT212 **Discrete Mathematics with Applications**

This module provides students with foundations of discrete mathematics. It enables them to solve counting problems using counting techniques, apply the pigeon-hole principle, graph theory and difference equations ideas in solving real life problems.

STA211 **Foundation to Probability and Statistics**

The aim of this module is to provide students with an understanding of basic ideas about probabilities and elementary probability distributions and their uses. Students should be able to explain basic concepts of probability and probability distributions as well as derive measures of central tendency and variation given a particular probability distribution.

ECO211 **Index Numbers and Economic Statistics**

The aim of this module is to provide students with skills in producing index numbers; understand their advantages and limitations; understand National Accounts, how they are compiled as well as the work involved in the production of other economic statistics. Students should be able to describe the process of compiling National Accounts, and discuss how GDP is calculated, including discussion on social accounting matrices.

STA221 **Introduction to statistical hypothesis testing**

The aim of this module is to enable students understand and apply basic statistical concepts that are central to making sample–to- population inferences in an effective way, while quantifying the extent to which the results reflect the true character of the population. Students should be able to explain the basic statistical concepts underlying the estimation of population, use concepts in testing hypothesis for comparing two means or two proportions, for samples assumed to be drawn at random from infinite populations, conduct tests for independence between two categorical variables and conduct non-parametric tests.

STA222 **Basic Demographical and Epidemiological studies**

The aim of the module is to provide students with an understanding of basic ideas about demographic, vital statistics and epidemiology that appear in various forms. Students should be able to explain basic concepts of demography and epidemiology, calculate, differentiate and interpret between; rate, ratio and proportions; and apply the demographic and epidemiologic methods in National Statistics Systems.

MAT221 **Calculus II**

This course aims at providing students with advanced skills and knowledge in calculus for the study of other mathematics courses. The course enables students learn the application of mathematics in biology, ecology and dynamical systems.

COM222 **Database Systems**

This course introduces students to the foundations of database systems, focusing on basics such as database management systems, entity relationship modelling, relational algebra and data model, schema normalisation, query optimisation and transactions. An understanding of databases is essential in the development of simple and complex software solutions that must store, retrieve and process data.

MAT222 **Introduction to Linear Algebra**

This module provides students with skills for solving systems of linear combinations of different variables. Student should be able to compute determinants and inverses of matrices; solve systems of linear equations using matrices; apply linear algebra to solve practical problems and perform matrix algebra.

Year Three

MAT315 **Linear Algebra with Applications**

This course prepares the learners to high level mathematical operations on topics such as matrices, determinants, systems of linear equations and Gaussian elimination, vector spaces, linear independence and many more other topics. Furthermore, the course will also introduce students to areas where linear algebra can be applied in social and natural sciences. This course also uses computing software to solve some problems.

STA311 **Mathematical Statistics**

This module provides students with a thorough mathematical basis for the study of statistics. It enables students to analyse moments and probability generating functions of various distributions. In addition, it helps them to state and prove fundamental theorems concerning probability.

STA312 **Sampling Theory and Methods**

This module equips students with skills in efficient sampling procedures. It aims to provide a good understanding of decisions to be made before survey implementation, and reasons for these decisions, so that they are defensible in light of survey objectives and available resources.

STA313 **Correlation and Simple Linear Regression**

This module provides students with skills in modelling data using linear regression models. It enables students to understand the philosophy behind linear regression, fit a simple linear regression model, interpret parameter estimates in a fitted regression model, perform model diagnostic tests and implement the regression analysis in a statistical package.

STA314 **Statistical quality control**

This module introduces students to various statistical approaches used in quality control. It enables students to perform quality assurance statistical tests for process and output of a system, apply quality measures in decision making about quality improvement of services and products.

MAT322 **Multivariate Calculus**

This module covers the differential and integral calculus of functions of several variables. The initial objective of study is the derivative of functions of many variables. Students apply this knowledge to study curvature of curves and surfaces as well as optimisation problems from economics. The module is designed to equip students with analytical skills in functions of several variables and their graphical representations and applications in statistics and modelling. The module emphasises motivation and concrete applications.

STA321 **Time Series Analysis**

The aim of the module is to provide students with an overview of time series data within the National Statistical System (NSS) in Malawi and introduce students to descriptive time series analyses. Students should be able to differentiate different types of time series data, elaborate objectives of time series data, summarise and interpret time series data by computing basic descriptive statistics, build and smooth time series data from simple graphs and computations, and perform time series data analyses using MS Excel.

STA322 **Introduction to Statistical Computing using R**

This course introduces students to basic data analysis using R. Students familiarise themselves with basic R operations, manipulate data, carry out basic data descriptions and perform hypothesis tests in R.

STA323 **Multiple Linear Regression**

This module provides students with skills in modelling data using linear regression models. It enables students to understand the philosophy behind linear regression, fit multiple linear regression models, interpret parameter estimates in

a fitted regression model, perform model diagnostic tests and implement the regression analysis in a statistical package.

STA324 **Research Methods**

This module introduces students to general scientific research terminology, concepts and techniques. Students are required to do a project at the end of their studies and this module is a solid foundation towards that.

Year Four

STA411 **Distribution Theory**

This module provides students with mathematical theory governing probability distributions. Students should be able to derive distribution functions for random variables via various transformation techniques, understand the connection between various standard distributions, find properties of distributions and derive some limiting results and apply matrix algebra in distribution theory.

STA412 **Introduction to Categorical data analysis**

This module provides students with understanding of theory and methods for analysing categorical data. Students should be able to describe discrete random variables, compute measure of effect based on frequency tables, perform maximum likelihood estimate of parameters and apply relevant statistical methods for categorical data.

STA413 **Introduction to Survival Analysis**

This module emphasises the practical aspects of analysing survival data and interpreting models, but the underlying theory is explained as appropriate. In practical sessions, participants apply the methods covered to a simulated clinical trial and to report on the results. The statistical package SAS is used to illustrate the methodologies in the presentations and for practical work. R and Stata may also be used for practical work.

STA414 **Case studies, Research & Statistics Practice**

This module provides students with practical research experience in statistical methods and probability modelling. It enables students to identify research issues on which to design a study, choose appropriate methods for a research study and design and implement a research study.

STA421 **Statistical Inference**

This module provides students with an understanding of mathematical principles underlying inferential statistics. It enables students to devise techniques and formulae for estimating population parameters and devise test statistics for hypotheses.

STA422 **Experimental Designs and Analysis**

This module provides students with statistical methods relevant in experimental designs. It enables students understand statistical issues in experimental designs, describe the distinguishing features and select appropriately among various experimental designs and understand implications of different models presented with various experimental designs.

STA423 **Statistics Research Project**

This module enables students to demonstrate knowledge and skills acquired in the programme through a concisely written scientific report. Students should be able to demonstrate ability to review literature, identify a problem for research, formulate objectives and research questions, design data collection protocol, analyse and interpret data as well as discuss and summarise results. Students should also be able to disseminate findings to relevant audience orally and in writing.

STA424 **Project Monitoring and Evaluation**

The aim of this module is to enhance students' knowledge and skills in methods for planning, monitoring and evaluating programmes. Students should be able to analyse key elements of a project, develop a plan for a project, and analyse the process of planning, monitoring and evaluating projects.

Bachelor of Science Honours in Mathematics

This programme is offered occasionally depending on the availability of students and teaching staff in a particular year. Courses offered include:

MAT510: Functional Analysis

MAT520: Further Abstract Algebra

MAT 530: Measure Theory

MAT540: Number Theory and Graph Theory

The prerequisites are MAT401, MAT412, MAT431, MAT422

Bachelor of Science Honours in Statistics

An Honours in Statistics can be regarded as both an undergraduate and graduate training in Statistics. It is intended to give advanced specialised training to fresh graduates with majors in Statistics, hence it is viewed as a fifth year module in Statistics. Former graduates can apply for such one-year training in Statistics, in which case it is viewed as a postgraduate diploma in Statistics.

A total of seven syllabi are presented, each varying in size from thirty to ninety contact hours. The modules offered are as follows.

Module Code	Module Name and Descriptor
STA 510	**Time Series Analysis and Forecasting**
	The aim of study is to equip students with the theory of time series methods and the ability to use such models. Topics of study include aims of time series analysis, forecasting and control, stationarity and non-stationarity of series, autoregressive and moving average models, model identification, parameter estimation, and forecasting.
STA 520	**Experimental Design**
	The aim of study is to provide students with the skills to identify appropriate criteria to use in the design of scientific experiments and to select efficient designs. Topics of study include completely randomised, randomised block and latin square designs, factorial design and confounding, agricultural and medical studies, selection criteria, sample size, Taguchi methods, planning and implementation of experimental designs.
STA 530	**Frequency Data and Survival Analysis**
	The aim of study is to equip students with a thorough understanding of the statistical theory of a variety of methods for the analysis of categorical data and survival data. Topics of study include sampling schemes for two-way tables, partitioning Pearson's chi-square test statistic, Log-linear models, Logistic regression models, and proportional hazards models for survival data.
STA 540	**Probability Theory and Stochastic Processes**
	The aim of this module is to equip students with a thorough foundation in the mathematics of probability theory and stochastic processes. Main topics of study include mathematical foundations, Martingale theory and Markov processes.
STA 550	**Multivariate Data Analysis Methods**
	This module is designed to introduce students to a variety of methods for the analysis of multivariate data for exploring relationships within one or more

populations. Topics of study include multivariate distributions, matrix algebra and multivariate distances, principal component analysis, factor analysis, discriminant function analysis, and cluster analysis.

STA 560 **Analysis of Variance and Linear Regression**

The aim of the module is to provide students with thorough knowledge of the statistical theory of linear models used in analysis of variance and linear regression. Topics of study include matrices and their use in deriving estimates in these models, orthogonality, correlation and unbalanced designs, model nomenclature, assessing relative and absolute goodness of fit, multiple comparisons and contrasts, Nested and hierarchical designs, and effects of departure from assumptions.

STA 570 **Statistics in Practice**

The module aims to enable students to develop an integrated statistical approach to the investigation of real problems, and to develop skills for report writing and communication of statistical results to non-statisticians. A major component of this module is project work in which data from local studies is analysed and reported. Topics of study include identification of objectives, preliminary examination of data, modelling, analysis and computation using statistical software, communication skills for consultation, collaboration and report writing.

Master of Science in Mathematical Sciences

Year Six and Seven

This programme is offered occasionally depending on the availability of students and teaching staff in a particular year. Modules offered include:

Module Code	Module Name and Descriptor
MAT 611	**Knot Theory**

Topics: Introduction to knots and links, problems of knot theory, pomposition of knots, knot diagrams and invariants, Reidemeister moves, linking, twisting, and writhing and linking numbers, knot polynomials, standard unknotting sequences, braids, geometry of DNA. *Pre-requisite: Abstract Algebra or Discrete Mathematics*

MAT 612 **Matroid Theory**

Topics: Independent sets and circuits, bases and rank of matroids, closure, geometric representations of matroids, duality and the duals of graphic matroids, minors, characteristic polynomials, Tutte polynomials. *Pre-requisite: Linear Algebra (or Discrete Mathematics), Co-requisite: MAT 631*

MAT 621 **Measure and Probability Theory (or STA621)**

Topics: Topological spaces, Boolean algebras, s-algebras and probability spaces, measures and measurable functions, random variables, product measures and independence, sequences of measurable functions, integration, conditional expectation, convergence theorems, the weak and strong convergence. *Pre-requisite: Functional Analysis (or Real & Complex Analysis) and Mathematical Statistics*

MAT 622 **Algebraic Graph Theory**

Topics: Structure preserving maps, automophisms, involutions, graph products, retracts, line graphs, representing graphs as groupoids, vertex transitive graphs and Cayley graphs. *Pre-requisite: Abstract Algebra (or Discrete Mathematics) and MAT 631*

MAT 631 **Advanced Graph Theory I**

Topics: Graphs, digraphs and various special graphs, connectedness (paths and cycles), k-connectedness and n-edge-connectedness, and Menger's theorem; trees and their characterizations, planarity, Eulerian graphs and their characterizations, Hamiltonicity in graphs, matchings and colourings and network theory. *Pre-requisite: MAT 631*

MAT 632 **Advanced Graph Theory II**

Topics: Cycle double cover, Fleischner theorem & splitting lemma, Chinese postman problem, travelling postman problem, NZ-Flow theory. *Pre-requisite: Abstract Algebra (or Discrete Mathematics) and MAT 631*

MAT 641 **Stochastic Processes (or STA641)**

Topics: Type of stochastic processes, communication, periodicity, ergodicity, random walks, Poisson processes, renewal theory, Poisson & exponential random variables, Markov chains, Birth-and-death processes, martingales, Brownian processes, stochastic simulation, stochastics in biological sciences. *Pre-requisite: Mathematical Statistics, Co-requisite: MAT 621*

MAT 642 **Queueing Theory (or STA642)**

Topics: Mathematics for queueing theory, performance measures, deterministic models, Markov queues, M/G/1 model, G/M/1 model, multi-server models, batch queueing models and queueing networks. *Pre-requisite: MAT 641*

MAT 651 **Financial Mathematics (or STA 651)**

Topics: Concepts in financial mathematics; pricing of derivatives, forwards, futures, and options; analysis of interest rates and present value analysis, arbitrage theorems, Ito's lemma, Black-Scholes equations and numerical methods. *Pre-requisite: Functional Analysis (or Real & Complex Analysis), Mathematical Statistics and MAT 641*

MAT 652 **Optimisation (or STA 652)**

Topics: Product mix problem, crop mix problem, diet problem, investment problems, transport problem, geometrical interpretation of linear programming, linear equations and linear inequalities, the simplex algorithm, duality and sensitivity analysis, the dual simplex algorithm, parameter changes and their effects on solutions, minimum cost and maximum flow through a network, the assignment problem, the shortest path problem, minimal spanning tree problem, unimodularity property and the branch-and-bound method duality. *Pre-requisite: Linear Algebra or Discrete Mathematics*

MAT 653 **Nonlinear Optimisation**

Topics: Preliminaries, fundamentals of optimisation in $R^{n,}$, existence of solutions: The Weierstrass Theorem, unconstrained optimisation and solution methods, constrained optimisation and optimality conditions: The KKT conditions and convexity and optimisation.

MAT 661 **Cryptography I**

Topics: Modular arithmetic, Chinese remainder theorem, finite fields, primality tests, symmetric and asymmetric cryptography, hash functions and random number generators, public-key cryptography: trapdoor one-way functions, RSA encryption, attacks against RSA, probabilistic RSA encryption, optimal asymmetric encryption padding, RSA signatures, cryptography based on discrete logarithm: discrete logarithm problems, Diffie-Hellman, ElGamal's encryption, ElGamal's signature scheme, Digital Signature Standard and their efficient implementation and elliptic curve cryptography: introduction to elliptic curves, elliptic curve cryptography, pairing-based cryptography.

MAT 671 **Fluid Mechanics I**

Topics: Introduction to fluid mechanics: nature of fluids, continuum model, flow visualization, fluid statistics; ccompressible flows: derivation of equation of motion, vorticity, stream functions, circulation, potential flows; incompressible flows: Navier Stokes equations, special solutions; introduction to boundary layer theory; computational fluid dynamics: implementation of finite differences, finite element; applications of fluid mechanics: survey of Biofluid mechanics, geophysical fluid flow.

MAT 672 **Fluid Mechanics II**

Topics: Introduction to hydrodynamic stability theory and methods; linear inviscid stability theory: stability of parallel flows, thermal instability (Bernard problem) and centrifugal instability (Taylor and Dean problems); linear viscous stability theory: derivation of Orr-Sommerfeld equation; weakly non-linear theory: derivation of Landau's equation; computational fluid dynamic: implementation of matrix eigenvalue problems.

MAT 682 **Computational partial Differential Equations**

Topics: Numerical approximation of the transport equation, numerical analysis of the heat equation, finite difference approximation of the wave equation, finite difference approximation of Poisson's equation, discussion of second order PDEs in two and more space dimensions, weak derivatives and Sobolev spaces, weak formulation of Poisson's problem and abstract existence theory and Galerkin schemes and the finite element method.

STA 611 **Advanced Statistical Inference**

Topics: Classical inference- Parameters and parameter spaces, maximum likelihood estimators, sufficiency, hypothesis testing, regression models; Model selection and prediction- Forward, backward and stepwise selection procedures; selection criteria including Mallow's Cp, Akaike's Information Criterion (AIC), Bayesian Information Criterion (BIC); Deviance Information Criterion (DIC); cross-validation, and applications to classification and regression trees; model averaging; The Bootstrap- the parametric bootstrap; the jackknife and its relationship to the bootstrap; Bayesian statistics- Introduction and overview of Bayesian inference; point and interval estimation; choosing a prior and conjugate distributions; sufficiency and ancillarity. Statistical decision theory. Mathematical formulation; criteria for decision rules: admissibility, unbiased rules, minimax and Bayes' rules. *Pre-requisite: Undergraduate Mathematical Statistics or Advanced mathematics module*.

STA 612 **Analyses of Correlated Data**

Topics: Nature of correlated data- data collected over time or space, group randomizations, cluster sampling, nested designs, or random effects assumptions; Statistical treatment of clustered data –aggregation, modelling; Modelling-Random effects models; Multilevel modeling; Longitudinal modeling; Spatial modeling. Generalized linear/additive mixed models; Discussion of graphical data exploration, correlation structures, parameter estimation / testing / inference, model selection and interpretation, diagnostics, and model limitations. Statistical modeling will be done using known statistical packages-eg. R, Spss, WinBugs, BayesX; *Pre-requisite: STA 611*

STA 621 **Measure and Probability Theory (See MAT 621)**

STA 622 **Statistical Models in Epidemiology**

Topics: Probability models, conditional probability models, Likelihood, consecutive follow-up intervals, confounding and standardization, individually matched case-control studies, tests for trend, introduction to regression models, Poisson and logistic regression, Cox's regression analysis, time-varying explanatory variables. *Pre-requisiteUndergraduate Applied and Mathematical Statistics*

STA 631 **Discrete Data Analysis**

Topics: The analysis of two-way contingency tables - random counts, cross-sectional studies, prospective studies, retrospective studies, chi-square, exact tests and measures of association; models for binary response variables - logistic regression, conditional logistic regression, generalized linear models; log-linear analyses, multinomial response models and models for matched pairs. *Pre-requisite: Undergraduate Applied and Mathematical Statistics*

STA 632 **Survival Analysis**

Topics: Survival data examples, censoring, survival function and hazard function, Nelson-Aalen and Kaplan-Meier estimators, counting process and Martingale formulation, comparing two failure time distributions, non-parametric estimation and hypothesis testing, Cox regression model, semi-parametric regression - Cox proportional hazards model, Multiplicative intensity model, partial likelihood, estimation of hazard and survival functions, large sample theory; multivariate failure time data, parametric models and Weibull models. *Pre-requisite: Undergraduate Applied and Mathematical Statistics*

STA 641 **Stochastic Processes (See MAT 641)**

STA 642 **Queuing Theory (See MAT 642)**

STA 651 **Financial Mathematics (See MAT 651)**

STA 652 **Optimisation (See MAT 652)**

MAT 700 or STA700 **Research and Dissertation**

Students may choose any relevant topic of their interest in areas of mathematical sciences or a topic suggested by a supervisor. The dissertation topic may vary from a theoretical to an applied one. The final submission is expected to be made within twenty four months of registration. Focus: Demonstration of clear understanding of the problem, adequate grasp of theoretical concepts, relevant application of accepted knowledge, logical analysis of information, logical flow of ideas, paragraphs and chapters, ability to display relevant illustrations, effective use

of mathematical language, generating new analytical techniques or knowledge, ability to summarise the main issues and using effective communication skills. *Pre-requisite: Passes in any seven of the above listed taught modules.*

Master of Science in Biostatistics

Year Six and Seven

This programme is offered in block releases. Modules offered include:

Module Code	Module Name and Descriptor
STA6101	**Statistical Computing & Data Management**
	Topics: Statistical Packages: SPSS, STATA, R, GENSTAT, EPI INFO, etc., study and questionnaire designs, database management packages: MS ACCESS, FOX PRO, CS PRO, etc., data management procedures: training, pre-test, fieldwork procedures; data submission; data cleaning & entry, data storage, filing, back-up, data archive and data checking; types of data – numeric, categorical, nominal, etc. *Pre-requisite: Undergraduate Applied and Mathematical Statistics*
STA6201/STA6301	**Practical Statistics/Data Analysis**
	Topics: Exercises (on basic core materials in first semester; more general later), basic ideas of data handling, tabulation and display, graphical methods of display (box-plots, scatter plots & matrices, smoothing), data transformations; treatment of outliers (down weighting, removal), robust estimation of summary statistics and relationships (resistant line fits), communication with clients and oral presentation, report writing & oral presentation (individually or jointly with other students), role-plays as practicing statisticians and involvement in project teams and use of spreadsheets (e.g. Excel) and statistical packages.
STA6102	**Probability and Distribution Theory**
	Topics: Probability: definitions; rules of probability and Bayes' theorem, random variables: definitions, types & probability, distribution functions, bivariate and multivariate random variables and distributions: marginal, conditional distributions; independence; covariance and correlation, conditional expectation, multinomial, multivariate normal, variate transformation and distribution function techniques, moments of distributions and their properties; moment generating functions, characteristic functions, cumulants, distributions; Inversion theorems, distribution of order statistics, sampling distributions of the mean and related functions and limiting distributions, multivariate normal and non-central distributions.

STA6103 **Generalised Linear Modelling**

Topics: General Linear Models: linear regression, ANOVA, relationships, fitting linear models: least squares estimation, over-parameterisation, estimation of variance, reduced models, replicates and lack of fit, weighted and generalized least-squares estimation, transformations; selection of variables; residuals; influential observations, interpreting the fitted model: properties of parameter estimates; CI, comparison of models: nested models; extra sums of squares; lack of fit test, orthogonality; multicollinearity, comparing regressions, sequential methods, GLIM software package, indicator variables and logistic models: binary data; Log-linear models: multi-way tables.

STA6104 **Experimental Designs**

Topics: Design of experiments: general theory of block designs, block structure, randomization, strata, random blocks, treatment structure, completely Randomised Designs: treatment estimates, confidence intervals, degrees of freedom, analysis of variance, principles of good design: randomization, replication, blocking, orthogonality, orthogonal Designs: randomized complete block designs, Latin squares, treatment Contrasts: linear and quadratic effects, factorial structure, factorial experiments: main effects, interactions, hidden and fractional replication, response surfaces and Taguchi methods.

STA6105 **Statistical Inference**

Topics: Inference: Principles of estimation; exact and large sampling distributions, testing hypotheses: hypotheses, critical regions, power, significance tests, point estimation: Properties of estimators: bias, mean square error, efficiency, consistency, sufficiency, minimum variance (unbiased) estimators, Cramer-Rao lower bound; Rao-Blackwell Theorem, interval estimation: confidence intervals and relationship to hypothesis testing, estimation methods: Least Squares, Maximum likelihood, Generalized Least Squares, Bayesian estimators; interval estimation: pivotal method, likelihood technique, central limit theorem and Formulation of hypotheses: simple and composite hypotheses, best critical regions, Neyman-Pearson Lemma, Generalised likelihood ratio testing.

STA6106 **Non-parametric Methods**

Topics: One-sample tests: theory, Ordinary sign tests; Wilcoxon; normal approximation, (un)restricted random assignment to treatment blocks, two-sample tests: theory, population, randomization and measurement models; Wilcoxon; Mann-Whitney; normal approximation; (asymptotic) power of the tests; Efficiency of Wilcoxon; Hodges-Lehmann estimators; Siegel-Turkey test, Ansari-Bradley test; Smirnov test, Kolmogorov-Smirnov test, Smirnov null distribution for ties, two-sample rank tests: Equivalent, Fisher's Exact, Mantel-Haensezel; linear, types of scores: Fisher-Yates, normal scores; Van der Waerden normal; asymptotic efficiency; exponential scores, salvage and log-rank statistics,

testing equality against ordered alternatives: Kruskal-Wallis, Jonckheere-Terpstra; Chacko-Shorach statistics, randomized complete blocks: Friedman, Cochran and McNemar statistics and tests of randomness and independence.

STA6202 **Discrete Data Analysis**

Topics: Introduction to binary data and multi-way contingency tables, Chi-square and exact tests (theoretical derivations; use in contingency tables), measures of association (risk, odds ratios and other measures), logistic regression (theoretical derivation of model; single and multiple predictor models; interpretation of regression coefficients; checking model assumptions and fit; case-control studies; more than 2 outcome levels) and log-linear analyses

STA6203 **Survival Data Analysis**

Topics: Survival data; why not linear or logistic? Survivor function, censoring, hazard functions & ratio, cumulative hazard function, Hazard's assumption, Kaplan-Meier survival curve, parametric models, comparison of two groups – log-rank test, Cox's Proportional Hazards Model: parametric vs. semi-parametric models; binary and multilevel predictors; survival times; hypothesis tests and confidence intervals, competing risks: extensions of Cox's regression model, fixed and time-varying covariates and checking model assumptions and fit: log linearity, proportional hazards.

STA6204 **Multivariate Data Analysis**

Topics: Multivariate data summary and graphical displays, multivariate normal distributions; estimation of mean and covariance, one and two sample problems, analysis of variance, reduction of dimensionality; Principal Components and Factor analysis, cluster Analysis, discrimination and classification, correlation: partial, multiple and canonical and non-metric problems; clustering and scaling.

STA6205 **Longitudinal Data Analysis and Time Series**

Topics: Longitudinal studies: examples, notation, merits and approaches to analysis, design issues: bias, efficiency and sample size calculations, exploratory data analysis: graphs, fitting curves and correlation structures, general and generalised linear models for longitudinal data: correlated errors, weighted LSE, MLE, REML, parametric models for covariance structures, analysis of variance methods; marginal, random effects & transition models, missing values in longitudinal data: classification, testing for completely random dropouts, modelling the dropout process and time Series Analysis: tests of randomness, trends and seasonality, additive and multiplicative models; stationary series (serial correlations, *AR(p), MA(q), ARMA(p,q), ARIMA(p,d,q)* models, smoothing and forecasting.

STA6206 **Bayesian Data Analysis**

Topics: Introduction to Bayesian estimation methods: Bayes theorems; prior information; prior and posterior distributions; likelihood and ratios, hierarchical data and modeling; regression coefficients interpretation and classical and Bayesian analytic approaches; Bayesian information criterion.

Cases studies (each comprising a lecture and laboratory session): e.g. meta-analysis of clinical trials, longitudinal analysis of biometry.

STA6302 **Clinical Trials**

Topics: Historical background and the need for randomized controlled trials, Controlled clinical trials, uncontrolled trials, historical controls, pragmatic and explanatory approaches., protocols: content and ethical requirements, placebo, randomization, blinded trials, ethical issues, protocol deviations, sample size of clinical trials, interim analyses, multi-centre trials, within patient comparisons: blocking, cross-over designs, methods of Analysis: Intention to treat analysis, trial monitoring: safety monitoring, application of sequential methods, meta-analysis, theory and examples for normally distributed responses and bio-equivalence studies and repeated measures.

STA6303 **Statistical Models in Epidemiology**

Topics: Study designs in epidemiology and measures of effect, regression methods: linear, logistic, poisson and survival models; interpretation of measures of effect, regression coefficients, analysis of Cross-sectional/Prevalence Study data; odds ratio; logistic, analysis of Cohort study data; rate ratios, poisson regression, survival, analysis of Case-control study data: Unmatched and matched designs; unconditional and conditional logistic regression models and confounding and interaction effects.

STA6304 **Modelling Infectious Diseases**

Topics: Introduction to epidemiology of infections: characteristics of infections, infectious agents; characteristics of host individuals and populations, dynamics of infection: course of infection, direct and indirect transmission, transmission cycles, periods, types of epidemics, incubation periods, models in infectious disease epidemiology, transmissibility of infections: incidence and attack rates, secondary attack rate and its issues, reproduction rate measures, adaptation of indirect transmission, relationship between secondary attack rates and reproduction rate and practical problem on epidemic potential of a selected infectious disease.

STA6305 **Stochastic Processes**

Topics: Probability Theory; Conditional Probability and Conditional Expectation, stochastic Processes: notion, Specification, Stationary Processes, Markov Chains: Classification of states and chains, Transition probabilities, Stability of a Markov System – Limiting Behaviour, Markov Processes with Discrete State Space: Generalisations of Poisson Process and related distributions, , Birth and Death Process, Erlang Process, Markov Processes with Continuous State Space – Brownian Motion, Wiener Process, Kolmogorov Equations, Ornstein-Uhlenbeck Process and other Processes: Martingales, Renewal Theory and Branching Processes.

STA6306 **Spatial Statistics**

Topics: Spatial data: point-level, areal (lattice) and spatial continuous point process, exploratory data analysis tools, geostatistical modelling approaches: for point referenced data, areal data models; maps and other displays, conditional, intrinsic, simultaneous autoregressive (CAR, IAR, SAR) models, spatial autocorrelation; spatial prediction; statistical image analysis, hierarchical modeling: for univariate and multivariate spatial response data; Bayesian kriging and lattice modeling, non-stationarity (mean level depending on location), anisotropy (spatial correlation depending on direction as well as distance) and spatio-temporal and spatial survival models; Computer implementations via R.

STA6307 **Statistical Quality Control**

Topics: Quality control charts; control charts for attributes, multivariate control charts, acceptance sampling, analysis of means, process capability and miscellaneous control chart topics.

STA6308 **Simulation and Computer Intensive Statistical Methods**

Topics: Statistical simulation: generation of standard distributions, congruential method (multiplicative and mixed); probability integral transformation method and other exact distribution theory. normal: polar Marsaglia-Bray, Box-Muller. rejection method. Monte Carlo integration. Antithetic variates., design of simulations: Examples of simulation of systems (e.g. population dynamics, queues, etc). Markov Chains and point processes, Gibbs sampling, computer-Intensive methods in statistics: kernel density estimations: definition, examples, bias, MSE and IMSE, choice of kernel and smoothing parameter, computation via fast Fourier transform. kernel estimates for non-negative and circular data. Variable- and adaptive- kernel estimators. Kernel estimation in non-parametric regression, simulation testing: (Approximate) randomization tests, Monte-Carlo tests: examples, unbiasedness, power, number of simulated samples required, jackknifing: bias corrections, pseudo-values, approximate confidence intervals. Extension to 2- or more-sample problems, bootstrapping: the bootstrap strategy, sampling, empirical and bootstrap distributions. Percentile bootstrap: definition, use for confidence limits, relation to jackknife, application to hypothesis testing,

number of simulation samples required and variants: smoothed bootstrap, bias-corrected bootstrap. Computational aspects: balanced re-sampling; bootstrapping in linear models.

STA6309 **Programme Monitoring and Evaluation**

Topics: Definition and concepts of monitoring and evaluation, principal Types of monitoring and evaluation: formative, summative, frameworks for M & E: qualitative and quantitative evaluations, evaluation Plan: purpose, scope, goals and objectives; key elements; ethics, qualitative evaluation: in-depth interview, observation, focus group, simulated client and situation analysis approach; strengths and limitations, quantitative evaluation: main features, strengths and limitations and case studies: either on HIV/AIDS, reproductive health or poverty reduction.

STA6310 **Statistical Genetics and Bio-informatics**

Topics: The basic laws of genetics: mutation, inherited defects in man, persistence and geographical variation, effects of inbreeding, measures of relationship and identity, simple probability calculations for genetic counseling, population models, genetic linkage, mapping techniques, markers in counselling and probability calculations on complex pedigrees and the genealogical space.

STA6314 **Survey Design Methods**

Topics: Advanced sampling theory: discussion of sampling designs, sampling methods: statistical theory and development; efficiency; simple random sampling (derivation of properties of sample mean, proportion, ratio and regression estimators); stratified random sampling (properties of stratified sample mean, optimal strategy in proportional allocation); cluster sampling (theoretical properties; single and multi-stage cluster sampling), sampling fractions for each sampling methods; survey design methods, sample size determination for each design methodology, sample size for fixed costs; precision estimation, power of a test and measurement error: reliability, validity and scaling; Issues of non-response

STA6401 **Statistical Research Project**

Topics: This component, for the last 6 months of the programme, tackles either data analysis or development of statistical methodology based on real life practical problems.

Doctor of Philosophy in Mathematics, Applied Mathematics, Statistics and Biostatistics

This is a 3 - 5 year full time PhD programme by research. The programme is intended to produce a highly trained cadre of individuals who will contribute to knowledge generation in various fields of mathematical sciences. Graduates with MSc in Mathematics, Statistics or Biostatistics or First class BSc (Hon) in Mathematics or Statistics can apply for the PhD programme.

Department of Physics

Bachelor of Science in Physics

Year One

Module Code	Module Name and Descriptor
LAN112	**Reading and Listening Skills for Science**
	This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in physics and electronics. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.
PHY111	**Mechanics and Properties of Matter**
	The module provides students with the background needed for the further study of university level physics and other physical sciences. It exposes students to a beginning course in mechanics and properties of matter. Mechanics is broken down into its three components: Statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also introduced to the various groups of properties of matter.
MAT111	**College Algebra**
	The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It caters for the needs of students studying natural sciences. The module covers in-depth college algebra that is needed for college mathematics.
LAN122	**Writing and Oral Skills for Science**
	The module offers an interdisciplinary curriculum that enables students to develop strong writing and communication skills in related areas of actuarial such as: communication across organisations and technical operations, technical editing,

writing in social media and emerging technology for effective communication purposes. The module is designed to develop writing skills in students both individually and collaboratively as they engage in actuarial transactions and practice.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

This module provides students with the background needed for the further study of university level physics and other physical sciences. Student are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

MAT 121 **Trigonometry and Elementary Calculus**

The module provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent modules that require mathematics. It is designed to meet the needs of students studying natural sciences. The module covers trigonometry as well as introduce basic calculus concepts.

Year Two

PHY211 **Mechanics I**

In this module, students are presented with theoretical aspects of mechanics where they deal with motion of bodies. This course builds on the mechanics that the students cover in PHY 111 (Mechanics and Thermal properties of matter) which is a first year course. The course exposes students to a higher level of concepts of mechanics.

PHY212 **Thermal & Atomic Physics**

Thermal and atomic physics is a course that combines concepts from two branches of physics; thermal physics and atomic physics. Therefore, the module introduces students to concepts of thermal physics and atomic physics and prepares them for further studies in these branches of physics.

PHY213 **Practical in Mechanics and Properties of Matter**

This module requires students to do practicals and/or carry out research projects on topics covered in modules PHY211 and PHY 212. The research includes carrying out of experiments, report preparation (preparation, use of language, planning and layout, writing the report, review and editing).

ELE211 **Introduction to Analogue Electronics**

This module provides students with the theoretical background needed for the further study of analogue electronics. With the background provided, students should be able to demonstrate an understanding of the basics and applications of active devices, basic logic concepts and gates. Beyond this, they should be able to demonstrate an understanding of circuit theorems, and their application in the analysis of alternating and direct current circuits.

MAT211 **Calculus I**

The module develops concepts in calculus and equips students with sufficient mathematics knowledge that enables them apply calculus techniques to everyday problems as well as to meet the mathematical needs of students in studying other mathematical modules. The module caters for the needs of students studying natural sciences.

PHY221 **Electricity and Magnetism I**

This module provides a deeper understanding of concepts of electricity and magnetism. It builds on the concepts covered in PHY121 (Vibration and Waves &Electricity and Magnetism). The module enables students to be able to, among others, explain how generators and motors function and how inductor-resistor-capacitor circuits operate.

PHY222 **Physical Optics and Doppler Effect**

This module provides grounding to students in concepts of physical optics and Doppler Effect. In this module, students study concepts of physical optics and Doppler Effect. Under physical optics, students study concepts such as : basic properties of waves and polarisation of waves. Having studied the concepts on waves, students also cover concepts on Doppler Effect.

PHY223 **Practical/Research project in Physics II**

This module requires students to do practicals and/or carry out research projects on topics

covered in modules PHY221 and PHY 222. The research includes

- Carrying out of experiments.
- Report Preparation (preparation, use of language, planning and layout, writing the report, review and editing).

ELE 221 **Introduction to Digital Electronics**

This module provides knowledge of fundamental digital design and systematic methods of analysis and design of digital systems. Among the expected techniques and methods of analyses, the students should be able to convert between different number systems and describe some different codes, explain the function of basic digital combinatorial circuits and sequential circuits, employ Boolean algebra to describe the function of logic circuits and design circuits which represent digital logic expressions.

MAT221 **Calculus II**

This module provides students with further knowledge of calculus and its application to various disciplines such as biology, ecology and dynamical systems to topics including polar coordinates and parametric equations. It extends the set of real numbers to the set of complex numbers.

Year Three

PHY311 **Newtonian Mechanics and Special Theory of Relativity**

This module equips students with knowledge in Newtonian Mechanics and Special Theory of Relativity. It deals with the study of the causal relationship, in the natural world, between force, mass and motion. Among others, the module covers concepts like work, energy, dynamics of rigid body and principle of relativity.

PHY312 **Modern Physics**

This module helps students to understand the concepts of modern physics and introduce them to quantum mechanics. The module covers concepts of relativity and quantum mechanics. Modern physics is an effort to understand the underlying processes of the interactions of matter utilising the tools of science and engineering. Among others, students learn concepts such as the foundations of quantum mechanics, black-body radiation, particle in a box, Bohr model of the atom and application of quantum mechanics.

PHY314 **Energy sources**

This module equips students with knowledge of energy sources so as to make them contribute positively to the world of energy. The module deals with sources of energy and covers sources of energy like solar energy, wind power, geothermal energy, hydro-power, biomass energy and nuclear energy among others. This module also covers generation, usage and storage of energy from these means.

PHY315 **Applied Optics & Acoustics**

This module is designed to help students understand the concepts of optics and acoustics and how they are applied. In this module, students study the behaviour and properties of light, including its interactions with matter and the construction of instruments that use or detect it. Some of the areas studied in the module are: geometrical optics, wave optics, single aperture instrument, multiple aperture instrument, photography, lasers, plane acoustic waves, sound propagation, microphones and speakers.

PHY316 **Practical/Research project in Physics I**

This module requires students to do research projects in areas covered in PHY311, PHY312,

PHY314 and PHY315. The research includes:

- Project Planning (Project plan, logbook, team-working, ethics, suppliers, specifications, datasheets, health and safety, EU directives, min proposal)
- Carrying out of the research (Application of design rules).
- Report Preparation (preparation, use of language, project management, note-making, planning and layout, writing the report, review and editing.
- Oral presentation (delivery techniques, audio-visual aids).

PHY321 **Electromagnetism I**

This module provides grounding in the concept of electromagnetism. It deals with electromagnetism which is a branch of physics that involves the study of the electromagnetic force, a type of physical interaction that occurs between electrically charged particles. In this module, students learn concepts such as electric field, electric potential, the magnetic field, electromagnetic induction and Maxwell's Equations.

PHY322 **Solid State Physics**

This module enables students understand the concept of Solid State Physics. It deals with concepts such as crystal binding, electrical properties of metals, semiconductors and superconductivity.

PHY324 **Nuclear Physics and Crystallography**

This module enables students acquire knowledge in Nuclear Physics and crystallography. It comprises of two fields of Physics; Nuclear Physics and Crystallography. Under Nuclear Physics students will cover areas such as nuclear structure, Nuclear decay, Nuclear reactions, reactor design, applications and impacts of nuclear power. Under Crystallography the following concepts will be covered among others; Crystallography and the crystalline state Cells, the 7 crystal systems, Ewald sphere construction and oscillation camera.

PHY326 **Practical/Research project in Physics II**

This module requires students to do research projects in areas covered in PHY321, PHY322 and PHY324 The research includes:

- Project Planning (Project plan, logbook, team-working, ethics, suppliers, specifications, datasheets, health and safety, EU directives, min proposal)
- Carrying out of the research (Application of design rules).
- Report Preparation (preparation, use of language, project management, note-making, planning and layout, writing the report, review and editing.
- Oral presentation (delivery techniques, audio-visual aids).

Year Four

PHY411 **Astrophysics**

The module aims to equip students with a basic understanding of the important physical concepts and techniques involved in astrophysics. The module has an emphasis on how fundamental results can be derived from fairly simple observations.

PHY412 **Quantum Mechanics**

This module aims at providing students with an understanding of the reasons why quantum theory is required. The module explains the basic formalism and how this can be applied to simple situations. It also shows the power in quantum theory over a range of physical phenomena and introduces students to some of the deep conceptual issues it raises..

PHY414 **Geophysics**

This module introduces the main methods of geophysical exploration, including their physical basis and methodology. The module will demonstrate the importance of these methods to the understanding of the geological structure in the earth.

PHY415 **Computational Physics**

The module aims to provide students with advanced computational skills of solving physics problems using numerical and computational tools. The module introduces different types of computational problems of physical interest. It then illustrates the process of approaching a problem from the computational viewpoint, demonstrating how to proceed from the physical description of a problem through to the construction of a numerical approximation and the determination of a solution.

PHY416 **Practical/Research project in Physics III**

The module aims at providing practical and research skills learned in the theory modules of Astrophysics, Quantum Mechanics, Geophysics and Computational Physics. These practical skills prepare students for industrial work and for further studies in related areas.

PHY421 **Thermodynamics & Statistical Thermodynamics**

The module enables students understand the concepts of thermodynamics. It builds on the thermal properties concepts introduced in year 1 PHY111 Properties of Matter and year 2 PHY212 Thermal Physics modules, and introduces the principles and applications of thermodynamics and shows how its laws arise naturally from the statistical properties of an ensemble.

PHY422 **Reactor Physics**

The module provides an introduction to the key elements of reactor physics of nuclear reactors. The module discusses aspects of reactor physics and the implications that reactor physics has on the engineering of nuclear systems. It focuses on neutron transport methods, neutron diffusion and slowing down, reactor kinetics and control, reactivity coefficients, reactor systems and types, reactor design and reactor safety.

PHY424 **Medical Physics**

This module builds on the foundations established in PHY324 Nuclear Physics, to explore advanced aspects of ionising and non-ionising radiation applied to Medicine. The module develops deeper mathematical descriptions of radiation processes to provide a more complete description of radiation and its interaction with matter. The module covers a multitude of applications of physics in medicine, from Roentgen's discovery of X-rays to nanotechnological applications in medicine, radionuclide and particle beam physics as applied to the diagnosis of disease and treatment of cancer.

PHY425 **Physics of Materials**

This module equips students with knowledge in Physics of Materials. The module describes the properties of materials and explains their behaviour based on the underlying principles of physics. The module provides students with in-depth knowledge and understanding of material properties from the viewpoint of crystal structure, micro structure and process. It also equips students with a good understanding of mechanical and other physical properties of materials from the physical point of view, according to the material state after the primary formation, as well as under different operating conditions.

PHY426 **Practical/Research project in Physics IV**

The module aims at providing practical and research skills learned in the theoretical modules of Thermodynamics and Statistical Thermodynamics, Reactor Physics, Medical Physics and Physics of Materials. These practical skills prepare the students for industrial work and for further studies in related areas.

Bachelor of Science in Electronics

Year Four

LAN112 **Reading and Listening Skills for Science**

This module introduces students to contextual reading and listening skills, specifically a theoretical and practical understanding of some communication skills and their application in Physics and Electronics. It is designed to enable students identify, develop and engage with academic skills required to successfully complete their studies and also to give the students a basic working competence in modern business which focuses on English as the medium of communication.

PHY111 **Mechanics and Properties of Matter**

The module provides students with the background needed for the further study of University Level Physics and other Physical Sciences courses. It exposes students to a beginning course in Mechanics and Properties of Matter. Mechanics is broken down into its three components: Statics, dynamics and kinematics. These are clearly explained to students so as to bring out their differences and inter-relationships. Students are also be introduced to the various groups of properties of matter.

MAT111 **College Algebra**

The module provides students with a foundation in mathematics and analytical skills needed for subsequent modules in computation and mathematics. The course provides a detailed coverage of college algebra and introduces topics in calculus.

COM111 **Introduction to Computer Science**

This course aims at introducing students to the basics of computing, covering principles of computing, components of computer systems and common computer software. The module covers topics such as computer organisation, data representation, computer hardware, standard operating systems and data communication. In addition, the course provides students with an opportunity to develop skills in software packages like word-processors and spreadsheets.

LAN122 **Writing and Oral Skills for Science**

The module offers an interdisciplinary curriculum that enables students develop strong reading and writing skills in related areas of Electronics such as: communication across organisations and technical operations, technical editing, writing in social media and emerging technology for effective communication purposes. The module is designed to develop reading and writing skills in students both individually and collaboratively as they engage in Physics and Electronics transactions and practice.

PHY121 **Vibrations and Waves & Electricity and Magnetism**

This module provides students with the background needed for the further study of University Level Physics and other Physical Sciences courses. Students are introduced to the key concepts, laws and explanatory models used in vibrations and waves, electricity and magnetism. The module also trains students in how to conduct basic experiments in vibrations and waves, electricity and magnetism.

COM 121 **Introduction to Computer programming**

The aim of this course is to equip students with concepts of computer programme development in solving problems. More specifically, the course equips students with skills in how to gather software requirements, design algorithms, develop software, as well as test and document programmes developed.

MAT 121 **Trigonometry and Elementary Calculus**

The course provides students with the basic mathematics foundation that lays the background for analytical skills needed for subsequent courses that require mathematics. The course covers trigonometry as well as introduce basic calculus concepts.

Year Two

ELE211 **Introduction to Analogue Electronics**

This module provides students with the theoretical background needed for the further study of Analogue Electronics. With the background provided, students should be able to demonstrate an understanding of the basics and applications of active devices, basic logic concepts and gates. Beyond this, they should be able to demonstrate an understanding of circuit theorems, and their application in the analysis of alternating and direct current circuits.

ELE212 **Practicals in Analogue Electronics**

This module provides students with the practical background needed for the further study of Analogue Electronics. As outcomes, the students demonstrate a hands-on ability to utilise basic electronic equipment with for measurement and interpretation of electronic data. Additionally, they should be able to conduct experiments with sound scientific reasoning, understanding the world around them through observations and explain the underlying physical concepts at work throughout our universe.

MAT211 **Calculus I**

This course introduces students to the foundations of Calculus, the study of how things change. Calculus is important in the study of computing as it provides a framework for modelling systems in which there is change, and a way to deduce the predictions of such models.

MAT 213 **Introduction to mathematical computing**

This course provides students with mathematical and computational thinking, enabling them to attempt problems and research in areas of science where computing plays a central and essential role. The course emphasises algorithms, numerical methods, and symbolic methods. The course also covers software tools that can be used in modelling problems and running simulations.

COM211 **Operating Systems**

In this course, students are introduced to key concepts of computer operating systems, including their design, implementation and aspects of operation. Students also have an opportunity to develop practical skills regarding the use of common operating systems.

PHY 221 **Electricity and Magnetism I**

This module provides students with a deeper understanding of concepts of Electricity and Magnetism. It builds on the concepts covered in PHY121 (Vibration and Waves &Electricity and Magnetism). The module enables students to be able to, among others, explain how generators and motors function and how Inductor-Resistor-Capacitor circuits operate.

ELE 221 **Introduction to Digital Electronics**

This module provides knowledge of fundamental digital design and systematic methods of analysis and design of digital systems. Among the expected techniques and methods of analyses, students should be able to convert between different number systems and describe some different codes, explain the function of basic digital combinatorial circuits and sequential circuits, employ Boolean algebra to describe the function of logic circuits and design circuits which represent digital

logic expressions.

ELE 222 **Practicals in Digital Electronics**

This module provides the practical knowledge of fundamental digital design and systematic methods of analysis and design of digital systems. Students are expected to demonstrate a hands-on ability to utilise basic digital electronic equipment for measurement and interpretation of electronic data.

MAT221 **Calculus II**

This course builds on concepts covered in Calculus I, thereby providing students with advanced skills in calculus for the study of Computer Science and Networking. Students going through this module develop skills to: find limits and derivatives of functions by using first principles and standard techniques, interpret limits and derivatives geometrically, differentiate, integrate and manipulate transcendental functions, as well as perform convergence tests on sequences and series.

COM221 **Advanced Computer Programming**

This course introduces students to concepts of advanced programming and software development frameworks, covering key issues in computer science such as object-oriented programming, parallel programming, development of graphical user interfaces, network programming, client-server architecture, and database programming. In the end, the module provides students with programming and problem solving skills necessary for them to do well when attempting more advanced topics in computing.

Year Three

ELE311 **Analogue Electronics and Systems**

his module provides students with the basic electrical engineering principles and abstractions on which the design of electronic systems is based. Students are expected to demonstrate an understanding of transistor characteristics, transistor biasing and amplifier DC and AC equivalents, advanced circuit theorems and their application in circuit analysis, filters in terms of their transfer functions, feedback mechanism and its implementation in amplifiers; coupled with hands-on ability to apply basic electronic measurement and test equipment and techniques to the measurement and interpretation of electronic quantities in AC and DC circuits and circuits containing some active devices.

ELE312 **Signals and Systems**

This module provides the fundamental concepts in signals and systems. Students should be able to demonstrate an understanding of Signals and Systems in general and Linear Time-Invariant Systems in particular in order to determine the response of linear systems to any input signal by convolution in the time domain. Additionally, students are expected to demonstrate an understanding of the definitions and basic properties of signals e.g. time-shift, modulation, Parseval's Theorem and application of Fourier series, Fourier transforms (FFT & IFFT), bilateral Laplace transforms (CTFT and DTFT), Z transforms, and discrete time Fourier transforms and an ability to compute the transforms and inverse transforms of basic examples using methods such as partial fraction expansions.

ELE313 **Device Electronics I**

This module provides students with the background needed for the further study of University Level Physics in order for students to demonstrate an understanding of semiconductor physics for intrinsic and extrinsic materials. These materials lay the foundation for the understanding of semiconductor diodes, Bipolar Junction Transistors (BJTs) and their small signal and high frequency analysis. Additionally, students are equipped with skills to analyse the performance of Field Effect Transistors (FETs), rectifier and regulated circuits.

ELE314 **Linear Integrated Circuits and Applications**

This module provides the basic concepts in the design of electronic circuits using linear integrated circuits and their applications in the processing of analogue signals. Students are expected to demonstrate an understanding of basic building blocks of linear integrated circuits and should be able to use the linear and non-linear applications of operational amplifiers in real-life applications. Additionally, students should be able to design analogue-to-digital converters (ADC) and digital-to-analogue converters (DAC) systems.

ELE315 **Network Analysis**

This module aims to equip students with the knowledge and techniques of analysing electrical networks, especially two port networks. Thus, students should be able to model and analyse the linear time-invariant behaviour of electrical and electronic systems, in both the time and frequency domain; analyse AC steady-state responses and transient response of resistance, inductance and capacitance in terms of impedance and its inverse in two port networks. Additionally, using software tools, they should be able to simulate the behaviour of linear electrical networks, and design, construct and test passive and active electrical networks that achieve specified linear time-invariant behaviour.

ELE316 **Practical/Research project in Linear Integrated Circuits**

This module provides the basic concepts in the design of electronic circuits using linear integrated circuits and their applications in the processing of analogue signals. Student are expected to demonstrate hands-on skills of using basic building blocks of linear integrated circuits and use the linear and non-linear applications of operational amplifiers in designing systems. Additionally, students should be able to design analogue-to-digital converters (ADC) and digital-to-analogue converters (DAC) systems.

ELE321 **Electrical Communications**

This module provides students with the grounding in electrical communications. Students should be able to demonstrate an understanding of analogue and digital communication in order to analyse the performance of AM, FM and PM signal modulation techniques in transmission and reception and of inter symbol interference (ISI) and different estimation methods.

ELE322 **Electromagnetics**

This module aims to develop a working knowledge of scalar fields, vector fields and field operators in order to help students understand the significance of Maxwell's equations and be able to use them to solve electrostatic, magneto-static and quasi-static problems. Additionally, students are expected to develop a working knowledge of the principles of electromagnetic wave propagation and use mathematical tools for the analysis and design of devices based on electromagnetic wave propagation fundamentals.

ELE323 **Digital Electronics**

This module provides further grounding in Electronics for Physics students and those who wish to specialise in Electronics related disciplines in later years. Students are expected to analyse and construct sequential networks; describe the behaviour of digital components by using hardware description languages; use computer tools to simulate digital systems and realise the system in different types of programmable logic devices. Additionally, students should be able to describe the function, characteristics and structure of different digital memory systems.

ELE324 **Device Electronics II**

This module provides grounding in Electronics which is intended to Physics students and those who wish to specialise in Electronics or Electronics related disciplines. Students should be able to estimate bulk semiconductor properties from energy band diagrams and basic formulae. Additionally, students should be able to analyse carrier statistics and densities in semiconductors, biased and unbiased operations of PN junction diodes and Schottky contacts, biased and unbiased operations of field effect transistors and bipolar junction transistors.

ELE325 **Opto-Electronics**

This module provides an introduction to the interaction of optical signals with materials, and to optoelectronic devices and systems. Students are expected to describe, for example; how light propagates in media and waveguides. In the process, students should have capability to define optoelectronic materials, describe quantum wells and super lattices, explain how optoelectronic materials and structures are applied in different devices, explain the fundamentals of fabrication and processing of opto-electronics devices and finally design different optical communication systems and device needs.

ELE326 **Practical/Research project**

This module aims to develop the skills required to simulate a given circuit, layout, construct and test a PCB. It also develops the skills required to prepare and submit a project report and presentation. Students should be able to apply a structured approach to planning and organising a project; use an industry standard SPICE package or Agilent's Advanced Design System (ADS); construct and test a circuit via printed circuit board; deliver an oral presentation with supporting slides and write a formal academic report or scholarly article for possible publication.

Year Four

ELE 411 **Advanced Analogue Electronics**

This module provides students with the background needed for advanced Electronics. Students are introduced to key concepts of MOSFET Operation, Single-Stage, Differential, and Multistage Integrated Circuit (IC) Amplifiers, Biasing IC Amplifiers, Frequency Response, and Feedback.

ELE412 **Broadcast and Television Engineering**

This module provides students with a comprehensive coverage of TV Systems with all the new developments in Television and Video Engineering. Furthermore, the module gives students a firm understanding of the electronics technology found in Broadcast Engineering along with the increasing presence mobile media and digital audio.

ELE413 **Microprocessors & Microcontroller Systems**

This module gives students the fundamental skills needed to understand the theory of Microprocessor and Micro-controller chips in computer architecture and design microcontroller-based systems. It covers the evolution of Microprocessors, Microprocessor and Micro controller, internal architecture of 8 bit Microprocessor 8085, concept of fetch –decode and execute. Other areas covered include the Assembly Language Programming and Memory Interfacing.

ELE414 **Control Systems**

The module studies dynamic systems encountered in a variety of instrumentation and mechatronic systems. It looks at the modelling of such systems and the response of these systems to a disturbance. In addition, the control of dynamic systems using feedback and the design of control systems using different design techniques are studied.

ELE415 **Radar and Antenna Engineering**

This module covers phased array antenna theory, design practices and state-of-the-art technologies. The module also focuses on practical issues such as required design trade-offs, technology limitations, effects of errors, characterisation, alignment and calibration techniques. It also reviews basic array theory, definitions, notation and concepts.

ELE416 **Research Project**

The module aims at providing practical and research skills learned in the theory modules of Advanced Analogue Electronics, Broadcast and Television Engineering, Microprocessors and Microcontroller Systems, Control Systems and Radar and Antenna Engineering. It also develops the skills required to prepare and submit a project report and presentation.

ELE421 **Advanced Digital Communication Techniques**

This course aims at introducing advanced topics in digital communications and providing students with up-to-date knowledge of the techniques used in modern communication systems and the principles underlying their design. The module covers Power Spectrum and Communication, Coherent and Non-Coherent Communication, Band limited Channels and Digital Modulations, Block Coded Digital Communication and Convolution Coded Digital Communication.

ELE422 **Computer Networks and Communication**

This course examines computer networks and data communication. Topics covered include Introduction to computer networks, Physical Layer – Transmission media, Data Link Layer, High Speed Ethernet, Network Layer and TCP/IP Protocol Suit Overview.

ELE423 **Digital Signal Processing**

This module deals with digital signal processing. The signal for processing is mathematically modelled as a function or a sequence of numbers that represent the state or behaviour of a physical system. Signal processing is concerned with the representation, transformation, and manipulation of signals and the

information they contain. Signal processing is one of the fundamental theories and techniques to construct modern information systems. The course content includes the concept and classification of discrete-time signal, representations of signals in time, frequency, and discrete frequency domains, representations and analyses of systems, and filter designs.

ELE424 **Microwave Components & Circuits**

The course provides an introduction to the essential principles of RF and microwave engineering, giving particular attention to printed circuits and guided wave transmission. To supplement the theory covered in lectures, there are invited presentations from industry that put the theory into the context of current industrial practice.

ELE425 **Power Electronics**

The course is an introduction to switched-mode power converters. It provides a basic knowledge of circuitry for the control and conversion of electrical power with high efficiency. These converters can change and regulate the voltage, current, or power. Topics covered include Power semi-conductor devices, Phase-controlled converters, DC-to-DC converter , Inverters and AC- AC converters.

ELE426 **Research Project**

The module aims at providing practical and research skills learned in the theory modules of Advanced Digital Communication Techniques, Computer Networks and Communication, Digital Signal Processing, Microwave Components & Circuits and Power Electronics. It also develops the skills required to prepare and submit a project report and presentation.

Bachelor of Science Honours in Physics or in Physics and Electronics

Year Five

Students who take at least two physics modules in both years three and four and obtain a B.Sc. degree with credit or distinction are eligible to proceed to a fifth year of study leading to an Honours Degree in Physics or in Physics and Electronics.

The honours module consists of four units. Two of these (Phy 510 and Phy 520) are compulsory. Students may be required to take the project unit Phy 550. In addition to the compulsory units, students may choose any of the available optional modules to complete their combination.

Calendar 2016-2018

Module Code	Module Name and Descriptor
PHY 510	**Advanced Physics I**
	This module includes advanced topics in mathematical methods in physics, quantum mechanics, statistical thermodynamics and solid state physics
PHY 520	**Advanced Physics II**
	This module includes advanced topics in classical mechanics, atomic and nuclear physics, and electromagnetics.
PHY 550	**Honours Project**
	Students may choose topics from a selected list or from their own lists. Project topics offered depend on the availability of a supervisor. A substantial project report is mandatory.

Honours Optional Modules

Module Code	Module Name and Descriptor
PHY 560	**Topics in Point Defects in Solids**
PHY 562	**Advanced Electronics I: Semiconductor Device Physics And Technology**
PHY 564	**Advanced Electronics II: Communications**
PHY 566	**Quantum mechanics and spectroscopy**
PHY 568	**Solid state physics and band theory**
PHY 570	**Thermal Physics**
PHY 572	**Acoustics**
PHY 574	**Physics of Materials**

Faculty Programmes

Master of Science in Environmental Science (MES)

The MSc. in Environmental Science (MES) Programme is a two-year programme hosted by the Faculty of Science and offered on either full-time (24 months) or in-service (30 months) basis. During year one, students take a total of 8 equivalent semester-modules: the foundation module, compulsory (equivalent to 2 semester-modules) and a combination of optional, and/or elective equivalent to 6 semester-modules. In addition to the 8 modules, students are free to audit extra modules. During the first year, assessment is based on continuous assessment and a final examination for all modules registered for and/or audited. The modules are offered in 4 modules.

Entry to the second year requires an overall pass in the first year. Candidates are awarded a M.Sc. degree after successfully completing both the second year research project and defending their thesis in an oral examination.

Admission

A good Bachelor's degree in natural sciences or related fields is required. Relevant experience will be an added advantage.

Modules Offered

Foundation Module (MES 600) comprising:

Module Code	Module Name and Descriptor
MES 601	**Experimental Design and Statistical Methods**
	The aim of the module is to equip students with a range of skills required to design and conduct a variety of scientific studies and experiments; critically interpret research conducted by others and to understand statistical methods appropriate in various experimental designs, surveys etc, for assessing the influence of various variables or factors on a response or dependent variable that is measured on a continuous scale. At the end of the module, students should be able to identify and apply appropriate methods for the analysis of continuous data from a variety of experimental designs / surveys and check the validity of the assumptions made in these methods; formulate and develop efficient objective data collection tools; produce linear models for data and interpret parameter estimates; select appropriate procedures for use when multiple comparisons are necessary. (21 hours).
MES 602	**Research and Scientific Writing Skills**
	The module aims at developing students' skills in the development and compilation of a project proposal and a scientific report or paper. The skills include structuring of content, reasoned and logical development of material, clear, comprehensible and accurate presentation of material. At the end of the module, students should be able to conduct a literature search; formulate and develop a scientific research proposal; structure a report of a scientific study or a project proposal; identify the relevant material and present it in an objective manner; write a scientific report or a project proposal; formally make an oral presentation of a scientific issue. (42 Hours)
MES 603	**Computers and Software Packages**
	The module aims at giving students thorough grounding in computer systems with special emphasis on common software packages. At the end of the module,

students should be able to describe computer hardware; use common operating systems and software packages; be familiar with developments in computer technology; understand the need for security of computers (data and software). (21 Hours)

MES 604 **Resource and Environmental Economics**

The module aims at enabling students understand the theoretical basis, practical applications and economic measurement of impacts on the environment. At the end of the module, students should be able to conduct economic measurements of environmental impacts. (21 Hours)

MES 605 **Environmental Law, Policy and Ethics**

The module aims at enabling students understand that the environment, being a public policy issue, is bound by international and national laws. At the end of the module, students should be able to explain the nature of the environment as a public policy issue and explain the institutional, legal and ethical contexts of environmental management. (42 Hours)

MES 606 **Waste Management**

The module aims at acquainting students with problems of management, reduction and bioconversion of waste. At the end of the module students should be able to describe types of waste and their treatment; understand the fundamentals of bioconversion of waste and its application and outline domestic recycling methods. (21 Hours)

MES 607 **Environmental Impact Assessment**

The module aims at enabling students understand the essential ingredients of successful environmental impact assessments (EIAs). At the end of the module, students should be able to understand the various approaches, procedures and methodologies of EIAs and develop the sense of integrity needed for EIA procedures. (21 Hours)

MES 608 **Population and Environment**

The module aims at helping students understand the linkages between population, health and environment. Students would be able to develop interrelationships and appreciate the complex linkages between these variables. (21 Hours)

Optional Modules

Module Code	Module Name and Descriptor
MES 610	**Applied Ecology**
	The aim of the module is to provide students with means to apply ecological science in solving some of the crucial problems facing the world, and specifically the country, today. At the end of the module, students should be able to differentiate between basic and applied ecology; understand the different sub disciplines of applied ecology; understand the impacts of human activities on ecological systems and apply some of the strategies that have been put in place to solve ecological problems. (42 Hours)
MES 611	**Natural Resources Management and Conservation**
	The module aims at making students aware of the importance of natural resource conservation and their sustainable use and provide them with the skills and knowledge necessary for maintaining and managing these natural resources. At the end of the module, students should be able to understand natural resources and appreciate the value of their conservation; comprehend the influence of human activities on natural resources; understand the concepts of sustainable development and carry out research aimed at the conservation of natural resources. (42 Hours)
MES 612	**Aquaculture and the Environment**
	The module aims at equipping students with principles and practices of sustainable aquaculture yield improvement without compromising environmental conservation. At the end of the module, students should be able to understand the environmental issues related to aquaculture in developing countries; understand the environmental impacts of aquaculture in tropical inland waters; identify heavy metal and chlorinated hydrocarbon species and their public health concerns in the aquatic environment and recommend on how to mitigate environmental impacts in aquaculture. (42 Hours)
MES 620	**Environmental Physical Chemistry**
	The module aims at developing students' understanding of the physical and chemical factors that govern transport and fate of chemical substances and develop their comprehension of the interaction between physico-chemical processes and the environment. At the end of the module, students should be able to understand partitioning of chemicals in the different environmental situations; comprehend sorption processes and apply the thermodynamic and kinetic aspects to the fate of organic compounds. (42 Hours)

MES 621 **Environmental Chemistry**

The module aims at developing a thorough understanding of the underlying chemistry and biochemistry of the processes occurring in air, water and soil. At the end of the module, students should be able to resolve various chemical mechanisms of environmental degradation processes; comprehend basic biotransformation reactions of anthropogenic compounds and apply knowledge of chemical concepts to environmental issues. (42 Hours)

MES 622 **Environmental Analytical Chemistry**

The module aims at increasing students' knowledge of analytical chemistry techniques and their application and use in environmental monitoring. At the end of the module, students should be able to determine the factors affecting quality and reliability of environmental analyses; understand the principles of operation of the most important analytical techniques and apply appropriate analytical techniques to identify the nature and the amounts of pollutants in the environment. (42 Hours)

MES 623 **Air, Water, and Soil Pollution**

The module aims at enabling students to understand air, water, and soil pollution problems, their causes and effects, and their solutions. At the end of the module students should be able to identify the causes and effects of air pollution; suggest control measures used to reduce air pollution; understand the nature of pollution of water and soil and propose methods of decontamination. (42 Hours)

MES 624 **Waste Treatment and Management**

The module aims at developing students' understanding of wastewater treatment processes and solid waste disposal and management. At the end of the module, students should be able to understand the operation of various processes of waste water treatment plants; describe processes utilised in water treatment; recognise the importance of implementation of sanitary landfills; understand problems associated with landfill design, management, and monitoring and identify the various methods of disposal of solid waste. (42 Hours)

MES 625 **Occupational Hygiene**

The module aims at raising students' awareness of the health hazards involved in handling chemicals, with emphasis on safety at work in an industrial environmental. At the end of the module, students should be able to identify sources of hazards in work environment; undertake a risk assessment for exposure to chemicals in the work place; design a monitoring strategy for measurement of chemical exposures in the workplace; apply the Hierarchy of Control to high-risk situations and develop strategies for minimising exposure to industrial health hazards. (42 Hours)

MES 630 **Land Use Planning and Environmental Management**

The module aims at introducing students to broader issues of land-use planning and demonstrates the implications of specific environmental management techniques. At the end of the module, students should be able to explain land use issues and problems in developing countries and Malawi and demonstrate the relevance of various environmental management techniques. (42 Hours)

MES 631 **Agrarian Development and Natural Resource Policy**

The module aims at demonstrating to students the social, economic, physical and ecological implications of, and basis for resource use decisions in rural areas and enable the students to explore the environmental dimension of micro-level analysis of agrarian development. At the end of the module, students should be able to explain the environmental implications of resource use decisions in rural areas and undertake an environmental appraisal of micro-level development project. (42 Hours)

MES 632 **Land and Water Resources Management**

The module aims at enabling students to understand land and water resources, and their management. At the end of the module, students should be able to identify and explain characteristics of soils and soil mechanics; explain the hydrology of drainage basins and water flow; explain characteristics of groundwater, water pollutants, floods and drought occurrence and apply land and water appraisal techniques. (42 Hours)

MES 633 **Geographic Information Systems and Applied Remote Sensing**

The module aims at introducing students to some useful geographical techniques for environmental monitoring and analysis. At the end of the module, students should be able to use GIS (Geographical Information System) and various applied remote-sensing techniques in geographical monitoring and planning. (42 Hours)

MES 634 **Environmental Geology**

The module aims at introducing students to broader and major issues of environmental geology. At the end of the module, students should be able to explain the impact of geological activities and processes on the environment. (42 Hours)

MES 640 **Household Environmental Management**

The module aims at enabling students develop a holistic approach to environmental management in solving practical problems that affect family well-being. At the end of the module, students should be able to describe the

family ecosystem and its relationship to the environment; examine the effects of population growth and poverty on environment; demonstrate the ability to plan and analyse environmental management policy and programmes; examine factors that affect household livelihood and economic development and describe the nature of resources and their utilisation. (42 Hours)

MES 641 **Food Security and Nutrition**

The module aims at providing a detailed study of food availability, access and distribution among households in relation to food security, nutrition and environment. At the end of the module, students should be able to describe food security as a concept in Malawi; identify socio-economic factors that affect household food security and nutrition; explain the major entitlements related to food security; describe emergency food production support programmes; discuss the way forward for food security in Malawi; examine the relationship between environment, food security and nutritional status and discuss national policies that have an impact on food security. (42 Hours)

MES 650 **Information Management and Techniques**

The module aims at developing students' skills in order to design, implement and monitor information and communication management systems. At the end of the module, students should be able to design their own information management systems; implement and monitor small information management systems; develop a database on environmental information and evaluate it using appropriate tools; develop skills necessary to analyse and monitor relevant environmental issues and provide information for decision-makers on environmental issues. (42 Hours)

MES 651 **Sequential Data Analysis Methods**

The module aims at enabling students understand a range of models that may be used for environmental data, which is obtained sequentially on one of more subjects, including the assumptions and limitations of these methods. At the end of the module students should be able to describe the use of a stochastic process in modelling processes such as deforestation, climatic patterns, population growth; distinguish between stationary and non-stationary time series, identify seasonal and cyclic trends, and interpret a time series model and interpret some methods used in the analysis of repeated measurement studies. (21 Hours)

MES 652 **Multivariate Data Analysis Methods**

The module aims at enabling students understand various statistical models for, and uses of, non-sequential and multivariate environmental data. At the end of the module, students should be able to describe the uses of principal component analysis, factor analysis and discriminant function analysis and apply these methods to data and interpret the results obtained. (21 Hours)

MES 653 **Frequency Data Analysis Methods**

The module aims at familiarising students with some statistical methods for the analysis of binary, ordinal and categorical data, and for times to events. At the end of the module, students should be able to select appropriate methods for analysis of frequency data, rates, proportions and survival data; describe the assumptions made in the various methods studied; explain and interpret the meaning of models used and compare models using statistical principles. (42 Hours)

MES 654 **Mathematical Methods in Environmental Sciences I**

The module aims at equipping students with a range of mathematical skills for mathematical modelling in the environmental sciences. At the end of the module, students should be able to use matrix notation to present and solve a system of linear equations; apply relevant techniques in matrix and multivariable calculus and apply laws of mechanics in environmental sciences. (42 Hours)

MES 655 **Mathematical Methods in Environmental Sciences II**

The module aims at studying methods for formulating and analysing mathematical models. At the end of the module, students should be able to use methods applied in analysing linear and non-linear systems of differential equations and formulate, solve, and interpret mathematical models. (42 Hours)

MES 660 **Energy Sources**

The module aims at enabling students to understand the different forms and systems of energy; energy sources and uses; and to differentiate between renewable and non-renewable systems. At the end of the module, students should be able to understand energy sources and their environmental impact; explain different forms of renewable energy sources and design and implement a complete renewable energy system. (42 Hours)

MES 661 **Nuclear Techniques in Environmental Studies**

The module aims at providing students with an understanding of the principles of nuclear techniques and their applications. At the end of the module, students should be able to understand the different types of radiation and the way they interact with matter; explain the different ways in which radiation can be measured; understand the techniques necessary to analyse the measurements obtained and evaluate the applications of these techniques in an environmental context. (21 Hours)

MES 662 **Material Science for Solar Energy Conversion**

The module aims at enabling students acquire a detailed knowledge of the physics of the materials used in the fabrication of a wide range of photovoltaic systems, devices, assessment techniques and reliability. At the end of the module, students should be able to understand photovoltaic cell technology and its applications; fabrication of reliable devices and understand causes of failures and evaluate device reliability. (21 Hours)

MES 663 **Alternative Energy Sources**

The module aims at enabling students explore various alternative sources of renewable energy. At the end of the module, students should be able to understand energy needs for a sustainable human livelihood; evaluate daily energy needs for households; outline fuel production form biomass and understand the production, distribution, and utilisation of renewable energy. (42 Hours)

Masters or Doctorate Degrees in selected areas of Physics, Applied Physics and Electronics

Research postgraduate studies leading to masters or doctorate degrees in selected areas of physics, applied physics and electronics are available on special application. Topics available depend on availability of a supervisor.

FACULTY OF SOCIAL SCIENCE

Undergraduate Programmes

Bachelor of Arts (Economics)

Bachelor of Arts (Development Economics)

Bachelor of Arts (Human Resource Management)

Bachelor of Arts (Political Science) – 4 Years

Bachelor of Arts (Public Administration) – 4 years

Bachelor of Social Science – 4 years

Bachelor of Arts in Sociology

Bachelor of Social Science in Gender Studies

Bachelor of Social Science in Social Work

Postgraduate Programmes

Master of Arts in African Social History

Master of Arts in Development Studies

Master of Arts in Economics

Master of Arts in Political Science

PhD in Sociology

PhD in Economics

PhD in Development Studies

Department of Economics

Bachelor of Arts in Economics

Module Code	Module Name and Descriptor
ECO 111	**Elementary Microeconomics**
	This course aims at 1) introducing principles of economics, 2) using the principles to understand consumer and firm behaviour, 3) using the principles to understand how markets work, and 4) demonstrating that markets can fail, and the role of government when markets fail.
ECO 121	**Elementary Macroeconomics**
	The course introduces students to contemporary issues in macroeconomics at the elementary level. In addition to exploring theoretical aspects of relevance, the course examines the conduct of stabilisation policy. Particu1ar reference is made to the experiences of less developed countries.
ECO 211	**Intermediate Microeconomics**
	The course is intended to equip students with tools for a more thorough and comprehensive analysis of consumer and producer behaviour. This is done by building on the concepts introduced in elementary microeconomic and introducing new issues. It is expected that by the end of the course, students will be able to use the insights obtained in the application of microeconomics principles in policy analysis, as well as in the understanding of analyses in other branches of economics.

ECO 212 **Mathematics for Economists**

The purpose of the course is to enable students understand the practical application of mathematics in economics. Specifically, at the end of the course, students are expected to be able to do the following: (i) To demonstrate ability to undertake the manipulation of basic mathematics, (ii) To demonstrate the ability of using mathematics in answering economics problems, and (iii) To show that they can use the economic concepts in setting up mathematical solutions.

ECO 213 **Financial Accounting**

The aim of the course is to enable students gain an understanding of the role of financial accounting in organissations' management information systems; more specifically, to enable the student appreciate the significance of relevant and reliable financial information to the various stakeholders in their assessment of the organisation's financial performance and position as an aid to their making of economic decisions. To this end, students should learn to apply the techniques used to prepare end of year financial statements for a sole trader, partnership, not-for profit organisations and limited companies which comply with International Accounting Standards, and to interpret financial statements and the relationships between their elements using ratio analysis.

ECO 214 **History of Economic Thought**

This course examines the history of economic ideas. It is not a history of what actually happened in the past but rather a history of theories about how the economy works. Nonetheless, it attends to economic history, since understanding what was going on in the economy in times and places past aids students to understand how people conceptualised the economy.

ECO 221 **Intermediate Macroeconomics**

The course equips students with contemporary issues in macroeconomics at the intermediate level. In addition to exploring theoretical aspects of relevance, the course examines the conduct of stabilization policy. Reference is made to the experiences of less developed countries.

ECO 222 **Statistics for Economists**

The aim of the course is to introduce economics students to data management skills and statistical methods for modelling of economic phenomena at intermediate college level. Upon completion of the course, students should be able to apply statistical techniques to economic problems, and be competent in the use of computer software for data management and statistical analysis.

ECO 223 **Managerial Accounting**

The aim of the course is to provide students with knowledge in the use of financial information to aid decision making in organisations in matters pertaining to formulation of policies, planning and controlling the activities of the organisation, and decision-making where alternative strategies are in existence to ensure that there is effective formulating of both long-term plans to meet objectives and short-term operational plans.

ECO 224 **The Malawi Economy**

The aim of the course is to present up-to-date but accessible analyses and specialised perspectives of the Malawi economy and issues.

ECO 311 **Econometrics I**

The course introduces students to econometric methods and methods for socio-economic research. Upon completion of the course, students should be able to: apply statistical techniques to economic problems, carry out simple and multiple least squares regressions; be competent in the use of computer software for data management and econometric analysis.

ECO 312 **Industrial Economics**

The aim of the course is to provide an understanding of the structure, conduct and performance of firms by studying analytical models of imperfect competition, determinants of industrial structure, entry in strategic settings, government regulation of natural monopolies, and markets with asymmetric information.

ECO 313 **International Trade**

This course aims: (a) To acquaint the student with contemporary blend of fundamental principles of foreign trade under varying market structures; (b) To make the student appreciate the wide range and impact of policy instruments applied in strategic trade and commercial policy choices; and, (c) To direct and motivate the student to constraints and opportunities to the conduct of business within the context of increasing international initiatives in the areas of regionalism, multilateralism and globalization facing Sub-Saharan Africa.

ECO 321 **Econometrics II**

Econometrics is concerned with the use of mathematical and statistical techniques to study the interrelationships among economic variables, and to appraise economic theory. Emphasis in this course is on the single equation regression model, while other relatively more advanced topics in econometric theory and practice are dealt with at an elementary level. This course builds on ECO 311: Econometrics I.

ECO 322 **Monetary Economics**

By the end of this course, students will be able to understand the nature and economic significance of money, the practice of monetary policy, as well as the interactions between monetary and fiscal policies globally and in Malawi.

ECO 323 **International Finance***

This course aims: (a) To acquaint the student with fundamental principles of international finance and open-economy macroeconomics; (b) To make the student appreciate the wide range of analytical tools applied in understanding financial and monetary flows and macroeconomics at international level; and, (c) To direct and motivate the student to the constraints and opportunities to the conduct of business and policy within the context of increasing financial globalization facing Sub-Saharan Africa.

ECO 324 **Philosophy of Economics***

The aims of the course are to provide an introduction (a) to parts of philosophy of science (especially to the works of Karl Popper and Imre Lakatos), (b) to parts of economics (particularly standard microeconomics and general equilibrium theory) and (c) to some philosophical work devoted specifically to economic methodology, and to provide an introduction to philosophical argument in general: This course should help the student appreciate how philosophy and economics bear on each other and how knowing philosophy can contribute to doing economics.

ECO 411 **Research Methods**

The aim of the module is to equip students with skills necessary for them to conduct an economics research. This course introduces students to the basic steps and process of conducting economic research. Students are introduced to ways of selecting a topic, writing a proposal, conducting a study, analysing data in different econometric/statistical software, and writing the dissertation.

ECO 412 **Public Finance**

This course introduces students to contemporary issues in the theory and practice of Public Finance. It also provides an analytical study of policy issues and welfare implications of public finance, while giving special attention to the experience of Malawi.

ECO 413 **Labour Economics**

The course is designed to provide an introduction to the theory and practice of contemporary labour economics. The primary focus of this course is on

developing an understanding of the determinants of wage rates and employment levels in labour markets. Students are equipped with analytical tools to be used to examine such contemporary policy issues as minimum wage laws, labour market discrimination and the economic impact of unions.

ECO 421 **Research Project**

The aim of this course is to enable students to develop research skills and produce an original piece of academic work in their selected area of economics.

ECO 422 **Financial Economics**

The aim of the course is to introduce students of economics at undergraduate level to the basic principles of financial economics, corporate finance and investments. The course is designed in a way that enables students to understand the principles of capital budgeting and financial decisions of the corporation with the basic conceptual and analytical techniques required for security selection by investors and speculators. It examines the wide menu of available assets, the institutional structure of domestic and international financial markets and the market mechanisms for trading securities. In addition, it examines various theories underlying financial economics.

ECO 423 **Transport Economics**

The course aims at providing knowledge about the nature of transport, the role of transport in economic development, factors affecting the demand and supply of transport, forecasting modelling and planning, the role of government in provision and control of transport services, and economic evaluation of transport projects.

Bachelor of Arts in Development Economics

For years one and two, the department offers the same courses/modules as under BA (Econ)

Module Code	Module Name and Descriptor
DEC 311	**Quantitative Methods for Development Economists I**

The module introduces students to quantitative methods for socio-economic research in development economics. Upon completion of the module, students should be able to apply statistical techniques to economic problems, carry out simple and multiple least squares regressions, and be competent in the use of computer software for data management and quantitative analysis.

DEC 312 **Natural Resource Economics**

The module demonstrates how economic techniques covered in the introductory modules in microeconomics, macroeconomics and quantitative methods may be applied to the management of natural resources. It is based on (a) the theory of the optimal extraction renewable and non-renewable environmental resources. The module also emphasises the problems resulting from the public good nature of the resources. The aim of the module is to enable students gain an understanding of the various principles and concepts important in managing natural resources.

DEC 313 **Development Economics**

The aim of the module is to introduce students to development problems and literature. The module also discusses development experience and how the least developed countries (LDCs), including Malawi, are performing. It also provides solutions for the development predicament of LDCs.

DEC 314 **Indigenous Economics**

This module is intended to equip students with the tools for (a) analysing in microeconomic and macroeconomic terms indigenous economies, defined as economies whose economic practices, ideas and economic institutions are natives of Africa, Asia, Latin America, Caribbean and Oceania. By the end of the module, it is expected that students will appreciate indigenous economics and know its implications for economic development and for development policies.

DEC 321 **Operational Research Techniques**

The module is concerned with the use of mathematical and statistical techniques to study the interrelationships among economic variables, and to appraise economic theory. Emphasis in this module is on the multiple equation regression models. This module builds on DEC 311.

DEC 322 **Agricultural Economics**

The module aims to introduce students to the application of economics theory in agriculture, the role various actors in agricultural development, the linkages between the agricultural sectors and other sectors including the role of trade, the tools and techniques in agricultural policy analysis.

DEC 323 **Economic Planning and Management**

The module introduces literature in development planning and management techniques. It presents experience with development planning and management across countries and over time, and how the least developed countries (LDCs), including Malawi, are performing and provide solutions for the development predicament of LDCs.

DEC 411 **Research Methods for Development Economists**

The aim of the module is to equip students with skills necessary for them to conduct an economics research. This module introduces students to the basic steps and process of conducting economic research. Students are introduced to ways of selecting a topic, writing a proposal, conducting a study, analysing data in different econometric/statistical software, and writing the dissertation.

DEC 412 **Environmental Economics**

The module shows how economic techniques covered in the introductory modules in microeconomics, macroeconomics and quantitative methods maybe applied to the analysis of environmental problems. It is based on (a) the theory of the optimal extraction of renewable and non-renewable environmental resources, optimal emissions and disposal of waste materials, and (b) the theory of externalities and public goods. The module also emphasizes the problems resulting from the incompleteness of markets for allocating environmental resources.

DEC 413 **Economic Analysis of Poverty and Inequality**

The aim of the module is to introduce students of economics at undergraduate level to the concepts and measurement of well-being, poverty and inequality and justification for their systematic inquiry. It further seeks to impart analytical skills for students to document and analyse trends and dynamics in poverty and inequality over time by introducing specialised software or statistical applications for poverty and inequality analysis. Lastly it aims at capacitating graduates in economics to evaluate the efficacy of poverty reduction programmes, strategies and policies.

DEC 414 **Education Economics**

The economics of education is about understanding how and why people make decisions to invest in education, the effect of education on long-term social and economic outcomes, the behaviour of those institutions that "produce" education, and how best to design and implement public policies affecting the level and distribution of education resources. The basic tools of economics provide a framework to evaluate education policies, including early childhood interventions, primary and secondary school financing, and college choice and financial aid. Throughout the module, emphasis is on examining empirical tests of the economic theory and measuring the effects of policy initiatives on educational outcomes i.e. efficiency and equity effects of policies.

DEC 421 **Research Project for Development Economists**

The aim of this module is to enable students develop research skills and produce an original piece of academic work in their selected area of economics.

DEC 422 **Microfinance and Entrepreneurship**

The aim of the module is to prepare students in entrepreneurial activities for self-employment, thereby contributing to economic growth and development. The module introduces students to the operations of microfinance systems and the role such markets play in promoting entrepreneurship. It introduces tools that are important for entrepreneurial activities.

DEC 423 **Monitoring and Evaluation**

The aim of the module is to introduce students of economics at undergraduate level to the basic principles of monitoring and evaluation. The module is designed in a way that enables students to understand the importance of monitoring and impact evaluation in evidence-based policy decisions, theories and practices of impact evaluation, quantitative and qualitative approaches to monitoring and evaluation. The module prepares students for practical project management, monitoring and evaluation of development results.

DEC 424 **Health Economics**

The purpose of the module is to enable students to understand the application of economic concepts and theories in the area of health and health care. The module is also designed to enable students understand the burden of disease, to use health economics in evaluation of health services in Malawi and elsewhere and assess how these fit in with the global health economy.

Master of Arts in Economics

Module Code	Module Name and Descriptor
ECO 630	**Quantitative Methods**

Part one of quantitative methods is covered in mathematics for economists. This module imparts mathematical skills necessary for economic analysis. The four major areas covered are univariate calculus, which reviews univariate functions and exponential and logarithmic functions. The second component focuses on matrix algebra. The third component concentrates on multivariate calculus and matrix algebra, and finally the fourth component is on dynamic optimisation covering difference equations, differential equations, and introduction to optimal control theory. The first part deals with the basic methodology and classical estimation procedures in econometrics, including

how to deal with typical econometric problems. The second part of the module introduces advanced application of econometrics to test the validity of economic theories, by emphasising the practice of econometrics using various econometric and statistical computer programmes. The third part focuses on an advanced treatment of time series modelling including ARIMA models, unit roots tests, co integration techniques, error correction models and panel data models.

ECO 680 **Policy Analysis and Economic Management**

The module aims at introducing students to the most important and current policy issues facing sub-Saharan African countries. The issues involved are numerous and complex and the aim is not to touch all of them, but the essential elements which equip students with a fairly rigorous understanding of the policy and economic management issues are covered.

ECO 790 **Health Economics**

The module aims at enabling students to understand the application of economic concepts and theories in health and health care. At the end of the module, it is expected that students will perform effectively as health economists. The module covers demand and supply for health care, markets and health care, health insurance, information asymmetric in health care, cost of health and health care, economic evaluation, economics of disease and health policy, and planning issues.

Department of History

Modules offered have been designed with four categories of students in mind: Bachelor of Arts Humanities, Bachelor of Social Science, Bachelor of Education (Humanities) and M.A. in History. The Department aims at balancing the student's knowledge of historical developments in Africa with that of comparable developments in Europe, Asia and the Americas. A strong theoretical component has been introduced at higher levels of study to complement students' knowledge of regional historical developments. Advanced modules at third, fourth, and fifth year levels are also geared to the need of those preparing for secondary school studies in History.

Year One

Module Code **Module Name and Descriptor**

HIS 111 **Pre-colonial Africa**

This is an introductory module to early African History, focusing on the political, social and economic forces that shaped the development of African societies from earliest times to dawn of the colonial era at the end of the 19th century. Dominant schools of thought on any of the themes covered are also introduced.

HIS 112 **Topics in Early World History**

The module seeks to ensure that students have a clear understanding of the growth and nature of early civilisations that developed around the Mediterranean World and Europe. Comparable developments in Asia, Africa, and the Americas are also addressed.

Year Two

HIS 211 **Twentieth Century Africa**

This is another introductory module which takes a look at the development of African Societies since the European occupation of the African continent at the end of the 19th century. Focus is on the political, social, economic and ecological factors that have influenced the process of development during the twentieth century.

HIS 222 **Themes in Modern World History**

The module traces the growth of internationalism since World War One. It focuses on how the world has become increasingly interdependent since the great powers met at Versailles to resolve the issues which grew out of the Great War. Of particular interest is the emergence and progress of organisation dealing with international cooperation and conflict resolution.

Year Three

HIS 311 **History ofMalawi**

This module presents an overview of Malawi's history from earliest times to the present. It takes into account various forms of political, social, and economic organisation as they featured at different points in time. Towards its end, the module focuses on contemporary Malawi-her achievements as well as failures.

HIS 322 **Historical Research Methods**

The purpose of this module is to introduce senior class students to the pleasures and problems of historical research. Emphasis is placed on both the theoretical and practical problems of research, including the use of written, oral and archaeological sources. It is intended mainly for students who wish to major in History and have proved to be of above average ability in the subject.

HIS 323 **Modern Europe**

The module focuses on major political and economic developments in Europe (including Britain) from the time of the absolute states of the 18th century, through the French Revolution of 1789 and the liberal and industrial revolutions of the 19th century, to the rise of the "New Imperialism" at the end of the 19th century and the outbreak of World War One in 1914 to the of the Cold War.

HIS 324 **Southern Africa Since 1870**

The aim of this module is to explore the concept of the "Southern Africa regional economic system". It starts with the mineral revolution in South Africa with the purpose of showing how this affected (and continue to affect) the economies, societies and politics of the region. National histories are placed within the regional context in order for students to form an appreciation of the wider linkages.

HIS 331 **Feminism Since the 18th Century**

This module is designed to introduce students to feminism. It adopts a historical perspective to examine problems confronting women overtime and in various social, economic and political contexts, together with a variety of feminist theories, which address them. It also looks at some of the central debates that divide various feminist theorists and activists, including the original cause of gender inequality, the factors that continue to perpetuate it and actions that should be taken to end it. The module critically engages with these debates in the belief that different theoretical assumptions lead to different practical strategies.

HIS 332 **Agrarian Transformations in Africa**

This module explores the social, economic and political dimensions of agrarian change in Africa from the eighteenth to the twenty-first centuries. It commences with an examination of the political economies of sedentary and pastoral peoples of Africa, and continues with a study of the impact of colonial settlement and conquest on these societies. Particular attention is paid to the numerous forms that colonial agriculture took: the coercive slave-based plantation economies, sharecropping, estates agriculture and peasant production. The module adopts a regional approach, taking case examples from northern, western, eastern, central and southern Africa regions. Specific country examples will be located within the regional context.

Year Four

HIS 411 **Research Paper-Theory**

This is a practical oriented module which builds on the Research Methods module offered in the Third Year (His 322). It prepares senior students taking it for the writing of a Research Paper on the basis of field (oral) and archival research carried out in the module of their fourth and final undergraduate year.

HIS 422 **Research Paper- Practicum**

The module is a continuation of HIS 411. It allows students to develop their research projects for presentation at the History Seminar series before submission to the department.

HIS 431 **African Women's History**

The module deals with the experience of African women from the precolonial period to the present. It introduces students to basic concepts and approaches to the study of gender relations in African history.

HIS 432 **African Environmental History**

This module explores the history of human-environmental interaction on the African continent. It looks at how colonial relations shaped conflicts over environmental control and rural ecological change in the 19th and 20th centuries and the legacies of such dynamics in the post-colonial era. Attention is also placed on methodological and theoretical approaches to the writing of environmental history.

HIS 441 **African Economic History**

The module focuses on main patterns of socio-economic change in Africa from pre-colonial to post-colonial times. It covers such themes as pre-colonial patterns of production and exchange; Africa's incorporation into the world of economy; peasant food and cash crop production; mining and its impact; and industrial development.

HIS 442 **The African Diaspora**

The module deals with the African experience from a global as opposed to a purely African perspective. Beginning with the slave trade and the growth of international capitalism, it traces the migration of people African descent to different parts of the world; examines the manner in African descent adapted themselves to the political, social, and economic environment of their countries of adoption; and assesses the contribution black people in African and abroad have made to civilisation.

HIS 451 **The USA Since 1776**

The module aims at introducing students to the American experience in general and in particular to the dynamics of American society from the time of independence to from the British Empire to recent times. Emphasis is placed on the development of American institutions and character, process of national integration, and the mobilisation of resources for industrial and urban development, and the nation's struggle with issues of race and class, and the country's rise to a position of dominance on the international scene.

HIS 452 **Comparative Themes in Third World History**

This module looks at major topical issues in the history of the Third World: Africa, Asia and Latin America. It is a comparative module that examines the creation of the Third World at the end of World War II and the impact that this has had on developing countries. Emphasis will be placed on the shared experiences and challenges that confront developing nations vis-à-vis the developed nations.

Year Six

Field Research and Thesis Writing

Department of Political and Administrative Studies

The department of Political and Administrative studies is one of the oldest academic departments in the University of Malawi. It currently is part of the Faculty of Social Sciences at Chancellor College. The college is the oldest constituent College of the University of Malawi and the oldest institution of higher learning in Malawi. Over the years, the College has enjoyed the reputation of being Malawi's premier institution of higher education, and has produced numerous leaders of Government, industry and civil society. The department of Political and Administrative Studies was born out of the Staff Training College now called the Staff Development Institute (SDI). In 1962 the college established the Institute of Public Administration (IPA) to train civil servants. The IPA became one of the constituent colleges of the University of Malawi when it was founded in 1965, and when Chancellor College moved to Zomba in 1973, the IPA was restructured and became an academic department called Department of Public Administration under the Faculty of Law and Public Administration. Since then, the Department has undergone a number of changes and is now called the Department of Political and Administrative Studies in the Faculty of Social Sciences. The department currently has three academic streams namely public administration, political science and human resource management. It offers three undergraduate and two postgraduate programmes as follows:

• **BA (Public Administration)** – a four year degree programme catering for students who come straight from secondary schools and those who join in the first year as mature or non-residential students.

• **BA (Political Science)** – a four year degree programme majoring in political science.

• **BA (Human Resource Management)** – a programme which started in 1990 as a fully funded mature entry two-year programme. From 1995, it became a fee paying full-time programme and later became a weekend programme.

Bachelor of Arts (Political Science)

Module Code	Module Name and Descriptor
POL 122	**Introduction to Political Science**
	This course aims at providing first year students with a thorough understanding of fundamental concepts dealing with and related to state and government. The course gives a detailed description of forms of governments and their workings and makes clear distinction between systems of government, which is necessary in the context of emerging democracies.
POL 211	**Introduction to Political Theory**
	This course focuses on two related components of Political Science, namely, Political theory and Political processes. It exposes students to the basic values and principles and agencies that mould any political system and the processes therein.
POL 222	**Politics in Malawi**
	The course is geared at giving students an understanding of the politics of Malawi in a wider context relating it to the principles that they learnt in the Political theory course.
POL 328	**Comparative Politics**
	The course presents diverse political systems across the globe and compares their respective political institutions and processes. The importance of doing this is to assess the relative merits and defects of different systems of government and the role of various political institutions. This course focuses on four countries: Britain, USA, India and Japan.
POL 317	**Politics of Southern Africa**
	The aim of this course is to familiarise students with the politics of southern Africa, especially in the context of the continuously and rapidly changing landscape of the international political system.
POL 315	**Classical Political Thinkers**
	The main aim in this course is to introduce students to issues, concepts and theories that have stood the test of time and form the basis of government, the state, politics, social relations and political discourse. This is achieved through examining the works of distinguished classical political thinkers.

POL 326 **Modern Political Thought**

This course focuses on the political philosophies and ideas that shape the values and objectives of political systems. The course emphasises on the point that political philosophy is not static and ideologies have not and they cannot come to an end.

POL 411 **Politics of Development**

The aim of the course is to present contemporary development issues from a political perspective. It underlines the primacy of politics in the development process by providing comparative political bases for exploring different political theories and approaches to development.

PAS 401 **African Politics**

The aim of this course is to introduce students to the specificity of modern African politics in general. To this end, it traces the broad contours of the political transition of the region and the nations from the pre-colonial era to the present, encompassing the impact of colonialism, the authoritarian legacy and the process of democratisation.

PAS 403 **International Political Economy**

This course is intended to give students a foundation in fundamental issues of political economy and a clear understanding of how political economy is centrally linked to international politics.

POL 426 **Regional Integration and Cooperation**

The course aims at presenting students with the realities in the regional context. It emphasises that interdependence and cooperation is the answer for today's problems and explores the ways and means to make them effective, particularly in the context of Southern Africa.

POL 415 **International Relations**

The aim of this course is to present the dynamics of relations between the small and large, rich and poor nations in the world. The objective is to highlight the issues, problems and opportunities surrounding societies in a global context. It addresses pertinent issues of state sovereignty, economic dependence and inter and intra state conflicts in the context of globalisation. The course strikes a balance between theoretical understandings of international relations with current affairs.

Bachelor of Arts (Public Administration)

Module Code	Module Name and Descriptor
PAS 111	**Introduction to Public Administration**
	The course focuses on the nature and development of the discipline in relation to how public organisations function or can be managed towards goal attainment. Special attention is given to democratisation in the Malawian context, and its implications on the managers' role.
PAS 211	**Introduction to Organizational Theory and Management**
	The course focuses on the nature of organisations, how they function and how they can be managed towards goal attainment. The course also equips students with necessary skills to be able to link administrative activities with prevailing environmental changes.
PAS 222	**Introduction to Local Government**
	The aim of this course is to provide students with an understanding of the dynamics of the Local Government system. It focuses on the processes, structures, functions and performance of decentralised forms of government. The course places emphasis on the organisational, managerial, personnel and financial aspects of Local Government.
PAS 316	**Public Policy Analysis**
	The aim of this course is to introduce students to the basic concepts and approaches of public policy making and analysis. It also exposes students to the basic methods for analysing public policy problems and how these problems can and do get onto the government's agenda.
PAS 327	**Institutions and Development**
	The major aim of this course is to introduce students to issues that are at the fore of contemporary policy debates in development. This is achieved through examining both the new and traditional perspectives on the role of socio-political processes and their relationships with socio-economic development.
PAS 311	**Local Government and Local Administration**
	This course builds on PAS 222 and it aims at giving students an in-depth understanding of the development and workings of local government systems in Africa. It also examines some of the major contemporary issues and debates that have a bearing on the performance of decentralised local government.

PAS 314 **Conflict Resolution: Theory & Practice**

The course recognises that a thorough understanding of conflicts and the ways and means of their resolution is a must in today's world. In newly emerged democracies of Africa, the potential for conflicts are high and the mechanisms to deal with them are weak. Therefore, the course is imperative to equip undergraduate students with necessary skills in resolving conflicts.

PAS 411 **Organisation Development**

This course is designed to enhance students' diagnostic capabilities to design appropriate behavioural science interventions aimed at improving organisational efficiency, effectiveness and health.

PAS 424 **Development Administration**

The primary objective of the course is to enable students understand development theory, processes, actors and critically reflect on the role and capabilities of public administration (government) to manage development policy, processes, and interventions in order to ensure meaningful and sustainable development.

PAS 413 **Public Sector Reform**

The aim of the course is to introduce students to basic concepts and analytical tools that enable them gain a comprehensive understanding of the major public sector reforms and challenges facing developing countries arising from changes in the global environment. The course focuses on experiences and case studies in public sector reform from Malawi and a contrast with examples drawn from African and other developing countries.

PAS 426 **Administrative Law**

The course aims at familiarising students with critical issues relating to Administrative Law. Emphasis in this course is placed on aspects of law that provide an understanding of basis for sound decision making in work organizations.

PAS 415 **Constitutional Law**

The course aims at familiarising students with critical issues relating to the national constitution. Emphasis in this course is placed on aspects of law that provide an understanding of the basis for good governance.

PAS 427 **Public Financial Management**

The aim of this course is to provide students with an understanding of the key elements of financial management and its contribution to the effective management of public organisations. The course introduces students to key public financial management tools and Acts in Malawi and also seeks to impart some financial management analytical techniques and skills to the students.

Bachelor of Arts (Human Resource Management)

Module Code	Module Name and Descriptor
H R M 313	**Theories and Practice of Management**

The focus in this course is on providing a comprehensive theory on the structure and functioning of modern work organizations and their interdependence with the wider social, political, economic, and technological environment.

H R M 328 **Organisational Behaviour and Communication**

The aim of this course is to provide students with an understanding of the impact individuals, groups and structures have on behaviour within an organisation. It also equips students with skills in both verbal and non-verbal communication in an organisation.

H R M 324 **S t r a t e g i c Management and Planning**

This course focuses on the strategic management process/model in order to acquaint students with the executive level perspective on strategy formulation, implementation and control and detailed knowledge and specific skills within a broad framework of strategic management. The approach in this course involves a combination of models, case studies and current research findings.

HRM 311 **M a r k e t i n g Principles**

The aim of this course is to analyse the role of Marketing in the context of the public and private sectors. The overall purpose is to develop both theoretical understanding of fundamental principles of marketing and practical skills involved with developing strategic marketing plans.

H R M 315 **Human Resource Management I & II**

The course aims to introduce, express and apply the concepts and practices of the human resource management functions. Focus is on how to best utilise the

human resource and the application of the concepts and techniques to the ecology of the Human Resource Managers in Malawi.

FSS 300 **Research Methods**

The course aims at broadening the knowledge base and enhancing students' ability to formulate and undertake problem-oriented study of social science phenomena in a more systematic and rational manner. It focuses on theory and practice of both basic and action research.

H R M 306 **Business Law**

The course aims at familiarising students with critical issues relating to Business Law. Emphasis in this course is placed on aspects of law that provide an understanding of basis for sound decision making when conducting business in organisations.

HRM 416 **Advanced Dispute Resolution & Conflict Management**

The aim of the course is to introduce advanced theoretical and practical dispute resolution perspectives and the various mechanisms managers engage to promote stability and resolve dispute in organisations, state and international levels.

HRM 429 **Peace and Security**

The course aims at introducing peace and security perspectives and the various mechanisms engaged to maintain stability at the state and international levels. The course provides detailed case studies in Africa and the world in general on how best peace and stability can be achieved and maintained which has a bearing on national human resource capability.

H R M 415 **Human Resource Planning**

The course is intended at equipping students with techniques, skills and knowledge required to plan for the most valuable resources in the organisation: people. It also exposes students to an appreciation of the role of National Development Planning and its likely impact on organizational planning for human resources.

H R M 426 **Human Resource Development**

The course aims at understanding certain key terms and concepts that are essential to the development of employee competencies in an attempt to remove performance limitations, current and/ or anticipated, that are causing employees to perform at less than the desired level.

H R M 417 **Industrial Relations Theory**

This course is designed to equip students with knowledge and skills required for understanding and effective handling of labour-management relations in a dynamic and continuously changing social, legal, economic and political environment.

H R M 428 **Industrial Relations in Malawi**

The course aims at acquainting students with the growth and development of Malawi's industrial relations system since the 1930s. The course compares and contrasts industrial relations practices in Malawi during the pre-colonial, post-colonial/ one party and the multiparty periods with emphasis on key lessons learnt.

HRM 422 **Project Paper/Dissertation**

During their final year students are required to write, under supervision, a project or research paper based on field attachment and/or research in the third year. The exercise builds on the Research Methods course and is designed to develop the students' analytical, judgmental and communication skills.

Master of Arts Political Science

The main goal of this programme is to contribute towards the consolidation of democracy in the country by developing a pool of Malawian scholars with a solid understanding of traditional theories and contemporary approaches of political science, the role of politics in development and a broader and deeper understanding of politics and the political economy of Africa in general and Malawi in particular. The ultimate aim of the programme is to produce Masters graduates who are knowledgeable about democratisation and other political developments and challenges confronting African countries and the developing world in general. At the end of the programme students are expected to:

Articulate major themes, theories, schools of thought, methods and approaches in political science.

Understand the critical elements of good governance, democratisation, globalisation, international relations and how these impact on national politics and the economy.

Understand Malawi's political system and be able to compare and contrast with other systems in Africa and other parts of the world and how different forms of political organisation influence national politics.

Conduct systematic political science inquiry and carry out political analysis on democratisation and other major issues facing the country. The programme dedicates one year to course work and the second year to writing of a thesis which is supervised by two lecturers.

Module Code	Module Name and Descriptor
MPA 501	**Research Methods for Political Science**
	This course introduces students to research methods commonly used by political scientists and other social scientists. In particular, the course introduces students to various ways of linking theory and evidence by providing them with tools, methods and techniques for examining the real world so as to help them reach conclusions about various political phenomena.
MPS 502	**Political Theory**
	This course provides students with an overview of the conceptual issues and foundational theories influencing the study of politics and how these in turn inform and influence political thought and philosophy.
MPS 503	**Comparative Politics**
	This course introduces students to the sub discipline of comparative politics. The course is designed to provide students with an overview of the conceptual, methodological and theoretical tools used in cross-national study of government institutions and political processes.
MPS 504	**African Politics**
	The primary purpose of this course is to equip students with a better understanding of the current challenges and opportunities faced by African states. This is achieved through extensive reviews of both the historical legacies that have shaped modern Africa and the major transformations currently taking place on the continent.
MPS 505	**International Political Economy**
	The primary objective of this course is to explore the relationship between politics and economics in a global context. This entails to a great extent exploring the economic determinants of international politics as well as the politics of the international economy.
MPS 506	**Corporate Governance and Leadership**
	The aim of this course is to develop students' ability to understand and analyse issues linked to corporate governance which, inter alia, include the political, legal, economic, and social nature of corporations; privatisation and restructuring; management and financial accounting.

MPS 507 **Politics of Development**

This course presents contemporary development dynamics from a political point of view. The course essentially departs from the general understanding of development as an economic problem but instead explores in great details the role of political forces and actors in development.

MPS 508 **Public Policy Development and Management**

This course exposes students to various contemporary issues in public policy analysis and management. Thus, the course aims to equip students with public policy analysis and management knowledge and skills that they can use to achieve immediate outputs and support sustainable outcomes for specific beneficiary groups and society as a whole.

MPS 509 **International Relations**

The course exposes students to major approaches and concepts in the field of International Relations. In this regard, the course discusses at length the classical paradigms in International Relations and also identifies and discusses in greater detail the major critiques of the classical paradigm.

Master of Arts Human Resources Management & Industrial Relations

The main goal of the MA in Human Resource Management and Industrial Relations is to contribute towards Malawi's socio-economic development through the production of human resource managers with advanced knowledge and skills to handle very demanding and highly qualified human resources. This is in line with the Malawi Growth and Development Policy Strategy II which recognizes the role of a skilled and productive labour force's in terms of contributing to economic growth and improved living standards.

This MA programme has two components: The first is course work and the other is independent research work leading to the production of a thesis. Students are required to take a total of eight courses in the first year, four core courses and four electives. To satisfy this requirement, students are required to enrol for two courses every three months one of which shall be core. Those who fail to qualify for the MA degree but pass the course work are awarded a Postgraduate Degree in Human Resource Management & Industrial Relations.

Module Code	Module Name and Descriptor
MHI 501	**Research Methods for Human Resource Management and Industrial Relations**

This course introduces students to research methods commonly used in human resource management and industrial relations and other behavioural sciences. Thus, the course introduces students to techniques of inquiry and analysis to prepare them for the experience of field research in readiness for their own dissertation or thesis write-up.

MHI 502 **Human Resource Management and Development**

This course provides students with an overview of the conceptual issues and framework for understanding the management and development of human resources. The course draws heavily from a combination of human resource management and human resource development to demonstrate the process of recruitment, maintenance, development and utilisation of people in modern organisations.

MHI 503 **Industrial Relations Theory and Practice**

This course provides sound understanding of the theory concerning collective relationships between employees and employers and the role of union and non-union representation of employees through the examination of practical issues such negotiations, collective action, disputes and grievances. Special examples are drawn from developing countries.

MHI 504 **Employment Law**

This course introduces students to the legal framework within which employment relations and the management of human resources are done. Specifically, emphasis is on individual and collective labour rights within the International Labour Organisation conventions and the national constitutional framework, labour relations and employment Acts.

MHI 600 **Thesis**

This module provides students with an opportunity to engage in a substantial piece of scholarly research work in an appropriate area of their choice under suitable supervisory guidance. The second year of the programme is dedicated to the research work and the writing up of a thesis. Students need to pass all the eight modules to proceed into the second year where they undertake a supervised research.

MHI 505 **Understanding Organizations and Management Processes**

This course builds on the notion that formal work organisations have a powerful impact on our lives, both good and bad, and we therefore, need to develop a comprehensive understanding of their functioning. This will enable us to enhance the good side of organisational life and minimise the negative/ harmful side of organisations and, therefore, maximise human happiness.

MHI 506 **Contemporary Issues in Human Resource Management**

This course examines contemporary themes that have emerged as challenges in the management of people in organisation. These include such issues as women

in decision making positions, HIV/AIDS in the workplace, stress management, flexible-working hours, performance management system, emotional intelligence, talent management, organisation learning and the learning organisation and the role of human resource managers in responding to these issues.

MHI 507 **Industrial Relations in Malawi**

This course builds on the industrial relations theory and practice to explore in greater detail the relationship between trade unions, employers and the state in Malawi since the colonial period. Emphasis is on the impact of economic, political, legal and institutional framework for industrial relations.

MHI 508: **Strategic Planning and Performance Management**

This course provides a comprehensive understanding of strategic planning as an integrated approach to the planning, monitoring and evaluation of organisational performance. Emphasis is placed on approaches and processes involved in strategic planning and its linkages with performance management and reward system.

MHI 509 **Comparative Industrial Relations Systems**

This course examines various institutions and processes involved in industrial relations and compare their functioning across the world. The major assumption behind this course is that the context within which industrial relations operate influence the manner in which the major actors- the state, employers and trade unions- operate.

MHI 510 **Human Resource Planning**

This course is geared towards developing and sharpening students' understanding of the theory and practice of human resource planning in a continuously changing labour market. It is aimed at enhancing the skills of students to assess the organisations' human resource needs in light of organisational goals and making plans to ensure that a competent, dedicated and stable work force is employed.

Master of Public Administration and Management (MPAM)

The MPAM study programme is primarily targeting management cadres in public, private sector and civil society organisations.

Intended Programme Objectives

The programme is designed to achieve the following objectives:

• Develop participants' core management and leadership competencies and skills necessary for facilitating the functioning of government ministries, departments, agencies and any other organizations operating in the wider public domain.

• Inculcate work ethics and values that promote organization efficiency, professionalism transparency and accountability.

• Enhance capacity for effective service delivery by the public service and organizations operating in the wider public arena.

Module Code	Module Name and Descriptor
MPA 501	**Theories of Public Administration and Management**
	This module establishes the theoretical base for the field of public administration and management. The module takes a balance of theoretical and practical orientation of issues in public administration.
MPA 502	**Public Policy and Political Economy Analysis**
	The aim of the module is to equip students with knowledge, expertise and skills to address public policy challenges in order to achieve sustainable economic, social and political development. It takes place amidst political, economic and social environments in which different stakeholders, operating within a changing institutional context, interact strategically as they pursue conflicting interests.
MPA 503	**Public Service Ethics and Governance**
	This module seeks to provide a comprehensive understanding of the link between public sector governance and ethics, the infrastructure of public service ethics and their associated values and norms, common public service ethical dilemmas, and approaches towards ethics management in the public sector.
MPA 504	**Public Sector Human Resources Management**
	The module is designed to introduce students to human resources management best practices and enable them acquire functional theoretical HR knowledge and practical skills critical for examining entrenched HR processes, strategies and practices obtained in own work settings with particular focus on the public sector in Malawi.
MPA 505	**Research Methods and Practice**
	This module seeks to provide students with a firm foundation in the logic and practice of systematic research inquiry in Public Administration and Management. The module will emphasize the importance of research design and measurement, with students introduced to the basics of qualitative, quantitative and mixed research methodologies.

MPA 506 **Public Sector Economics**

The aim of this module is to provide an understanding of government activity through an economic lens. Thus, public sector economics focuses on the role of government and the different ways in which government policies affect the economy.

MPA 600 **Thesis**

The thesis seeks to consolidate theoretical underpinnings and practical aspects of the programme by way of students researching on a particular topic and offer some scholarly and policy insights. The key product for this module is the thesis. The second year of the programme will be dedicated to the research work and the writing up of a thesis. Each student is required to give at least two seminars on the research project.

Department of Psychology

The Psychology Curriculum falls into two major divisions: years 1 and 2 provide a broad introduction to the discipline; years 3 and 4, are at a more advanced level, specializing in the applied areas of health and/or management. Admission to third and fourth year modules is restricted to those students who achieved good marks in their second and third year examinations, respectively. The advanced modules have been designed with the job market in mind.

Seven modules are normally offered: two in the first year, two in the second, two in the third, and three in the fourth year. One full module meets for four one hour lectures and tutorials per week. Students majoring in Psychology are expected to complete at least six modules during their degree programme.

The department maintains professional contacts with a number of external agencies such as Zomba Mental Hospital, Ministry of Health, Malawi National Examinations Board, UNESCO, UNICEF, World Health Organisation and several refugee agencies and organizations as well as local commercial and industrial organisations.

Year One

Module Code	Module Name and Descriptor
PSY 111	**The Science of Psychology**
	The course takes students through essential elements of science that explain the field of Psychology and human behaviour. It also presents the scientific aspect of psychology with respect to the research and testing involved in the field. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and handouts.
PSY 122	**Development Psychology**
	This course is a study of human growth and development. It concentrates on major theories and perspectives as they relate to the physical, cognitive and psychosocial aspects of development from conception to death. It also looks at the role of relevant research on specific developmental stages. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and handouts.

Year Two

PSY 211	**Cognitive Psychology**
	Utilising the theme that human cognition has evolved over time as a means of adapting to our environment, the course exams cognition in cross-culture perspective, while exploring the basics of cognitive psychology through coverage of cognitive brain, perception and attention, emotion and cognition, language, problem solving and Reasoning and decision making.

PSY 212 **Personality Psychology**

Personality Psychology is interested in a set of relatively enduring behavioural characteristics that describe how a person reacts to the environment. It is also concerned with individual differences. While recognising that all people are similar in some ways, personality psychologists are particularly concerned with individual differences. Some of the important questions addressed by personality psychology include: How do people differ? Why do they differ? How can personality be assessed?

PSY 215 **Principles of Experimental Psychology**

The course deals with a variety of basic methods, procedures and analytical tools used in the study of behaviour. These methods are basic in the sense that they are fundamental to the analysis of all areas of psychology and other behavioural sciences. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and handouts.

PSY 223 **Child and Adolescent Psychopathology**

This course considers in detail the cognitive theory of childhood development and examines several psychopathologies that are commonly found in childhood and adolescence. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and handouts.

PSY 224 **Learning and Performance Psychology**

This course examines the fundamentals of classical conditioning, instrumental conditioning and selected cognitive learning theories as they relate to performance. Also performance of innate behaviours, motor performance and intellectual performance are discussed. Although research on animal learning is considered, more focus is on the application of psychological theories and principles to human learning and performance.

PSY 226 **Practices of Experimental Psychology**

Practices of experimental psychology deals with the application of the various methods, procedures and analytical tools in the assessment of behaviour in real-life settings. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and hand-outs.

Year Three

PSY 311 **Clinical Psychology**

Clinical Psychology is a branch of psychology that studies the diagnosis and treatment of abnormal behaviour. The course concentrates on the nature, classification and diagnosis of abnormal behaviour. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and handouts.

PSY 312 **Designing Psychological Studies**

The course focuses on designing scientific psychological research studies, research ethics and scientific writing skills focusing on both qualitative and quantitative methods. In addition to grounding students in the philosophy of research methodology and the debates surrounding what is known as warrantable and scientific knowledge and research, the course also gives students a thorough understanding of the nature, purpose and logic of experiments as a research technique in psychology.

PSY 313 **Organisational Psychology**

The course focuses on introducing students to the work environment using the scientific method. Students should be able to explain employees' motivation at work, employee satisfaction and commitment, leadership, organisational communication, organisational change, employee selection, employee training and development, employee performance evaluation, stress, workplace safety, violence and health (HIV/AIDS), and working conditions.

PSY 314 **Biological Psychology**

The course focuses on the brain-behaviour interactions and the comparative and adaptive aspects of behaviour in an evolutionary context. The course also reviews evidence for brain-behaviour interactions obtained from studies of human brain damage and from investigations of the normal brain.

PSY 325 **Counselling Psychology**

The course introduces students to the most important contemporary approaches of counselling and psychotherapy, focusing on: underlying philosophical assumptions, major concepts, view of personality, the therapeutic process, interventions and outcomes. The current approaches to counselling and psychotherapy selected for this course are also explored with respect to the relations between theorists and their theories, as well as between counsellors and their clients. Cross-cultural and gender-related aspects are considered for each of the counselling schools under study.

PSY 326 **Social Psychology**

Among other aspects, the course examines how the presence of other people influences our thoughts, feelings and behaviour and how we influence other people's behaviour. In broader terms, the course is designed to equip students with the knowledge and skills to enable them identify, analyse, understand and apply social psychological concepts, processes and techniques that are central to the enhancing of positive interpersonal relationships in their daily activities.

PSY 327 **Psychometrics**

The course examines the history, theories and principles applied in psychometrics. The aim is to equip students with the necessary knowledge and skills to deal with various aspects of psychological testing and assessment. Issues addressed include those of conceptualisation, assessment of intelligence, personality and aptitude.

PSY 328 **Psychology of Motivation**

The course introduces students to primary needs, secondary needs, complex secondary needs, Maslow's Hierarchy of needs, emotional motives, and theory of motivation. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and hand-outs.

Year Four

PSY 411 **Psychology of Special Population**

This course discusses the general characteristics and issues relating to selected special groups. These groups have a common characteristic of being subjected to societal bias of one type or the other, and this places them at some disadvantage compared to mainstream society. Thus, the course provides an overview of the unique problems and needs of each of the diverse populations and focuses on the application of sensitive psychosocial intervention strategies.

PSY 412 **Applied Psychometrics**

The course focuses on applied psychological assessment, including assessment of intelligence, interests, achievement, personality and other human functioning including aspects of psychological adjustment. Special emphasis is placed on using assessment tools to make various decisions in clinical, organisational, educational and other human functioning domains within multicultural context.

PSY 413 **Psychology of Social Marketing**

The course takes students through essential Psychology of Social Marketing that explain consumer behaviour. Students are expected to gain and demonstrate understanding of role of social marketing in consumer behaviour as applied to HIV/AIDS, environmental conservation, Breast feeding, Family planning, substance abuse, and pollution prevention.

PSY 414 **Research Project Proposal Development**

In this course, students develop research topics in the field of psychology. The topics should be development-oriented. In first semester component, the course consists of the research proposal development and a write-up of the first three chapters, including pilot study.

PSY 425 **Consumer Psychology**

The course introduces students to cognitive and emotive processes of the consumer. The focus is on how the behaviour of the consumer is influenced by attitudes, personality, learning and memory, perception and attention, and emotion. The course content is delivered in the form of lectures, group discussions, demonstrations, videos and hand-outs.

PSY 426 **Community Psychology**

This course deals with the relationships of the individual to communities and the wider society. It makes use of various perspectives within and outside psychology to address issues of communities, the relationships within them, and people's attitudes about them. Through collaborative research and action, community psychologists seek to understand and enhance quality of life for individuals, communities and society.

PSY 427 **Health Psychology**

The course examines the definitions of health and health psychology, and some major theories and research behind various areas in the field of health psychology. The main focus is on general psychological processes and their relevance in prevention, assessment, and intervention strategies that can be used to relieve distress or dysfunction. Further, an analysis is made on the influences that social, behavioural and cultural factors have on health.

PSY 428 **Research Project in Psychology**

This course is a continuation from PSY 412: Research Project Proposal Development. In this course, students are required to complete the research project they started in first semester. In this part of the research project, students

collect and analyse the main research data on which their project is based. The final research project must be written in a scholarly form that complies with the 6th edition of the American Psychological Association Publication Manual.

Department of Sociology

Sociology focuses on the study of interaction between people as individuals and as groups, and the way this interaction influences behaviour. Studying human interaction is important because this takes place in all spheres of human life such as politics, economics, religion, education, family, and recreation. The Department of Sociology aims at offering a comprehensive study of sociology through the different branches of the subject. The department has over the years responded to the changing social environment by offering course modules that are relevant to the needs of the country. There are three programmes in the Department:

Bachelor of Arts in Sociology

Bachelor of Social Science in Gender Studies

Bachelor of Social Science in Social Work

Bachelor of Arts in Sociology

The aim of the programme is to equip students with relevant knowledge and competencies in sociological theory and concepts that will enable them to analyse social behaviour in various contexts.

The following are the programme modules

Year One

Module Code	Module Name and Descriptor
SOC111	**Introduction to Sociology:**
	The module focuses on theories used by sociologists and other social scientists to understand social behaviour and concepts that are commonly used in sociological discourse. The students develop an understanding of Sociology as an academic discipline in the Social Sciences and the basic sociological concepts and theories upon which more advanced work will be built.
SOC 112	**Mathematics for Social Scientists (College Algebra)**
	The module aims to connect mathematical tools and elementary social science analysis. The objective of this module is to provide the students with the necessary mathematical tools that are required to follow Year 3 modules in social sciences. The focus is on mathematics, but the different concepts are taught using applications in social science.

SOC 121 **Introduction to Social Anthropology: Social Institutions**

The module introduces students to the field of social anthropology as a social science discipline and its links with sociology and social institutions such as the family, religion, education, the economy and politics and how they shape and influence human behaviour.

SOC 122 **Mathematics for Social Scientists (Calculus)**

This module offers the foundational study of limits and continuity, differentiation, optimisation and graphing, and integration of elementary functions, with emphasis on applications in the social sciences. The objective is to prepare students for quantitative aspects of social science analysis.

Year Two

SOC 211 **Classical Sociological Theories**

This module discusses the views of the founding fathers of sociology. It highlights the social and historical contexts in which their views of human society and its development emerged, and finally demonstrates how some of the theories have been used to explain critical social phenomena.

SOC 212 **Social Problem Analysis**

The module focuses on the nature, causes and possible solutions to the major social problems facing various societies. It provides a foundation to the study of social policy and social welfare.

SOC 213 **Economic Sociology**

The module explains how economic activities are shaped, facilitated, altered and impeded by social relations. It reviews the sociological explanations of economic activities of production, consumption and distribution in a wide range of settings

SOC 221 **Contemporary Sociological Theories**

This module introduces students to some of the major contemporary sociological theories. It demonstrates how these theories have built upon, or modified classical theories to explain human behaviour in rapidly changing societies.

SOC 222 **Deviance and Crime**

The module examines and provides a critical evaluation of the major sociological explanations of crime and deviance. General deviance concepts, theories of deviance and non-criminal deviance are taught.

SOC 223 **Sociology of Poverty**

The module focuses on the nature and extent of poverty in Malawi and beyond. The module examines different approaches to poverty measurement, characteristics and causes of poverty, people's views of poverty, and policies and programmes that address poverty.

Year Three

SOC 311 **Society and The Environment**

This module expresses sociology of the environment as a new field that has developed in relation to people's growing concerns about environmental problems. It exposes students to the dynamic relationship between human society and the environment. The modules emphasises the issue of capitalist activities as the foundation to environmental degradation.

SOC 312 **Theories and Concepts in Gender Relations**

This module introduces theories and concepts of gender. Students examine the various ways and institutions through which gender is constructed and contested in society. The module also examines the effects of gender socialisation and the various legal frameworks to bringing gender equality.

SOC 313 **Theories of Development and Underdevelopment**

The module provides an understanding of different theoretical approaches to the study of development and underdevelopment. It focuses on the concept of development and how it is measured, different concepts and measures of poverty, the global stratification, and development and underdevelopment theories.

SOC 314 **Urban Sociology**

The module introduces students to the sociology of urban areas with a focus on the historical background, major theorists and the development and nature of urban areas.

SOC 315 **Quantitative Research Methods**

This module focuses on statistical methods and techniques in quantitative research. Students acquire knowledge on measurement of variables, statistical estimation, simple linear regression, correlation, analysis of variance, tests of significance, as well as the use of various computer programmes in data analysis.

SOC 321 **The Environment and Sustainable Development**

This module seeks to acquaint students with current debates surrounding environmental exploitation, conservation and sustainable development. The module presents scores of alternative definitions of sustainable development, sustainable economies and sustainable societies which students need to become conversant with.

SOC 322 **Gender and Development**

This module discusses theories of development from a historical perspective and shows how the conceptualisation of development impacted on the development of men and women in society. The module also introduces the gendered theories of development and how they are linked to the concept of development. Feminist perspectives on development are also discussed as well as international instruments on gender and development. An assessment is made on how Malawi has fared on the gender related protocols on gender and development.

SOC 323 **Models of Development**

he module looks at the relationship between the theoretical approaches in development and the process of development planning. The contemporary issues in the field of development are also discussed.

SOC 324 **Urbanisation and Developing Economy**

The module is a follow up to urban sociology and focuses on the problems common to urban areas or that result from the development of an urban area. It reviews policy options applicable in eliminating such social problems and their consequences.

SOC 325 **Qualitative Research Methods**

The module provides students with an understanding of the research process. It focuses on theoretical and methodological considerations in the social sciences. It equips students with skills that enable them prepare research proposals and conduct social research in a professional manner.

Year Four

SOC 411 **Research Proposal Development**

This module uses skills and knowledge obtained from SOC 315: Quantitative Research Methods and SOC 325: Qualitative Research Methods. Students go through the process of proposal development under the supervision of a faculty

member, depending on the choice of their research topic. They review literature related to their topic, develop a theoretical/conceptual framework, choose an appropriate research design and methodology and develop instruments for data collection.

SOC 412 **Agrarian Change and Rural Development**

The module acquaints students with the factors that promote as well as hinder the socio-economic development of rural areas, with special emphasis on Africa, and Malawi in particular. It focuses on factors that underlie peasant farmers' responses to programmes of agrarian change and the strategies for achieving rural development.

SOC 413 **Health and Illness in the Society**

This module underscores an attempt to expose students to underlying theoretical and conceptual understanding of the role of social, cultural and economic divisions in the experience of health and illness. It provides the discourse of the difference in understanding and explanation of the concepts of health and illness as well as the difference between the biomedical and socio-medical models.

SOC 414 **Project Management**

The module introduces students to the application of social theory and data collection and analysis techniques to project planning and management. It equips students with knowledge of the project cycle and skills of monitoring and evaluating the project.

SOC 415 **Formal Organisations**

The module is aimed at providing students with a thorough sociological understanding of organisations by looking at various theories of social organisation as a basis for understanding formal organisations. The module examine organisational structure, relationships between individuals and organisations and organisational behaviour that underpin the world around us.

SOC 416 **Social Policy Analysis**

The module is concerned with the analysis of the impact of selected social policies on society. Among the policies analysed are those relating to gender, education, health and the youth. The module equips students with knowledge of the nature and purpose of social policies in the development agenda.

SOC 417 **Migration and Resettlement**

The module equips students with knowledge of causes of migration and how it impacts on economies and social relations. It enables students to gain insights into the practical and theoretical perspectives of the push and pull factors of migration, including state sponsored migration and resettlement. This includes a detailed discussion of the social, economic and political objectives of resettlement schemes.

SOC 421 **Research Practicum and Dissertation**

This module operationalises the research proposal developed in SOC 411. Students go through their research proposal with their supervisors to ensure that research objectives are well articulated and the methodology is suitable. Students are allowed to collect data, analyse it and write a report. There are regular meetings between students and supervisors to review drafts submitted by students and monitor progress on the production of the dissertation.

SOC 422 **Community Development**

The module exposes students to various conceptualisations of community and community development and their implications on practice. It covers the views of eminent social scientists on community and community development, the nature of power and decision making at the grassroots, and how men and women participate in local development processes. Student develop an awareness of the social and cultural context which influences the outcome of development initiatives.

SOC 423 **Health Systems and Community Health**

This module is meant to provide insights into the organisation of health services, health service delivery and people's access to these services. It also seeks to link access to health services with people's lifestyles, major health challenges if the 21st century and knowledge generation that should help solicit answers to some of the pertinent questions through applied sociological research.

SOC 424 **Social Protection**

The module provides students with an understanding of the role of social protection in promoting human well-being. It focuses on the concepts, origins, theories, forms, and human rights instruments underpinning social protection. Students use this knowledge to relate social protection and vulnerability, and analyse appropriate social protection interventions.

SOC 425 **Sociology of Work and Industry**

The module focuses on the sociological perspectives on the concept of work and its dimensions, in both formal and informal sectors, and on relationships among workers and between them and management. The concept of work and its dimensions in different societies is analysed. The module also looks at how conflict between workers or trade unions and employers or their association arises and how it can be resolved or managed. In addition, it examines the roles of trade unions, employers' associations, the state, and the industrial relations courts in the settlement of trade unions disputes.

SOC 426 **Social Planning**

The module aims at analysing the forces that underlie the formulation of social policies, and the relationship between social policies and planning. It focuses on the role that interest groups, expert opinion and political idiosyncrasies play in influencing the nature of social policies, and how these policies are translated into programmes and interventions.

SOC 427 **Vulnerability and Disaster Risk Reduction**

The module aims to develop students' knowledge and skills in analysing and assessing vulnerability, risk, and appropriate interventions for people in different circumstances in Malawi, including disasters and recovery. It focuses on the concepts, methodological approaches to vulnerability and risk assessment and the factors that compound vulnerability and risk. It further covers the impact of poverty and AIDS on vulnerability as well as issues of disaster and relief management. Students should be able to apply this knowledge and the skills gained to assess social, economic and financial vulnerability in both urban and rural areas, and help people cope with and be resilient to shocks.

Bachelor of Social Science in Gender Studies

The aim of the programme is to increase capacity for rigorous gender analysis and to promote awareness of its relevance in economic, historical, political, social and scientific contexts.

The following are programme modules:

Year One

Module Code	Module Name and Descriptor
GEN 111	**Introduction to Gender and Women Studies** The module introduces students to the field of gender and women's studies. Students become familiar with the key issues, debates and questions in this field both historical and current as well as the various movements and efforts that led to the development of the field.
GEN 112	**Introduction to Sociology: Theories and Concepts** The module focuses on theories used by sociologists and other social scientists to understand social behaviour and concepts that are commonly used in sociological discourse. Students develop an understanding of Sociology as an academic discipline in the Social Sciences and the basic sociological concepts and theories upon which more advanced work will be built.
GEN 113	**Women in World History** This module introduces students to women's history in a global context. It explores whether women's status has progressively improved or deteriorated. Special focus is on the comparative role of women in major world religions and political movements as well as the participation of women in various economies.
GEN 114	**Introduction to Psychology** In this module, students are introduced to the scientific study of human behaviour and mental processes by discussing fundamental concepts, topics, theories and methods that explain human beings' thinking, feelings and behaviours.
GEN 115	**Listening and Reading Skills for Social Sciences** This module aims to develop students' language competence in the social sciences through taking lecture notes and also writing notes and summaries from a text. It also develops skills in referencing in academic writing, intensive reading skills through skimming and scanning and the use of SQ3R as a reading technique.
GEN 121	**Introduction to Feminist Theory** This module discusses feminist theories from historical and international contexts. It also examines how women have been socially located and explores how theory works to explain power, oppression and liberation of women in various contexts.

GEN 122 **Introduction to Social Anthropology: Social Institutions**

The module introduces students to the field of social anthropology as a social science discipline and its links with sociology and social institutions such as the family, religion, education, the economy and politics and how they shape and influence human behaviour.

GEN 123 **Theories and Concepts in Gender Relations**

This module introduces theories and concepts of gender. Students examine the various ways and institutions through which gender is constructed and contested in society. The module also examines the effects of gender socialisation and the various legal frameworks on gender equality.

GEN 124 **Developmental Psychology**

This module introduces students to theories and perspectives of human development as they relate to physical, cognitive and psychosocial aspects of development from conception to death and the role of relevant research on specific human development stages.

GEN 125 **Writing and Oral Skills for Social Sciences**

The module aims at developing students' writing skills. This is done by distinguishing different types of writing such as expository writing and presenting an argument or persuasive writing. The module also improves the students' writing by taking them through the processes of essay writing, consideration of audience and unity and coherence of the text. It also gives students the opportunity to prepare and deliver oral presentations.

Year Two

GEN 211 **Classical Sociological Theory**

This module discusses the views of the founding fathers of sociology. It highlights the social and historical contexts in which their views of human society and its development emerged, and finally demonstrates how some of the theories have been used to explain critical social phenomena.

GEN 212 **Gender Based Violence**

This module discusses the gendered and systemic nature of violence, paying particular attention on how gender-based violence is perpetuated through interpersonal relationships and through social institutions such as the family, education, religion, the workplace, the law and politics. The focus is on understanding gender-based violence and seeking ways of preventing it so that men and women may enjoy their lives to the fullest.

GEN 213 **Family, Human Rights and the Law**

This module examines various conceptions of gender as a social construction that interfaces and interacts with other constructions such as status, ethnicity and class to exert influence on the structure and interpretations of family law. Apart from considering the effect of gender and legal pluralism on family life, the module employs gender theories to critique contemporary family laws and practices. The module covers gender dimensions of family formation, incidences of marriage, divorce and its consequences, decision making and power relations in the family, access to family resources and inheritance, custody of children, reproductive crimes, domestic violence and children's welfare.

GEN 214 **Politics and Governance**

The module gives students a basic grasp of various concepts and debates in politics and governance as well as how these have had a significantly profound gender impact on contemporary society. Students appreciate and become familiar with the possible political and governance frameworks that affect men and women differently as well as the significance of this differential impact on institutional and practical behaviour.

GEN 215 **Men and Masculinities**

The module interrogates how masculinities are constructed and reproduced in different social institutions. Students examine how masculinities shape individual lives, groups, organisations and institutions as well as their effects.

GEN 221 **Contemporary Sociological Theory**

This module introduces students to some of the major contemporary sociological theories. It demonstrates how these theories have built upon or modified classical theories to explain human behaviour in rapidly changing societies.

GEN 222 **Gender Analysis and Analytical Frameworks**

The module introduces students to the concept of gender analysis. It highlights the importance of gender as a category for examining social reality. Students acquire knowledge and skills in collecting and analysing gender disaggregated data.

GEN 223 **Sociology of Poverty**

he module focuses on the nature and extent of poverty in Malawi and beyond. Students examine different approaches to poverty measurement, characteristics and causes of poverty, people's views of poverty, and policies and programmes that address poverty.

GEN 224 **Migration and Human Trafficking**

This module examines the interface and interaction between gender, migration and human trafficking. It provides students with insights into the gendered nature of migration and an understanding of the complexities, and challenges of human trafficking on a global and local level. The module helps students to understand the different ways in which men and women experience, negotiate and respond to migration and human trafficking. It also enhances students' understanding of the differential impacts of migration and human trafficking on men, women and children and the limits of law as a tool for addressing migration related problems.

GEN 225 **Human Sexuality**

This module discusses the concept of sexuality and theories on the development of sexuality. It also explains how some things are said to be sexual and others not from a cultural point of view. The module also explores how sexuality is understood as a concept, an identity, an attraction and behaviour and compares how the concept was understood from a historical perspective.

Year Three

GEN 311 **Quantitative Research Methods**

This module focuses on statistical methods and techniques in quantitative research. Students acquire knowledge on measurement of variables, statistical estimation, tests of significance, as well as the use of various computer programmes in data analysis.

GEN 312 **Agriculture and Rural Development**

This module introduces students to a broad range of debates and concerns regarding gender, agriculture and rural development. The module covers concepts and issues in agriculture and rural development, land tenure systems, rural livelihoods, the division of labour, farm decision making in peasant households and monitoring and evaluation of rural development. Students develop an understanding of the relationship between gender, agriculture and rural development. The module also introduces students to skills and methods of monitoring and evaluation.

GEN 313 **Health and Nutrition**

This module looks at how gender roles, gender relations and social norms impact on the health and nutrition of men, women, girls and boys. Various health and nutrition issues are examined from a gender perspective. Students also analyse policy responses to health and nutrition needs.

GEN 314 **Men and Women at Work**

The module explores gender issues in relation to work. Students examine different conceptualisations and dimensions of work, the impact of gender roles on work and the legal and institutional frameworks governing the workplace.

GEN 315 **Entrepreneurship**

The module examines how gender impacts on various aspects of entrepreneurship such as innovativeness, access to assets and financing, business ownership and business skills. Students acquire knowledge on the theoretical approaches, principles and processes involved in enterprise development as well as practical skills in identifying, planning and management of a business.

GEN 321 **Qualitative Research Methods**

The module provides students with an understanding of the research process. It focuses on theoretical and methodological considerations in the social sciences. It equips students with skills that enable them prepare research proposals and conduct social research in a professional manner.

GEN 322 **Inequalities in Education**

This module critically analyses issues and problems concerning gender in education from historical and sociological perspectives and applies gender socialisation theories to practices taking place in various social institutions in order to explain gender differences in education. It also interrogates gender biases in the curriculum with a view to bringing about positive change and thereby reducing gender discrimination and biases in education.

GEN 323 **Language and Communication**

This module explores various issues in the field of language, gender and communication. Emphasis is on concepts, debates, theories, principles and research studies in interpersonal and group contexts for students to appreciate and understand the issues governing language, gender and communication. The focus is on what and how women and men speak, act and what they communicate to each other in the process in view of power relations.

GEN 324 **Portrayals of Gender in the Media**

The module examines the various ways through which the media constructs and reconstructs gender. Students look at different media categories, the obvious and subtle ways through which they create, reinforce or challenge gender identities and inequalities, and the effects of media gender socialisation.

GEN 325 **Sustainable Development**

This module discusses theories of development from a historical perspective and shows how the conceptualisation of development impacted on the development of men and women in society. The module also introduces the gendered theories of development and how they are linked to the concept of sustainable development. Feminist perspectives on sustainable development are also discussed as well as international instruments on gender and development. An assessment is made on how Malawi has fared on the gender-related protocols on gender and development.

Year Four

GEN 411 **Research Proposal Development**

This module uses skills and knowledge obtained from GEN 311: Quantitative Research Methods and GEN 321: Qualitative Research Methods. Students go through the process of proposal development under the supervision of a faculty member, depending on the choice of their research topic. They review literature related to their topic, develop a theoretical/conceptual framework, choose an appropriate research design and methodology and develop instruments for data collection.

GEN 412 **Gender Sensitive Budgeting**

This module provides students with comprehensive knowledge of gender mainstreaming and budgeting. Gender mainstreaming is presented as a process of assessing the implications for women and men of any planned action, including legislation, policies or programmes in all areas and levels. This means that the formulation of budgets incorporates an analysis of public expenditure and methods of raising public revenue from a gender perspective, identifying the implications and impacts for women and girls as compared to men and boys.

GEN 413 **Social Policy Analysis**

The module analyses the importance of gender considerations in the formulation of social policies. It examines how social considerations of gender affect policy design. Students look at the policy development process, analyse policies from a gender perspective and evaluate existing social services for men, women, boys and girls.

GEN 414 **Environmental Management**

The module focuses on how the various activities of men, women, girls and boys impact on the environment as well as how the condition of the environment affects them. Students examine the main environmental issues in Malawi and their causes, gender perspectives on environment and development, and explore gendered strategies and policies to environmental conservation.

GEN 415 **Gender, Science and Technology**

The module focuses on scientific and technological responses to the activities and needs of men and women. It examines accessibility, appropriateness and effectiveness of different technological and scientific innovations in improving the roles and needs of men and women.

GEN 416 **Gender and Humanitarian Settings**

The module offers an examination of key gender issues in humanitarian situations. Students acquire knowledge and skills in analysing and responding to men and women's needs in different settings in a gender sensitive manner.

GEN 417 **Gender and Witchcraft**

This module introduces students to concepts of belief and witchcraft and associated concepts of sorcery, magic, symbolism and demonology from a western as well as African point of view. The course covers the subject matter from ancient to contemporary beliefs and practices. The course also considers the forms and functions of supernatural beliefs and rituals in various societies to derive insights into roles of beliefs and institutions in human life. The course further discusses witchcraft as a gendered phenomenon.

GEN 421 **Research Practicum**

This module operationalises the research proposal developed in GEN 411. Students go through their research proposals with their supervisors to ensure that research objectives are well articulated and the methodology is suitable. Students are allowed to collect data, analyse it and write a report. There are regular meetings between students and supervisors to review drafts submitted by students and monitor progress on the production of dissertations.

GEN 422 **Community Development**

This module exposes students to various conceptualisations of community and community development and their implications on practice. It covers the views of eminent social scientists on community and community development, the nature of power and decision making at the grassroots, and how men and women participate in local development processes. Students develop an awareness of the social and cultural context which influences the outcome of development initiatives.

GEN 423 **Social Planning**

This module analyses the role of gender in social planning. It focuses on the importance of incorporating a gender sensitive approach to social planning activities and offers students the knowledge and skills appropriate for gender sensitive social planning.

GEN 424 **Gerontology**

This module discusses aging as a normal developmental process and presents gerontology as a multi-disciplinary field which studies the interrelated biological, psychological and social aspects of human aging. It examines contemporary and other theories of aging. It also discusses how society ages and the consequences on political, economic, social and other policies. International and national policy frameworks are analysed as well as interventions, to establish national responses to the plight of the aged as they are usually stereotyped and may be presented negatively and sometimes become scapegoats in society.

GEN 425 **Experiencing Disability**

This course explores the meaning of disability and deepens students' understanding of the experience of living with disability in today's society from a gender perspective. It introduces students to various approaches to disability and explores alternate perspectives of disability and how to understand disability from the perspective of difference rather than deficit. Disability is presented as a social construct and people with disabilities as a minority group with women as part of this minority. Disability rights are discussed from the national and international contexts and legislation.

GEN 426 **Counselling**

Students learn about the most important contemporary approaches of counselling and psychotherapy focusing on underlying philosophical assumptions, major concepts and therapeutic process interventions and outcomes. Students acquire micro-skills for counselling such as attending behaviour, questioning, observation, active listening, reflecting feelings and influencing strategies.

GEN 427 **Gender and Religion**

This module shows how religion influences, constructs, reconstructs and mitigates gender inequalities. It also explores differences in the religious lives of men and women, their relationship to God and their spiritual roles as men and women. It also discusses feminist spirituality and challenges that feminism faces in trying to restructure religion.

Bachelor of Social Science in Social Work

The aim of the programme is to equip students with relevant knowledge, skills, values, ethics and competencies in theories, principles and concepts that govern the social work profession.

The following are the programme modules

Year One

Module Code	Module Name and Descriptor
SOW- 111	**Introduction to Social Work: Theory and Practice I**
	This module introduces students to the nature of social work profession, its development and myriad purposes and how it positively influences socio-economic development. The module covers historical background of social work profession, concepts, values and ethics of social work, understanding of social work and social welfare, traditional and modern approaches in social work and the role of social work in national development. Students develop an understanding of the Social Work Profession in terms of its development purposes, and how it positively influences socioeconomic development.
SOW-112	**Introduction to Sociology: Theories and Concepts**
	The module focuses on theories of social behaviour and concepts that are commonly used in sociological discourse. Students develop an understanding of Sociology as an academic discipline in the Social Sciences and the basic sociological concepts and theories upon which more advanced work will be built.
SOW-113	**Introduction to Psychology**
	Students are introduced to the scientific study of human behaviour and mental processes by discussing fundamental concepts, topics, theories and methods that explain human beings thinking, feelings and behaviours.
SOW-114	**Analysis of Social Problems**
	The module provides students with knowledge of the nature, causes and possible solutions to the major social problems facing modern societies. It also acts as a foundational course to the study of social policy and social welfare. The module focuses on the distinction between personal and social problems; analysis of social problems using major sociological paradigms; and management and control of social problems.

SOW-115 **Listening and Reading Skills for Social Sciences**

This module aims to develop students' language competence in the social sciences through taking lecture notes and also writing notes and summaries from a text. It also develops students' skills in referencing in academic writing, intensive reading skills through skimming and scanning and the use of SQ3R as a reading technique.

SOW-121 **Introduction to Social Work: Theory and Practice II**

The module further develops students' knowledge and understanding of Social Work as a professional practice. It focuses on the process, methods and strategies of social work and indigenous knowledge systems, skills and practices in social work and social development.

SOW-122 **Introduction to Social Anthropology: Social Institutions**

The module introduces students to the field of social anthropology as a social science discipline and its links with sociology and social institutions such as the family, religion and politics and how they shape and influence human behaviour.

SOW-123 **Developmental Psychology**

This module introduces students to theories and perspectives of human development as they relate to physical, cognitive and psychosocial aspects of development from conception to death and the role of relevant research on specific human development stages.

SOW-124 **Early Childhood Development**

The module develops competencies required in working with diverse issues related to survival, growth, development and protection of children. It focuses on scope and foundation of early childhood development and care.

SOW-125 **Writing and Oral Skills for Social Sciences**

The module aims at developing writing skills. This is done by distinguishing different types of writing such as expository writing and presenting an argument or persuasive writing. The module also improves students' writing by taking them through the processes of essay writing, consideration of audience and unity and coherence of the text. It also gives students the opportunity to prepare and deliver oral presentations.

SOW-211 **Social Case Work I**

The module develops skills in case work approach to working with individuals, groups and families experiencing problems of social adjustment. The module focuses on aims, process, principles, ethics and stages in social case work.

SOW-212 **Communication Skills for Social Work Practice**

The module provides students with foundation skills in communication focusing primarily on skills in working with individuals. This is a practical module where students are taken through social work scenarios in groups and produce recorded role play. The role plays are reviewed by the groups and their tutors as the students learn how to offer constructive factually based feedback to each other.

SOW-213 **Social Group Work I**

In this module, students analyse group dynamics and the importance of group work in social work practice. It covers elements of social group work practice, theories and principles of group work as well as nature and significance of groups.

SOW-214 **Introduction to Social Work Practice**

The module prepares students for their first period of practice learning, introducing them to reflective learning and professional social work practice through looking at the professional practice learning context.

SOW-215 **Human Rights and the Law**

The module equips students with knowledge and skills on the advancement of human rights and social and economic justice. The module focuses on human rights theories, terminology, instruments, principles, institutions, context of human rights as well as the Malawi legal system.

SOW-221 **Social Work practice: Assessment, Planning and Intervention**

This module provides students with theoretical models for undertaking social work assessments while at the same time developing practical skills in assessment. It focuses on context for assessment, models of assessment, risk assessment in child care work, planning and implementing an assessment.

SOW-222 **Social Case Work II**

Building on Social Case Work I, the module enhances students' knowledge, skills and competencies in working with individuals, families and groups to effectively assist them deal with problems of social dysfunction. It focuses on theoretical approaches, indigenous and modern helping systems, communication in social

case work and pre-clinical social case work.

SOW-223 **Gender and Development**

The module introduces students to basic concepts and issues in the study of Gender relations in society, drawing out interlinkages and centrality of the relationship between gender and development. The module provides a firm foundation for further study in gender and development.

SOW-224 **Social Group Work II**

The module builds on work done in Social Group Work I. It further enhances students' skills, knowledge and techniques in social group work. The module focuses on small group theories, group dynamics, power and influence in groups as well as the relationship of group work to community development and community organisations.

SOW-225 **Introduction to Social Policy**

The module aims at analysing the forces that underline the formulation of social policies, and the relationships between social policy and planning. It focuses on the role that interest groups, expert opinion and political idiosyncrasies play in influencing the nature of social policies, and how these social policies are translated into programmes and interventions. Students learn about social welfare perspectives and ethical issues of social policy and their role in promoting human wellbeing.

SOW-311 **The Practicum**

The practicum accords students the opportunity to put social work theory, skills, values and ethics into real life situations. The module allows students to have hands-on experiences in various aspects of social work through attachments to relevant agencies and organisations. Students are on attachments for one semester (16 weeks).

SOW-321 **Social Work Practice Skills with Special Populations**

This module builds on the work done in the Foundation Skills for Social Practice module. It aims at equipping students with skills for successful communication with families and service users with a range of different life problems.

SOW-322 **Counselling Psychology**

In this module, students learn about the most important contemporary approaches of counselling and psychotherapy focusing on underlying philosophical assumptions, major concepts and therapeutic process interventions and outcomes. Students acquire micro-skills for counselling such as attending behaviour, questioning, observation, active listening, reflecting feelings and influencing strategies.

SOW-323 **Evidence-Based Social Work Practice**

The module aims at familiarising students with key models and methods for social work practice and the theories that underpin them. It develops students' ability to assess the strengths and limitations of both individually-based and socially-based explanations for, and interventions, in people's personal care problems.

SOW-324 **Social Research Methods**

The module provides students with an understanding of the research process. It focuses on theoretical and methodological considerations in the social sciences. It equips students with skills that enable them prepare research proposals and conduct social research in a professional manner.

SOW-325 **Reflective Practice**

The module provides students with an understanding of social work practice and instils confidence and skills to reflect on their own social work practice. Students learn the processes involved in reflecting upon practice and the context of practice, to appreciate the ways in which critical reflection can contribute to good practice and to explore ethical issues and dilemmas involved in practice.

SOW-411 **Community Health and Nutrition**

The module provides students with knowledge about the interface between Community Health and Nutrition through analysis of theoretical perspectives, principles and practices. Students acquire skills for conducting community health and nutrition assessments, promoting nutrition and dietary diversification as well as managing interventions for primary health care and disease prevention.

SOW-412 **Research Proposal Development**

This module uses skills and knowledge obtained from SOW 324: Social Research Methods. Students go through the process of proposal development under the supervision of a faculty member, depending on the choice of their research topic. They review literature related to their topic, develop a theoretical/conceptual framework, choose an appropriate research design and methodology and develop instruments for data collection.

SOW-413 **Child Protection**

This module provides students with knowledge and skills in child protection, focusing on rights-based approaches. It also helps students to learn the theories, policies, laws, contemporary trends and practices applicable to child protection. Students acquire skills for working with and for children in order to protect them from all forms of abuse, violence, exploitation and neglect.

SOW-414 **The Environment and Sustainable Development**

The module aims to acquaint students with current debates surrounding environmental conservation and sustainable development. It focuses on sustainable development as an ideology, emerging debates and foundations for sustainable development. Students should be able to use this knowledge to critique environmental plans, policies and laws, engage in policy advocacy for sustainable development, and identify positive environmental exploitation activities.

SOW-415 **Diversity**

This module focuses on issues of diversity, oppression and social justice. It prepares students to examine people's biases and adaptive capabilities and strengths of different marginalised groups. It assists them in understanding the complex nature of the person in the environment, taking into consideration the dynamics of oppression, diversity and social functioning. Students are able to identify and explain discrimination and oppression suffered by different minority groups as well as strategies for combating stereotypes and discrimination and helping people with diverse needs.

SOW-416 **Youth and Development**

The module equips students with the knowledge about theories, policies and laws that underpin youth development. Students gain skills in analysing the social economic challenges which the youth face. They also have an understanding of a youth-centred development planning.

SOW-417 **Disability and Special Needs**

The module provides an understanding of issues of disability and special needs. Students acquire knowledge on how to work with and assist people with disabilities cope with their situations. The module focuses on identifying categories of disability, the psychodynamics of disability, rehabilitation programmes and the role of the social worker in working with people with disabilities.

SOW-421 **Community Development**

The module introduces the historical aspects of community development and its evolution globally. It also covers basic theories, concepts, processes and methodologies as well as the local context in terms of policies and principles. Students are able to relate community development to basic human needs.

SOW-422 **Research Project**

This module operationalises the research proposals developed in SOW 412. Students go through their research proposals with their supervisors to ensure that research objectives are well articulated and the methodology is suitable. Students are allowed to collect data, analyse it and write a report. There are regular meetings between students and supervisors to review drafts submitted by students and monitor progress on the production of dissertations.

SOW-423 **Social Protection**

The module provides students with an understanding of the role of social protection in promoting human well-being. It focuses on the concepts, origins, theories, forms, and human rights instruments underpinning social protection. Students use this knowledge to relate social protection and vulnerability, and analyse appropriate social protection interventions.

SOW-424 **Entrepreneurship**

The module helps students acquire knowledge in the theoretical approaches, principles and processes involved in enterprise development. Students acquire skills in the identification, planning and management of a business enterprise. They also gain practical skills in Appropriate Technologies that can spur and sustain economic empowerment at household and community levels.

SOW-425 **Life-Course and Aging**

The module analyses factors surrounding aging. Students examine how old age influences human behaviour, the changing roles of the individual in the life course and how societies respond to the needs of elderly people.

SOW-426 **Social Work Perspective on HIV and AIDS**

The module provides an in-depth understanding of the HIV and AIDS pandemic. It examines psychosocial support to infected and affected prospective clients, survival skills and home-based care. The module also draws on the knowledge and experience from other social work practice courses to prepare students for working with HIV and AIDS in a variety of settings.

SOW-427 **Vulnerability and Disaster Risk Reduction**

The module aims to develop students' knowledge and skills in analysing and assessing vulnerability, risk, and appropriate interventions for people in different circumstances in Malawi, including disasters and recovery. It focuses on the concepts, methodological approaches to vulnerability and risk assessment and the factors that compound vulnerability and risk. It further covers the impact of poverty and AIDS on vulnerability as well as issues of disaster and relief management. Students should be able to apply this knowledge and the skills gained to assess social, economic and financial vulnerability in both urban and rural areas, and help people cope with and be resilient to shocks.

SOW-428 **Practicum**

The module strengthens the skills students acquired in the first practicum SOW 311. The field experience helps students to understand the cultural, social, political, legal, economic and environmental contexts affecting marginalised and people at risk. Students should be able to apply social work and social science theories in analysing and assessing social situations in order to develop appropriate interventions, engage with communities, groups, families and individuals. They also have an opportunity to demonstrate their commitment to social work values and ethics and display appropriate work habits and ability to cope with change

Department of Population Studies

The work programme of the Department includes:

- teaching of demography/population studies;
- research in demography/population studies;
- in-service training for government employees and others; and
- advisory service on demographic matters to Ministries/Departments of the Government of Malawi.

The Department was established with a view to creating an awareness of the demographic implications of policies and decisions made on day-to-day basis in public and private sectors as well as at individual and family levels. The teaching programme of the Department introduces modules in demography and population studies into the professional training of administrators, economists, educationists, geographers, sociologists, etc. Students majoring in each of these disciplines can benefit by opting for suitable modules in demography and population studies. The modules also introduce basic analytical skills to enable prospective graduates to make better use of demographic data in their later work, and to prepare those interested in demography as a profession for more specific training.

Module Code	Module Name and Descriptor
DEM 111	**Introduction to Population Studies and Demography**
	This module introduces students to key concepts, methods and techniques in Population and Demography. It traces the evolution of population and demographic studies. Students develop a comprehensive understanding of the components of population change; the sources of demographic data; and the age and sex structures of different populations.
DEM 121	**Introduction to Demographic Techniques**
	This is an introductory module of basic techniques of demographic analysis, equipping students with knowledge and skills of how to compute basic demographic measures and how they can analyse and adjust demographic data.
DEM 211	**Theories in Demography**
	This modules familiarises students with social and economic theories in demography such that they can use them as lens to understand population and demographic issues.
DEM 212	**Population and Society**
	This module introduces students to the relationship between population dynamics and social structures. The module assists students to appreciate different social systems as they are related to population dynamics; and discusses demographic responses to changes in social systems.
DEM 213	**Introduction to Demographic Models**
	This module exposes students to various demographic models that are instrumental in understanding population dynamics. Students are empowered with knowledge and skills to conduct demographic analysis.
DEM 221	**Demographic Issues in Malawi**
	This module exposes students to past and present demographic situation of Malawi; discusses contemporary issues in population and development in Malawi; and discusses the available official statistics in demography, health and socioeconomic issues in Malawi. Students also discuss major population and development policies of Malawi.

DEM 222 **Population and Development**

This module shares critical knowledge on interrelationship between population and development. Students are thus empowered to appreciate the link between population and development in contemporary Malawi.

DEM 223 **Statistics for Demographers**

This module equips students with basic skills in population data analysis such as measures of central tendency and dispersion. Students are taught how to present data using tabular and graphical methods.

DEM 312 **Techniques for integrating population in development planning**

This module discusses the concept of population and development integration and enables students to understand techniques of population projection. It orients students to tools used in projections such as Spectrum.

DEM 313 **Population and Gender**

The module broadens students' understanding of gender issues as they relate to demography. Some of the issues that are discussed in this course include: the difference between gender and sex; the conceptual and theoretical framework of gender; and policy issues related to gender and emerging debates.

DEM 314 **Qualitative Research Methods for Demographers**

The module introduces students to basic skills in qualitative population data analysis. Thus, the module equips students with skills in qualitative research.

DEM 321 **Migration**

This module enables students to acquire skills in migration analysis. It covers topics such as analysis of the components of migration; the causes and consequences of migration; and the role of migration as an agent of population change.

DEM 322 **Demographic Research Methods and Methodologies**

The module empowers students to use research as a problem-solving technique in demography. It covers both qualitative and quantitative research techniques. This module prepares students to carry out a research project by developing their own research proposal.

DEM 323 **Population and Environment**

This module is designed to explore the interrelationships between population and environment. It discusses contemporary issues in population and environment; and evaluates existing policies in relation to sustainable environmental management.

DEM 324 **Survey Research Methods for Demographers**

The module orients students to basic skills in quantitative population data analysis and how to use such skills using a given a population data set.

DEM 411 **Population and Reproductive Health**

The module broadens students' understanding of reproductive health issues as they relate to demography. Issues discussed in this module include: policy and rights issues related to reproductive health; and emerging debates in reproductive health.

DEM 412 **Indirect estimation of Demographic Measures**

This module presents the concept of indirect estimation technique and empowers students with knowledge, skills and uses of demographic software packages in mortality and fertility estimation.

DEM 413 **Census and Survey Management**

This module exposes students to a step-by-step planning, management and execution of major sources of Demographic data in Malawi.

DEM 414 **Research Proposal in Demography**

In this module, students under the supervision of faculty develop their research proposals during the first semester in their final year.

DEM 421 **Marriage (Nuptiality) and Family Formation**

The modules assists students to acquire knowledge and understanding of the effects of marriage and family formation patterns on elements of population change (fertility, mortality and migration).

DEM 422 **Population Project Planning, Monitoring, and Evaluation**

The module helps students to understand techniques in project planning, management, monitoring and evaluation; to construct logical objectives that can realistically be achieved within a particular timeframe; to establish a monitoring

and evaluation system, including indicators for measuring achievement of project objectives; develop population projects based on a thorough understanding of the situation in which an intervention is planned.

DEM 423 **Demography of Health**

The module empowers students with knowledge of health issues as they relate to population dynamics and how they can evaluate such issues.

DEM 424 **Demographic Research II**

In this module, students are required to do an independent research as part of their programme of study. Each student is required to make a PowerPoint presentation and submit a research report at the end of this course.

COLLEGE OF MEDICINE

The College of Medicine has two faculties and one school: Faculty of Medicine, Faculty of Biomedical Science and Health Professions and School of Public Health and Family Medicine which offer a wide range of courses including the following:

Calendar 2016-2018

Undergraduate programmes

- Bachelor of Medicine Bachelor of Surgery – 6 years
- Bachelor of Science Obstetrics and Gynaecology - post educationist
- Bachelor of Science Paediatrics and Child health - post educationist
- Bachelor of Science Trauma and Orthopaedics - post educationist
- Bachelor of Science General Surgery - post educationist
- Bachelor of Science Internal Medicine - post educationist
- Bachelor of Science Anaesthesia and Intensive Care - post educationist

Postgraduate programmes

- Master of Medicine Degree in Medicine (MMed Med);
- Master of Medicine in Orthopaedics (MMed Orth);
- Master of Medicine in Ophthalmology (MMed Ophth);
- Master of Medicine in Public Health (MMed Public Health);
- Master of Medicine in Paediatrics (MMed Paed);
- Master of Medicine in Psychiatry MMED (PSYCH)
- Master of Medicine in Surgery (MMed Surg).
- Master of Medicine Degree in Anaesthetics (MMed Anaes);
- Master of Medicine Degree in Obstetrics and Gynaecology (MMed Ob/Gynae);

FACULTY OF MEDICINE

Undergraduate Programmes

Bachelor of Medicine Bachelor of Surgery (MBBS)

The MBBS is a six-year programme: one year of foundation programme and five years of the MBBs programme. The distinctive feature of the MBBS course at the College of Medicine is its integrated nature. There is both horizontal integration between the different disciplines of biochemistry, physiology and anatomy of the division of Basic Medical Sciences, and vertical integration with the clinical disciplines. Community Health is taught in all five years of the course.

First year

Module Code	Module Name and Descriptor
MBBS 101	**Foundation Course and Musculoskeletal System**

The course introduces students to scientific concepts that are important for the understanding of medicine. The musculoskeletal course introduces students to the structure and functions of muscle and bone followed by a series of diseases that overlap the disciplines of Pathology, Radiology, Orthopedics and Rheumatology.

MBBS 102 **Heamatology, Cardiovascular and Respiratory Systems and Clinical Application**

These courses build on the knowledge gained during the foundation courses**.** The courses are designed to give an overview of:

- Hematology and oncology at the level of the first year medical student. The course consists of basic/clinical science lectures combined with relevant laboratory exercises associated with each given hematologic and oncologic disorder.
- Cardiovascular structure, physiology, pathophysiology and pathology. Its main aim is to help students form a strong base of medical knowledge in cardiovascular pathology, pathophysiology and pharmacology.
- Respiratory structure and function, pathology and pathophysiology. Its main aim is to help students form a strong base of medical knowledge in respiratory pathology, pathophysiology and pharmacology.
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Year Two

MBBS 201 **Endocrine, Gastrointestinal, Genito-urinary System and Clinical Application**

These courses build on the knowledge gained during the foundation course. In these courses, students are introduced to:

- Endocrinology which is about the communication between tissues by chemical mediators called hormones. The course reviews general endocrine physiology and explains the pathophysiology of endocrine diseases such as diabetes mellitus, osteoporosis, thyroid diseases and other disorders of hypo- and hyper- function of various endocrine tissues.
- Gastrointestinal and hepatobiliary structure, physiology, pathophysiology and pathology whose main aim is to help students form a strong base of medical knowledge in gastrointestinal and hepatobiliray pathology, pathophysiology and pharmacology.
- Genito-urinary structure, physiology, pathophysiology and pathology whose main aim is to help students form a strong base of medical knowledge in genitourinary pathology, patho-physiology and pharmacology.

MBBS 202 **Head and Neck and Neuroscience**

These courses build on the knowledge acquired during the foundation course. In these courses students are introduced to:

- The anatomy of the head and neck, the function of the nose, nasopharynx, oroptharnyx tracheary, the structure of the eye and ear, the muscles of facial expression.
- The neuropathology segment of the neurosciences course is designed to provide second-year medical students with an overview of the pathology of nervous-system diseases.

MBBS 301 **Junior Clerkship in Community Health**,

This course introduces students to core components of community health as well as essential public health services. Throughout these clerkships, students participate as active and responsible members of the community health team on the services and assignments to which they are assigned. Students have the responsibility for taking history from the community, performing a community and organisational diagnosis, suggesting solutions to identified problem and writing a report to the DHO and other stakeholders.

Students are expected to study and analyse problems in the communities and public health institution using theoretical and practical approaches to community and instutional diagnosis.

Students are expected to charge of their learning experiences. This is enhanced by lectures, conferences, seminars, tutorial sessions and directed reading.

During the clerkship, students are expected to develop cognitive, communication and attitudinal skills as a part of their continuing education in public health practice.

The overall aim is to produce a medical graduate that should be able to function effectively as a public health manager at district and national level.

Community Health rotation is composed of teaching by the Division of Community Health.

MBBS 302 **Junior Clerkship in Internal Medicine**

Junior Clerkship in Internal Medicine introduces the student to patient care. Throughout the clerkship, the student will participate as an active and responsible member of the clinical team on internal medical service. The student will be required to take a history from the patient or guardian, perform a physical examination, write the findings and participate in the process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician. The student will be expected to study and analyze the problems presented by his/her patients using the resources

of the departmental personnel, laboratories and Libraries within departments and at the Campus. The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds, seminars, tutorials, and directed reading. During the clerkship, the student is expected to develop cognitive, manipulative and attitudinal skills as a part of his/her continuing education in this discipline.

MBBS 303 **Junior clerkship in Paediatrics & Child Health**

Junior Clerkship in Paediatrics & Child Health introduces the student to the determinants of ill health in children and the growth and development of individuals from fetus to adolescence and paediatric patient care. Throughout the clerkship, the student will participate as an active and responsible member of the clinical Paediatrics & Child Health team on the services to which the student is assigned. The student has the responsibility for taking a history from the patient or guardian, performing a physical examination, writing the findings and participating in process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician. The student will be expected to study and analyze the problems presented by his/her patients using the resources of the departmental personnel, laboratories and libraries within departments and at the Campus. The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds and bedside teaching, seminars, tutorial sessions, skills lab training and directed reading. During the clerkship, the student is expected to develop cognitive, practical, manipulative and attitudinal skills as a part of his/her continuing education in these disciplines.

MBBS 304 **Junior Clerkship in Surgery**

This course introduces the student to patient care. Throughout these clerkships, the student will participate as an active and responsible member of the clinical surgical team on the services to which the student is assigned. The student has the responsibility for taking a history from the patient or guardian, performing a physical examination, writing the findings and participating in the process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician. The student will be expected to study and analyze the problems presented by his/her patients using the resources of the departmental personnel, laboratories and Libraries within departments and at the Campus. The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds, seminars, tutorial sessions and directed reading. During the clerkship, the student is expected to develop cognitive, manipulative and attitudinal skills as a part of his/her continuing education in the surgical disciplines.

MBBS 401 **Clerkship in Accidents and Emergency plus Anaesthesia.**

The intermediate clerkship in accidents and emergency and anaesthesia aims to introduce the student to patient care. Throughout the clerkships, the student will participate as an active and responsible member of the clinical team on the services to which the student is assigned. The student has the responsibility for taking a history from the patient or guardian, performing a physical examination, writing the findings and participating in the process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician. The student will be expected to study and analyse the problems presented by his/her patients using the resources of the departmental personnel, laboratories and Libraries within departments and at the Campus. The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds, seminars, tutorial sessions and directed reading. During the clerkship, the student is expected to develop cognitive, manipulative and attitudinal skills as a part of his/her continuing education in the discipline.

MBBS 402 **Clerkship in Family Medicine**

Clerkship in Family Medicine introduces the student to a thinking process that puts the patient care at the center of the family. The student has the responsibility for taking a history from the patient or guardian, performing a physical examination, writing the findings and participating in the process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician. The student will be expected to study and analyze the problems presented by his/her patients using the resources of the departmental personnel, laboratories and Libraries within departments and at the Campus. The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds, seminars, tutorial sessions and directed reading. During the clerkship, the student is expected to develop cognitive, manipulative and attitudinal skills as a part of his/her continuing education in the discipline.

MBBS 403 **Junior Clerkship in Obstetrics and Gynaecology**

The intermediate clerkship in O&G introduces the student to patient care. Throughout the clerkships, the student will participate as an active and responsible member of the clinical team on the services to which the student is assigned. The student has the responsibility for taking a history from the patient or guardian, performing a physical examination, writing the findings and participating in the process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician. The student will be expected to study and analyse the problems presented by his/her patients using the resources of the departmental personnel, laboratories and

Libraries within departments and at the Campus. The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds, seminars, tutorial sessions and directed reading. During the clerkship, the student is expected to develop cognitive, manipulative and attitudinal skills as a part of his/her continuing education in the discipline.

MBBS 404 **Intermediate Clerkship in Psychiatry**

This course introduces the student to patient care. Throughout these clerkships, the student will participate as an active and responsible member of the clinical psychiatry team on the services to which the student is assigned.

The student has the responsibility of taking a history from the patient or guardian, performing a physical examination, writing the findings and participating in the process of further investigations and treatment options within the limits of the student's competence in the care of patients assigned to him/her. Students will be supervised at all times by a registered clinician.

The student will be expected to study and analyse the problems presented by his/her patients using the resources of the departmental personnel, laboratories and Libraries within departments and at the Campus.

The student will take charge of his/her learning. This will be supplemented by lectures, conferences, ward rounds, seminars, tutorial sessions and directed reading.

During the clerkship, the student is expected to develop cognitive, manipulative and attitudinal skills as a part of his/her continuing education in the discipline.

Year five

MBBS 501 **Senior Clerkship in Internal Medicine, in relationship to Community Health**

A 5th year student is regarded as a Sub-intern. Therefore, the student should be able to deputize the intern. The main goal of the 5th year rotations in internal medicine is to determine if the student has acquired enough breadth and depth of medical knowledge as well as skills for the student to work as an intern. Ten core competencies have been identified for mastery during your Internal Medicine clerkship. For each competency, there is a set of "enabling objectives" (divided into knowledge, skills, and attitudes) designed to help students achieve the competencies. A set of key "training problems" is listed at the end. The training problems represent common problems in Internal Medicine and provide the clinical material for applying the enabling objectives for the competencies. Most of the ten competencies can be learned in either the inpatient or outpatient setting although some are more suited to one of the two settings. Many of the core competencies are general to the whole 5th year clerkship, but they are emphasized here as the focus on your Internal Medicine clerkship.

MBBS 502 **Senior Clerkship in Paediatrics & Child Health in relationship to Community Health.**

A 5th year student is regarded as a Sub-intern. The student deputizes the intern. By this time the student should have acquired enough breadth and depth of medical knowledge as well as skills for the student to work as an intern.

MBBS 503 **Senior Clerkship in Obstetrics and Gynaecology in Relationship to Community Health.**

A 5th year student is regarded as a Sub-intern. Therefore, the student should be able to deputize the intern. The main goal of the 5th year rotations is to determine if the student has acquired enough breadth and depth of medical knowledge as well as skills for the student to work as an intern. There are four clinical rotations in the final year plus community health.

MBBS 504 **Senior Clerkship in Surgery and in relationship to Community Health**

A 5th year student in surgery is a Sub-intern in surgery. The student should be able to deputize the intern. The main goal of the 5th year rotations is to determine if the student has acquired enough breadth and depth of surgical knowledge as well as skills for the student to work as an intern.

Bachelor of Science Obstetrics and Gynaecology - Post Educationist

The objective of this programme is to train a health professional who has sufficient technical and scientific skills, attitudes, ethical and cultural standards and administrative and management capabilities, to enable him/her to achieve good quality care and management in the functioning of a District Hospital or Mission Hospital as a Associate clinicianin Obstetrics

By the end of programme, the student should be able to:-

- Effectively manage normal and abnormal pregnancy, including offering full antenatal, intrapartum and postpartum care.
- Effectively manage common emergency obstetric and gynaecological conditions and diseases.
- Effectively manage patients requiring first aid and resuscitation.
- Perform effective neonatal resuscitation and to support the sick neonate requiring ventilation.
- Provide effective care for pre-term and full-term neonates.
- Perform diagnostic Ultrasonography in obstetric patients.

Year three

Module code	Module name and descriptor
BMS 311	**Human Physiology** This module introduces students to the normal function of the human body. Many diseases result from normal function having gone wrong. An understanding of the normal function will prepare the students to understand abnormal function (pathology) and how to restore normal function (management).
BMS	**Surgical/Obstetrical anatomy** This module introduces students to the normal anatomy of the human body. An understanding of the normal anatomy of the body will prepare the students to understand abnormalities encountered during surgical procedures and how to restore damaged anatomical structures.
BMS 312	**Medical Microbiology and Host Defences** This course introduces students to the common medical microbiological organisms causing diseases in Malawi. Students will be expected to learn how to classify them and recognize which ones are likely to be responsible for which illness. The student will also learn the organization of the human defence system and how the system functions.
BMS 313	**Principles of Pharmacology and Therapeutics** This module introduces students to principles of pharmacology and therapeutics, prescribing principles *et cetera.*
BMS 314	**Introductory Research and Statistical Methods** This provides students with beginners' skills to be able to carry out a research project and interpret findings for evidence-based decision-making.
BOG 315	**Professional Skills** This module acquaints students with the role of the clinician in the governance of the health system. The course covers medical ethics, aspects of consent as well as professionalism in medicine.
BOG 316	**Introduction to Obstetrics** This course teaches students how to take an obstetric history and how to carry out an examination in a strategic way that will lead to a working diagnosis and a differential diagnosis. Students learn how to use investigations to refine

their working diagnosis and exclude other possible diagnoses. The course also reviews common obstetric conditions in Malawi.

BOG 317 **Neonatology (same as BP 316)**

This module covers all aspects of neonatology, including routine antenatal care in Malawi, how to reduce mother-to-child transmission of HIV and how to reduce the incidence of respiratory distress syndrome. It also discusses predictors of high-risk deliveries, neonatal resuscitation, management of common conditions in neonates, Kangaroo care and follow-up of premature and low birth weight.

BOG 318 **Essential Surgical Skills Course (taught in common with BS317)**

This is a practical course in the surgical skills laboratory. Students learn basic surgical skills, life support and ATLS principles. The management of obstetric, gastrointestinal and genitourinary emergencies will be taught as will the practical aspects of orthopaedics and traumatology.

BOG 319 **Principles of Pathology**

This module introduces students to pathology of obstetric disease. An understanding of the normal histology will prepare the students to understand abnormal pathology and how this affects gynaecological diseases and in particular neonatal conditions.

BOG 321 **Applied Obstetrics in the District 1**

During this module the student takes what he or she has learned in their first semester and applies it in practice at their own district hospital. This will be done with regular mentoring visits done by TH staff. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. During the second half of this module, teaching will continue and assessment by Direct Observation of Clinical Skills (DOCS) will commence. Teaching includes an update on principles and practice of monitoring safe labour and indications for early transfer. Throughout the module students will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources. Emphasis will be on basic obstetric problems.

BOG 322 **Applied Neonatal Care in the District 1**

During this module the student takes what he or she has learned in their first semester and applies it in practice at their own district hospital. This will be done with regular mentoring visits done by TH staff. The work done during their time in the district and presented during the mentoring visits will include

audits and case write-ups and will contribute towards their credits. During the second phase, of this module, assessment by Direct Observation of Clinical Skills (DOCS) will commence. Throughout the module students will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources. Emphasis will be on basic neonatal problems.

BOG 323 **Introduction to Evidence-based Practice and Audit**

A principle of this course is that practitioners will achieve a deep understanding of the theory and practice of audit. BOG 323 starts this process as students begin to learn the application of theory into practice. Specific attention is paid to:

- Appropriate standards and criteria;
- Appropriate sample size;
- Relating audit to the evidence-base in obstetrics and neonatology.

Students then conduct a small audit of practice on one of six topics:

- Pregnancy Induced Hypertension;
- Obstructed labour;
- Post-partum Haemorrhage;
- Puerperal sepsis;
- Complications of abortion;
- Neonatal asphyxia.

This audit forms part of their assessment

BOG 324 **Professionalism: Values-based Practice, Shared Leadership and Service Improvement I**

Many practitioners operating at the level of Clinical Officer view professionalism in narrow ways and if asked will cite only that they must adhere to ethical principles and observe codes of behaviour. Here this concept is broadened out in two ways. Firstly, they are introduced to values-based practice. Starting from a premise of mutual respect for the diversity of values, they are introduced to processes which build on their existing clinical skills to enable them to achieve balanced decision- making within a shared framework of values. Secondly they are challenged to accept responsibility for improving the service within which they work. This includes accepting responsibility for shared leadership appropriate to their clinical role and for cascading education and training to others.

Year four

BOG 411 **Applied Obstetrics in the District 2:**

This module brings the emphasis onto the 'Big Five' problems which impact most strongly on maternal mortality and morbidity:

- Pregnancy Induced Hypertension
- Obstructed labour
- Post-partum Haemorrhage
- Puerperal sepsis
- Complications of abortion

Integrated with the clinical learning will be a focus on the pathophysiology and epidemiology of these conditions. This will be connected to applied basic science, teaching with appropriate anatomical models etc. The relevance to District Hospital practice will be expounded. Teaching will include:

- Disciplined use of Partogram in labour across the healthcare system;
- Optimisation of conditions for safe effective transfer of mother in childbirth;
- Early Identification and Management of preeclampsia and eclampsia;
- Prevention of sepsis in obstetrics and the relevance of HIV;
- Identification of need for enhanced obstetric interventions and advanced surgical practice;
- Simulation training and the running of obstetric drills.
- Post-operative care and management – principles and practice.

During this module, assessment by Direct Observation of Clinical Skills (DOCS) will commence. Clinical officers will be supported by regular mentoring visits by TH staff, supplemented by DH Praeceptors. During these visits a systems-based series of tutorials will reinforce the scientific knowledge gained during the first semester and its application to common obstetric problems in Malawi. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BOG 412 **Anaesthesia and ICU: (May be taught in common with BS 412)**

The principles of preoperative assessment, anaesthesia and postoperative care will be taught. The relevant physiology and pharmacology will be reviewed. Students will learn about intensive care.

BOG 413 **Extending Audit and Maternal and Neonatal Death Inquiry**

The principle of this course is that practitioners will achieve a deep understanding of the theory and practice of audit. BOG 413 builds on BOG 323. Having conducted a small audit of their practice, and having had feedback from tutors, students work with their peers to make their audit practice more meaningful and more effective at identifying changes likely to improve their own practice and the delivery of service. Specifically, they learn about the importance and scope of maternal and neonatal death inquiry – in so doing focusing their attention on vital Malawian targets.

BOG 414 **Professionalism: Values-based Practice, Shared Leadership and Service Improvement II**

This module will help students develop ethos and understanding of professionalism through a grasp of leadership and introduction to concept of values-based practice. They will learn the concept of ethical and values-based practices. It is hoped that students will learn responsibility for improving the service within which they work through the principles and application of shared leadership in healthcare.

BOG 421 **Applied Obstetrics in the District 3**

This module continues the on-the-job training methodology utilised in the previous district modules. Students apply the material from the earlier semesters to the clinical work in the DH. The TH staff carrying out regular mentoring visits will assess case presentations and audit reports and give interactive tutorials on common clinical obstetric conditions in Malawi. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BOG 422 **Applied Neonatal Care in the District 2**

This module brings problems of neonatal resuscitation into acute focus, as this remains a serious problem with obstinately high levels of neonatal mortality and morbidity. The first half of the module concentrates on basic precepts, and introduces the teaching of 'Helping Babies Breathe' which is the standard guideline in Malawi, and one with which most clinical officers are familiar. During the second phase, of this module teaching will include:

- Advanced neonatal life support in the labour ward with simulation training.
- Principles of neonatal care in community and district setting including practical skills such as kangaroo methods of warming etc.

- Active management and prevention of neonatal sepsis, haemorrhage, hypothermia, and hypoxia.

Also during the second phase of this module, assessment by Direct Observation of Clinical Skills (DOCS) will commence. Clinical officers will be supported by regular mentoring visits by TH staff, supplemented by DH Praeceptors. During these visits a systems-based series of tutorials will reinforce the scientific knowledge gained during the first semester and its application to common obstetric problems in Malawi. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BOG 423 **Ultrasound Course (May be taught in common with BS 423)**

In this module, the student acquires the knowledge and skills to make a reliable diagnosis in patients with obstetric conditions, and in particular to assess the degree of placenta praevia.

BOG 424 **Completing the Audit Cycle: Clinician as Educator and Change Agent**

Clinical Officers will learn to work to 'Advance Leader' principles. They will identify priority topics for teaching from their audit work. They will learn basic techniques of effective teaching and demonstrating. Putting this into practice will include cascading training to a further 4 NPCs and 6-8 community-based midwives who will conduct a 360° appraisal on this teaching which will form part of these assessments. Clinical Officers will be supported in developing a full set of teaching materials, and be equipped with agreed protocols, guidelines and distance learning materials.

Year five

BOG 511 **Applied Gynaecology in the District.**

Emphasis in this course is on common gynaecological conditions which may present in emergency at district hospitals. This module continues the on-the-job training methodology utilized in the previous district modules. Students apply the material from the earlier semesters to the clinical work in the DH. The TH staff carrying out regular mentoring visits will assess case presentations and audit reports and give interactive tutorials on common clinical emergency gynaecological conditions in Malawi. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BOG 512 **Prevention and Treatment of Maternal and Neonatal Sepsis**

This module includes a strong component of applied clinical science as concepts of immunity, clinical microbiology and infection control are developed, with the help of College of Medicine scientists. Having undertaken or discussed audits in relation to maternal and neonatal sepsis, the clinical officers are well placed to consider application of the science in practice.

BOG 513 **Sexual Health, Fertility and Contraception, Preconception and Sexually Transmitted Infection, and HIV Management in Relation to Pregnancy and Neonates**

BOG 514 **Haemorrhage and Transfusion**

Vitally important in the consideration of APH and PPH, haemorrhage needs to be understood at a deeper level than currently appreciated by some clinical officers. College of Medicine scientists will help to develop concepts of blood clotting and blood products and consideration will be given to the prevention of death due to haemorrhage, relating the science to the clinical audit.

BOG 515 **Management of the Pre-term Infant in Referral Centres**

Appropriate referral of neonates to specialist centres has been highlighted in the needs assessment for this project. Anecdotally, clinicians report that all too often there are inappropriate referrals- babies born too early or too small to be likely to benefit from available resources are sometimes referred as those that are, too sick,

BOG 516 **Prevention and Management of Pre-term Labour and Management of the Pre-term Infant in the District**

This module will relate recent epidemiological data to the holistic view of preconception and early pregnancy interventions developed in BOG 303. Linked in to this learning will be the scope for action in terms of clinical service improvement.

BOG 521 **Advanced Audit Support: evidence-based obstetrics, team-working and values-based practice.**

The emphasis throughout has been on audit and Plan/Do/Study/Act processes as a means of quality service improvement, and of personal development. The intention will be to invite Malawian Health Zone Officers to participate in this module with the objective that they input into the priorities for change. By the end of this module, all clinical officers will submit an outline of their professional project proposal and approval of this outline will constitute the assessment of this module.This module builds on the earlier experience of audit in BOG 323 and

BOG 413. Here in BOG 521 the emphasis is on using audit to influence others in the improvement of their practice. Hence the content includes learning about team-working and values-based practice. It is, of course, essential for change agents to negotiate consensus around evidence (evidence based practice). It is less commonly emphasised, but equally important for them to appreciate the diversity of values amongst colleagues. Failure to engage with values often nullifies clinicians' attempts to introduce change. This module ensures that students are well grounded in values-based practice.

BOG 522 **Plan, Do Study Act and Value-stream-mapping**

Now having become competent audit practitioners, students will be introduced to simple tools of clinical service improvement. Looking at the patient pathway, they will be well-placed to consider what improvements are needed and how these might be stimulated.This module (for which BOG 321 is a prerequisite) broadens the scope of change on the back of audit. Learners are introduced to plan-do-study-act (PDSA) cycles and value-stream mapping. Equipped with these tools they can work effectively across the wider health-care team.

BOG 523 **Analysis of the Reflective Log. Planning dissemination**

Before undertaking their professional project, students benefit from tutored reflection on what they have learnt to date and they need to think how they can disseminate their findings as part of their professional practice.This module is aimed at embedding the learning in professional practice. Reflection s often talked about and seldom taught. Students on this course, having kept clinical learning logs since they matriculated, are supported and challenged in identifying the strengths, weaknesses and development needs that become evident in their own practice. This understanding is critical to appreciating how practice is influenced by guidelines, and the learning will underpin an effective professional project.

BOG 524: **Evidence-Based Obstetrics and Neonatology Literature Searching and Reading Week**

Building on previous training, the reading week at College of Medicine will prepare trainees for their professional project BOG 525 which will be conducted in their district with help of a nominated supervisor. Project ideas should be well developed by this stage, and outlines will have been approved in the course of BMS 314.This module complements the subjective learning in BOG 523 with objective recourse to the evidence-base. The module ensures that learners have the necessary discipline-based critical appraisal skills to optimally utilise the scientific literature. Again this is essential for a meaningful professional project.

BOG 525 **Professional Project**

The project is the summit of the student learning on this course. All the previous skills come together in the professional project and the student learns integration. The students will plan and carry out an audit in their district hospital. They will also visit the relevant health centres in order to ensure their project addresses the relevant health service in its entirety. They will be expected to present the results of the project to the staff in the local health service and discuss their reasoned recommendations for health service improvement. Audit in the project will normally include re-audit and reappraisal, demonstrating engagement with the full audit cycle. The write-up is expected to include reference to both values-basing and evidence-basing, and will be fully referenced. The project will aim to build and develop both the leadership skills and professional skills of the associate clinicians and be focused on measures to reduce maternal and perinatal mortality. Supervision will be via initial setting up with direct face-to-face contact, then at least monthly e-mail/teleconference/texting/review.

Bachelor of Science Paediatrics and Child Health - Post Educationist

This programme aims to train associate clinicians in paediatrics and child health, with the aim that every district general hospital in Malawi will be staffed by such a specialist and specialist paediatric care will be available for every child in Malawi.

A three year Bachelor of Paediatrics and Child Health (BPCH) for clinical officers was developed in response to MOH's quest to improve quality clinical care in paediatrics and child health at the district and sub-district level. This program is tailored specifically for clinical officers who would like to improve their skills as clinicians in Paediatrics and Child Health. The course will provide the necessary knowledge and skills for practitioners to:

- Manage the majority of conditions presenting in a district hospital affecting children.
- Manage effectively community child health programs within their district.
- Transfer children appropriately to one of the four central hospitals in the country and;
- Communicate effectively with the central hospitals regarding transfer patients and any other issues;
- Stabilise a patient prior to transfer to a central hospital.

Year three

Module code **Module Name and Descriptor**

BMS 311 **Introduction to Human Anatomy and Physiology**

This module introduces students to the function of the human body. Many diseases are the result of abnormal human function. An understanding of normal function will prepare the student to understand disease processes and how to restore normal function.

BMS 312 **Medical Microbiology and Host defences**

This moduel introduces students to the common medical microbiological organisms causing diseases in Malawi. The student will be expected to learn how to classify them and recognize which ones are likely to be responsible for which illness. The student will learn the organization of the human defence system and how the system functions.

BMS 313 **Principles of Therapeutics and Pharmacology:**

This module introduces students to principles of pharmacology and the therapeutics, good prescribing principles.

BMS 314 **Introductory Research and Statistical Methods:**

This module provides learners with beginning skills to conduct research, interpret findings for evidence-based decision-making.

BP 315 **Paediatric History, Clinical Examination and Differential Diagnosis:**

This module teaches students how to take a paediatric history, including relevant history of the pregnancy and delivery. They will learn how to approach children in different age groups in order to optimise the information they can ascertain during the examination. They will be taught how to take a history and carry out an examination in a strategic way so that the outcome of the process is a working diagnosis and differential diagnosis. They will learn how to use investigations to refine their working diagnosis and to rule out possible diagnoses.

BP 316 **Neonatology:**

This module covers all aspects of neonatology including routine antenatal care in Malawi, how to reduce mother to child transmission of HIV, how to reduce the incidence of respiratory distress syndrome. Predictors of high-risk deliveries, neonatal resuscitation, management of common conditions in neonates. Kangaroo care and follow up of premature and low birth weight neonates.

BP 321 **Immunology and Infection in Children:**

The normal immune system in children including the effects of an immature immune system and the infections that this predisposes children to. The effect of HIV on the immune system and the way HIV presents and how to manage common complications in HIV. Eligibility for ARVs and side effects of ARVs in children. Common infections in immunocompetent children, their presentation, investigation and management. This module will also touch on congenital immunodeficiency's and congenital infections.

BP 322 **Paediatric Cardiac Disease**

This module builds on the understanding of the normal cardiovascular physiology. Students will learn how congenital cardiac conditions present in children, their investigation and management including the acute management prior to definitive diagnosis. Acquired cardiac conditions will also be covered including cardiomyopathies, pericarditis and rheumatic heart disease. They will gain an appreciation of which cardiac conditions in paediatrics should be referred and the urgency of the referral.

BP 323 **Child Nutrition and Paediatric Gastrointestinal Disease**

Normal child nutritional requirements will be covered. Topics will also include malnutrition including micronutrient deficiencies, malnutrition in the context of paediatric HIV and TB. Management of malnutrition both as an inpatients and community management will be covered. The causes of malnutrition including underlying illness and socioeconomic causes. Paediatric gastrointestinal disease will concentrate on infections and post infectious pathology and the consequences. Gastrooesophageal reflux, pyloric stenosis, hirsprungs disease, malrotation and imperforate anus will also be covered in the context of making the diagnosis in the district and the optimal management/ stabilization if transfer is indicated.

BP 324 **Paediatric Neurology**

Students will become competent in managing epilepsy in children, be aware of which drugs to use for which type of epilepsy. They will gain an understanding of which types of epilepsy should be referred for specialist opinion. Student will be familiar with common acute neurological conditions, such as hemiplegia, paraplegia and acute flaccid paralysis, the possible causes and which conditions to refer and the urgency with which the referral should be made.

BP 325 **Paediatric Emergencies/Stabilization for Transfer Procedures:|**

This module covers the management of all paediatric emergencies, including shock, coma, convulsions, stridor and respiratory distress. The module also covers the decision making process about transfer, which factors to consider and if transferring, the completion of a transfer checklist prior to transfer.

BP 326 **Professional Skills and the Determinants of Child health**

This module covers the personal attributes and attitudes that are necessary for the delivery of high-quality medical care. Ethical frameworks will be introduced. It also covers the upstream causes of child health including the socioeconomic determinants of child health. It introduces the student to the work of the WHO Commission on the Socioeconomic determinants of health.

Mechanisms of advocacy within the context of their own role in the district hospital will be discussed.

Year four

BP 411 **Junior District Attachment:**

During this module the student will take what they learned in their first year and apply it in practice at their own district hospital. This will be done with monthly mentoring visits done by COM staff. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BP 421 **Paediatric Oncology and Palliative Care**

The common presentations of paediatric malignancies will be covered as well as more in-depth teaching on specific common malignancies in Malawi such as Burkett's lymphoma and leukemia. The prognosis of common malignancies in Malawi will be covered in detail to allow clinicians to counsel parents appropriately with regard to transfer or prior to transfer. Current medications used in palliative care will be covered and counseling will be covered. Other methods of alleviating distress including distraction therapy will be outlined.

BP 422 **Paediatric Renal Disease**

The presentation of common renal conditions including urinary tract infection, nephrotic and nephritic syndrome will be taught. The decision on when, and for how long to use steroids will be discussed.

BP 423 **Paediatric Endocrine Disease**

Diabetes mellitus, its presentation and acute and chronic management will be covered.

BP 424 **Paediatric Mental Health:**

Behavioural disorders, ADHD, autistic spectrum disorders as well as major mental illness which can present in later childhood will be covered.

BP 425 **Paediatric Respiratory Disease**

This module builds on the understanding of respiratory physiology. The student will learn how diseases of the respiratory system presents in children, how to investigate and manage them. Emphasis will be placed on common respiratory

infections pneumonia, bronchiolitis, PJP as well as asthma and chronic lung disease in HIV infected children. Students will develop an understanding of which conditions may require to be transferred to a central hospital, for example those that may benefit from non-invasive respiratory support.

BP 426 **Neurodevelopment Paediatrics**

This module builds on the paediatric neurology module. The student will become familiar with the causes of cerebral palsy and with interventions to improve the quality of life of children with cerebral palsy. They will be comfortable counselling families of children with CP. They will become familiar with available services for these children and how to refer them for these services.

Year five

BP 511 **Child Abuse and Child Protection**

The course covers how physical, sexual and emotional abuse may present, the investigation and the management, including when and how to involve the police and social services. The current legal framework for child abuse in Malawi.

BP 512 **Paediatric Surgery and ENT:**

Common paediatric surgical conditions which present to the pediatrician including hydrocephalus, GI obstruction and urinary surgical conditions. Common ENT conditions.

BP 513 **Paediatric rheumatology / orthopaedics':**

During this module the student will be introduced to presentations of common rheumatologic disorders in childhood such as Juvenile Rheumatoid Arthritis and the management. They will also be introduced to common chronic orthopedic conditions such as talipes equino varus, and more acute conditions such as septic arthritis and osteomyelitis. They will be taught how to optimally manage these conditions. They will learn which conditions would benefit from review by specialists such as orthopedic surgeons.

BP 514 **Paediatric Dermatology:**

Students will learn how to diagnose and manage common dermatological conditions such as scabies and eczema.

BP 521 **Senior District Attachment:**

During this module the student will take what they learned, thus far in the course and apply it in their own district hospital. This will be supervised with monthly mentoring visits, by COM staff. The work done during their time in the

district and presented during the mentoring visits will include audits and case write-ups, which will contribute towards their credits. They will also be able to access advice by e-mail or telephone, and will benefit from online resources available on the department website and on the COM curriculum management system.

BP 522 **Audit Project:**

The student will plan and carry out an audit in their district hospital. They will be expected to present the results of the audit to the staff in their own hospital and discuss how to improve upon their findings. The audit cycle will be completed with a re audit of the same subject.

Bachelor of Science Trauma and Orthopaedics - Post Educationist

Malawi has an extensive and comprehensive health system infrastructure consisting of dispensaries, health centres, community, district and central hospitals linked through a referral system. However, the system does not have enough human resource for health to carry out the desired activities. Currently most orthopaedic services in Malawi are provided by diploma holding orthopaedic clinical officers who have limited opportunities for further academic career progression.

There are 61 central, district, CHAM and Community Hospitals. All these hospitals require orthopaedic specialists so as to bring services closer to the people. Most of these hospitals have orthopaedic clinical officers in post. At the current rate of training for orthopaedic specialists, these hospitals are unlikely to be populated by orthopaedic specialists in the near future. The training of this cadre (BSc orthopaedic Clinical Officer) of staff will go along way to improve the quality of orthopaedic care provided at the district hospital while at the same time greatly opening up academic career opportunities for orthopaedic clinical officers. The twin approach of training orthopaedics doctor specialists and specialist orthopaedic clinical officers is one way of improving orthopaedic clinical services in Malawi. The introduction of this programme will help fill the shortage of specialist paramedical officers at the district hospital level.

According to Malawi DHR 2008, 83% of Malawians live in the rural areas where Mission and District hospitals are located and are run by Clinical Officers.

Malawi has a chronic shortage of human resources for health. This has a significant impact on health, with high maternal mortality rates.

Health workers like Orthopaedic Clinical Officers provide the bulk of orthopaedic and trauma care in Malawi.Many patients who present at the Mission and District hospitals require treatment for elective and emergency orthopaedic conditions. While most district and central hospitals in Malawi have orthopaedic clinical officers posted there are, the complexities of conditions they are meeting in practice demand that their knowledge, skills and attitudes need to be upgraded to a higher level such as bachelors degree level. Improving the skill level at district hospital level will reduce the number of cases referred to already overloaded central hospitals. Curriculum review activities based on the needs of practicing graduates, also noted weakness in practical surgical skills for general clinical officers. An expressed need by most diploma orthopaedic clinical officers is that of career progression after graduation. Most have to leave the orthopaedic field if they want to academically upgrade themselves.

The introduction of a BSc programme will provide an opportunity for upgrading diploma clinical officers to degree graduates with better prospects for further postgraduate training in the field of clinical orthopaedics. The introduction of the programmes will thus help in retaining general and orthopaedic clinical officers in clinical careers by offerring them a chance to upgrade in their clinical profession.

The course is a viable cost-effective option for addressing the surgical health care workforce shortage in Malawi based on time and costs of training as demonstrated by the study performed in Mozambique. Sustainability of the programme is assured as the ministry of health has given written commitment to support the training of specialist clinical officers.

Module code	Module Name and Descriptor
BTO 311	**Basic Medical Sciences**
	This module introduces students to the scientific principles underlying clinical surgical practise. Attention will initially focus on the normal structure and function of the human body. Many diseases are the result of abnormal human anatomical structure or function. An understanding of normal structure and function will prepare the student to understand disease processes and how to restore normal function.
BMS 1	**Introduction to Human Physiology**
	This module is designed to introduce students to the normal function of the human body. Many diseases result from abnormal function. An understanding of the normal function will prepare the students to understand abnormal function (pathology) and how to restore normal function (management).
BMS 2	**Introduction to Human Anatomy.**
	This module introduces students to the normal anatomy of the human body. An understanding of the normal will prepare the students to understand abnormalities encountered during surgical procedures and how to restore damaged anatomical structures.
BMS 3	**Introduction to Medical Microbiology, Parasitology and Host defenses:**
	In this course, the student will be introduced to the common microbiological organisms causing surgical diseases in Malawi. The student will be expected to learn how to classify them and recognize which ones are likely to be responsible for which illness. Many of the diseases are a response to the invading organisms. The student will learn the organization of the human defence system and how the system functions.
BMS 4	**Principles of Pharmacology and Therapeutics:**
	This module introduces the students to principles of pharmacology and therapeutics with emphasis on good prescribing principles. The students will

be expected to learn and master the use of common pharmaceutical agents used in surgical practice.

BMS 5 **Introduction to Research and Statistical Methods:**

This module provides learners with beginner's skills to be able to carry out a research project, interpret findings for evidence-based decision-making.

BMS 6 **Professional Skills**

This module teaches the role of the clinician in the governance of the health system. Medical ethics and aspects of consent will be covered. Professionalism in medicine will be discussed.

BTO 312 **Principles of Pathology**

This module is designed to introduce students to pathology of surgical disease. Most surgical conditions are the result of a pathological process. An understanding of the normal histology will prepare the students to understand abnormal pathology and how to this affects surgical disease and in particular oncological conditions.

BTO 313 **Principles of Surgery in General:**

History taking, clinical examination and differential diagnosis in the context of orthopaedic and surgical disease in Malawi. The student will learn to take a surgical history and be taught how to carry out an examination in a systematic way that will lead to a working diagnosis and a differential diagnosis. They will learn how to use investigations to refine their working diagnosis and exclude other possible diagnoses.Common orthopaedic, trauma, and surgical conditions in Malawi will be introduced. General principles of surgery such theatre practice, asepsis, blood products, infection prophylaxis, infection control, sterilization, DVT prophylaxis etc will be discussed.

BTO 314 **Essential Surgical Skills Course**

This is a practical course in the surgical skills laboratory. The students will learn basic surgical skills, life support and Advanced Trauma Life Support principles. The management of obstetric, gastrointestinal and genitourinary emergencies will be taught as will the practical aspects of orthopaedics and traumatology. Moulages for patient management will be practiced. Life saving surgical skills such as insertion of chest drains will be taught

BTO 315 **General Surgery:**

This module exposes the student to management principles of traumatic general surgical conditions that commonly co-present in trauma and orthopaedic patients. The student will be expected to explain the anatomy, physiology, pathology, investigations and demonstrate management of select thoracic injuries including: airway obstruction, haemo- pneumothorax, lung contusion, sucking chest wound, flail chest, and cardiac tamponade. The student will acquire the necessary surgical skills to deal with these conditions.

The student will be expected to explain the anatomy, physiology, pathology, investigations and demonstrate management of select abdominal and pelvic injuries including: liver laceration and contusion, traumatic bowel perforation, splenic rupture and contusion, renal and retroperitoneal injuries, bladder rupture, urethral injuries, rectal lacerations, vaginal lacerations.

The student will acquire the necessary surgical skills to deal with these conditions.

BTO 321 **Orthopaedic Basic Sciences**

This module exposes the student to basic sciences of the musculoskeletal system including anatomy, physiology. The module will also cover basic sciences such as biomechanics, and biomaterials which are crucial to the understanding disease causation and management in the musculoskeletal system.

BTO 322 **Orthopaedic Pathology**

This module exposes students to common orthopaedic conditions under the following aetiological groupings: congenital, developmental, infective, inflammatory, metabolic, degenerative, neoplastic. Students will be expected to manage select conditions, common in Malawi, under each aetiological group.

BTO 411 **Regional Orthopaedics and Trauma 1: Upper Limb**

This module exposes students to common traumatic and non traumatic conditions of the upper limb. The limb will be reviewed systematically at the shoulder, arm, elbow, forearm, wrist, hand, and fingers. The anatomy, physiology, pathology, clinical features, investigations, treatment, and outcome of each condition will be reviewed.

BTO 412 **Anaesthesia and Critical Care:**

The principles of preoperative assessment, anaesthesia and postoperative care will be taught. The relevant physiology and pharmacology will be reviewed. Students will learn about critical care for the surgical patient in the intensive care unit.

BTO 413 **Primary Trauma Care Course**

This is a practical skills course. The student is taught the basic knowledge and skills needed to treat traumatized patients requiring assessment, resuscitation and stabilization of their injuries.

BTO 421 **Regional Orthopaedics and Trauma 2: Lower Limb**

This module exposes students to common traumatic and non traumatic conditions of the lower limb. The limb will be reviewed systematically at the hip, femur, knee, tibia and fibula, ankle, foot and toes. The anatomy, physiology, pathology, clinical features, investigations, treatment, and outcome of each condition will be reviewed.

BTO 422 **Plastic Surgery and Burns, Vascular Surgery**

This module exposes students to the principles of plastic surgery, burn care and vascular surgery as they apply to the management of musculoskeletal trauma. Emphasis will be on understanding the close working relationship between orthopaedic clinicians and vascular and plastic surgeons. Vascular and skin anatomy and principles of wound healing and closure will be revised. Students will be expected to master specific procedures such as skin grafting.

BTO 423 **Urology**

This module primarily focuses on patients with traumatic conditions such as urethral injuries, bladder rupture and renal injuries who may also have concurrent musculoskeletal injuries. Non traumatic urogenital conditions associated with musculoskeletal manifestations such as renal failure, renal carcinoma and prostatic malignancy will be discussed. The students will build on basic science knowledge from the first semester and apply this to urological problems. Renal physiology will be reviewed.

BTO 424 **Ultrasound**

In this module the student acquires knowledge and skills to make a reliable diagnosis in patients with abdominal trauma and in other acute abdominal conditions. The student will also acquire skills in ultrasound of superficial musculoskeletal masses.

BTO 511 **Regional Orthopaedics and Trauma 3: Spine and Pelvis:**

This module exposes students to common traumatic and non traumatic conditions of the spine and pelvis. A systematic review of the cervical, thoracic, lumbar, sacral spine and the pelvis will be done. The anatomy, physiology, pathology, clinical features, investigations, treatment, and outcome of each condition will be reviewed.

BTO 512 **Paediatric Orthopaedics:**

This module exposes students to a selection of common paediatric conditions grouped under the headings congenital, developmental, metabolic, infective, inflammatory, neoplastic and traumatic.

BTO 521 **Orthotics, Prosthetics and Appliances**

This module exposes students to the science of orthotics and appliances commonly used in orthopaedics. Students will be expected to understand the manufacture of common orthotics, prostheses and appliances. Students will be expected to understand how orthopaedic procedures should be planned with respect to fitting of prostheses.

BTO 522 **Rehabilitation**

This module exposes the student to the crucial role teamwork play in the rehabilitation of patients with musculoskeletal pathology. The student will be expected to understand the role played by professionals such as physiotherapists, occupational therapists, speech therapists, and counsellors.

BTO 523 **Specialist Procedures**

The student is exposed to specialist high technology procedures such as joint arthroplasty, arthroscopy, and limb reconstruction. The candidate will need to display a working knowledge of such procedures which are only available in specialist centres.

BTO 524 **Research Project:**

The student will plan and carry out a research project or an audit. They will be expected to present the results of the project at a research dissemination forum. The project will be formally assessed using an objective scoring system looking at methodology, findings and presentation among other things.

Bachelor of Science General Surgery - Post Educationist

The aim of the programme is to train clinical officers with BSc in surgery to ensure that every district general hospital in Malawi is staffed by such a cadre of clinical officers and that specialist surgical care is available to every patient in Malawi who needs it. This program is tailored specifically for clinical officers who would like to improve their skills as clinicians in general surgery. The course will provide the necessary knowledge and skills for practitioners to:

- Manage the majority of emergency surgical conditions presenting in a district hospital.

- Effectively manage selected elective surgical problems presenting to the district hospital.
- Know which patients would benefit from transfer to one of the four central hospitals in the country and be able to communicate effectively with their central hospital and stabilise the patient prior to transfer.

Year three

Module code	Module Name and Descriptor
BMS 311	**Human Physiology.** This module is designed to introduce students to the normal function of the human body. Many diseases result from normal function having gone awry. An understanding of the normal function will prepare the students to understand abnormal function (pathology) and how to restore normal function (management).
CODE??	**Surgical Anatomy.** This module is designed to introduce students to the normal anatomy of the human body. An understanding of the normal will prepare the students to understand abnormalities encountered during surgical procedures and how to restore damaged anatomical structures.
BMS 312	**Medical Microbiology and Host defences** The student will be introduced to the common microbiological organisms causing surgical diseases in Malawi. The student will be expected to learn how to classify them and recognize which ones are likely to be responsible for which illness. Many of the diseases are a response to the invading organisms. The student will learn the organization of the human defence system and how the system functions.
BMS-313	**Principles of Therapeutics and Pharmacology** This module introduces the students to principles of pharmacology and therapeutics. Good prescribing principles etc.
BMS-314	**Introductory Research and Statistical Methods.** This module provides students with beginner's skills to be able to carry out a research project, interpret findings for evidence-based decision making.
BS-315	**Professional Skills.** This module teaches the role of the clinician in the governance of the health system. Medical ethics and aspects of consent will be covered. Professionalism in medicine will be discussed.

BS 316 **Introduction to General Surgery:**

History taking, clinical examination and differential diagnosis in the context of surgical disease in Malawi. The student will learn to take a surgical history and be taught how to carry out an examination in a strategic way that will lead to a working diagnosis and a differential diagnosis. He or she will learn how to use investigations to refine the working diagnosis and exclude other possible diagnoses. Common surgical conditions in Malawi will be introduced.

BS 317 **Essential Surgical Skills Course**

This is a practical course in the surgical skills laboratory. The students will learn basic surgical skills, life support and ATLS principles. The management of obstetric, gastrointestinal and genitourinary emergencies will be taught as will the practical aspects of orthopaedics and traumatology.

BS 318 **Principles of Pathology:**

This module is designed to introduce students to pathology of surgical disease. Most surgical conditions are the result of a pathological process. An understanding of the normal histology will prepare the students to understand abnormal pathology and how to this affects surgical disease and in particular oncological conditions.

BS 321 **Applied Surgery in the District 1**

During this module the student will take what he or she has learned in their first semester and apply it in practice at their own district hospital. This will be done with regular mentoring visits done by TH staff. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources. Emphasis will be on basic surgical problems.

BS 322 **Common Obstetric and Gynaecological problems**

This module introduces students to the diagnosis and management of common obstetric and gynaecological disorders in Malawi. Emphasis will be on the surgical management of acute obstetric problems.

BS 323 **Orthopaedics and Traumatology 1**

The principles of trauma management and the care of common orthopaedic problems and fractures will be taught in this module. The use of ATLS will be reinforced and infection prevention practices discussed.

Year Four

BS 411 **Applied Surgery in the District 2:**

During this module the student will apply lessons from all the previous modules to surgical practice at the district hospital. This will be supported by regular mentoring visits by TH staff. During these visits a systems-based series of tutorials will reinforce the scientific knowledge gained during the first semester and its application to common surgical problems in Malawi. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BS 412 **Anaesthesia and ICU:**

The principles of preoperative assessment, anaesthesia and postoperative care will be taught. The relevant physiology and pharmacology will be reviewed. Students will learn about intensive care.

BS 413 **Primary Trauma Care Course:**

This is a practical skills course. The student is taught the basic knowledge and skills needed to treat traumatized patients requiring assessment, resuscitation and stabilization of their injuries.

BS 421 **Applied Surgery in the District 3:**

This module continues the on-the-job training methodology utilized in the previous district modules. Students apply the material from the earlier semesters to the clinical work in the DH. The TH staff carrying out regular mentoring visits will assess case presentations and audit reports and give interactive tutorials on common clinical surgical conditions in Malawi. The work done during their time in the district and presented during the mentoring visits will include audits and case write-ups and will contribute towards their credits. They will also be able to access advice by e mail or telephone and will benefit from all of the departments online resources.

BS 422 **Urology**

Introduction to the diagnosis and management of common urological problems. The students will build on basic science knowledge from the first semester and apply this to urological problems. Renal physiology will be reviewed. This module will touch on paediatric urological conditions but the emphasis will be on adult urology including infection, stones and tumours.

BS 423 **Ultrasound Course**

In this module the student will acquire the knowledge and skills to make a reliable diagnosis in patients with abdominal trauma and in other acute abdominal conditions.

Year Five

BS 511 **General Surgery 2**

This module will take place in the TH and will expose the student to more advanced surgical management principles. The full range of systematic surgical pathology will be taught. The student will learn to acquire the necessary surgical skills to deal with more complicated procedures.

BS 512 **Orthopaedics 2**

Previously acquired knowledge of the locomotor system will be applied to equip the student with the skills to manage common orthopaedic problems. Management of fractures, bone and joint infections and injuries to tendons and nerves will be covered.

BS 513 **Traumatology 2**

During this module the student will revise ATLS principles while learning how to deal with critically ill or severely traumatized patients. Basic knowledge of haemorrage and shock as well as respiratory failure will be emphasized as will the care of the unconscious patient. The management of all kinds of traumatic wounds including burns will be taught.

BS 514 **Obstetrics and Gynaecology 2**

Students will learn how to diagnose and manage surgical aspects of common gynaecological disorders and emergencies.

BS 521 **General Surgery 3**

During this module the student will focus on learning the knowledge and skills to deal with selected major surgical procedures and emergencies. All aspects of preoperative resuscitation will be re-emphasized as well as the postoperative care for the critically ill patient. This module will instruct on how to deal with complications in surgery and on how to maintain Good Practice in infection prevention.

BS 522 **Specials**

Aspects of paediatric surgery, plastic surgery, neurosurgery, otolaryngology and ophthalmology, where not already covered in more general modules, will be taught with emphasis on the common clinical problems in the context of the DH

BS 523 **Audit Project**

The student will plan and carry out an audit in their district hospital. They will be expected to present the results of the audit to the staff in their own hospital and discuss how to improve upon their findings. The audit cycle will be completed with a re audit of the same subject matter.

Bachelor of Science Internal Medicine - Post Educationist

The overall aim of the programme is to address the need for specialist physicians at the district hospital level, who have the skills to manage these complex medical conditions, we have developed a three year Bachelor of Science in Internal Medicine (BSC-IM) for clinical officers. This is a response to the MOH's quest to improve quality clinical care in medicine at the district and sub-district level. This programme is tailored specifically for clinical officers who would like to improve their skills as physicians in internal medicine.

Potential students of this program have been trained in clinical medicine. The training of clinical officers is based on knowledge of common medical problems in Malawi and to a large extent is practice based. There is less emphasis of the scientific basis of disease causation. The BSC-IM training will, therefore, try to fill this deficiency where possible and continue the important practical training. The first semester of year 3 will therefore be devoted to providing the science. This will be followed by a system based approach to training.

Adult learning approaches will be used throughout the program. It is expected that the learners will become self-motivated and acquire life-long learning skills and carry them into their professional practice. Learners will adopt critical analysis, in-depth exploration, problem solving and decision making to improve the quality of care at their hospitals. Interactive dynamic teaching methods will be used.

Year One

Module code **Module Name and Descriptor**

BMS 312 **Principles of Therapeutics and Pharmacology:**

This module introduces the students on principles of pharmacology, modes of drug action, administration of drugs, good prescribing principles etc.

BMS 311 **Introduction to Human Anatomy Physiology**

This module is designed to introduce students to the normal structure and function of the human body. Many diseases result from abnormalities of both structure and function (congenital or acquired). An understanding of normal structure and function will prepare the student to understand disease processes and how to restore normal function where possible.

BMS 312 **Introduction to Medical Microbiology and Host defenses**

Many of the illnesses that affect Malawians are infectious in nature. The student will be introduced to the common medical microbiological organisms causing diseases in Malawi. The student will be expected to learn how to classify them and recognize which ones are likely to be responsible for which illness. The presentation of a diseased state may be a response to the invading organisms or failure to recognise self. The student will learn the organization of the human defence system and how the system functions.

BMS 313 **Principles of Therapeutics and Pharmacology**

The student and practitioner of medicine needs to know which drug to give to who. This module will therefore introduce the students to principles of pharmacology (pharmacokinetic and pharmacodynamic principles) and therapeutics.

BMS 314 **Introduction to Statistical Methods**

This module will provide learners with beginning skills to conduct research, interpret findings for evidence based decision making.

IM 315 **Presentation of Common Medical Problems.**

This module introduces the student to history taking and physical examination in the context of common medical problems in Malawi. Although there are many etiological factors of diseases, there are only a limited ways of how these diseases present. Communicating with the patient in trying to determine the likely cause of the disease is significantly important in the practice of medicine.

IM 321 **Diseases of the Cardiovascular Problems**

This module builds on the understandings of the normal cardiovascular physiology. Students will learn how diseases of the cardiovascular system present, how they can investigate and manage these diseases. Emphasis will be given to common cardiovascular problems in Malawi including hypertension, heart failure with its many causes, rheumatic heart disease.

IM 322 **Diseases of the Respiratory System**

This module provides builds on the understanding of respiratory physiology. The student will learn how diseases of the respiratory system present, how to investigate and manage them. Emphasis will be placed on common respiratory infections, asthma, COPD and pulmonary embolism.

IM 323 **Diseases of the Gastrointestinal System:**

This module builds on the knowledge gained from normal function. The student will learn the common presentation of gastrointestinal diseases at the district level, how to investigate and manage them. Emphasis will be put on the common illnesses that are seen in Malawi including Upper GI bleed, gastroesophageal reflux, food poisoning, complications of HBV infection etc.

IM 324 **Neurological Diseases at the District Hospital.**

The module covers the presentation and diagnosis of common neurologic disease manifestation that are likely to be seen at the district hospital. Both central and peripheral neurologic diseases will be covered. Emphasis will be placed on the speed of management that may result in restoration of function.

IM 325 **Diabetes Mellitus, Endocrine and other Metabolic Diseases**.

The module introduces the students to pathophysiology of diabetes mellitus and other metabolic diseases. The student will learn how to manage diabetic emergencies and how to investigate other endocrine and metabolic diseases at the district hospital.

IM 326 **Junior Emergency Medicine Attachment:**

Many patients arrive at the hospital without being referred by anyone (undifferentiated) and very sick indeed. The student of medicine needs to be able to manage patients that present critically ill at the hospital, how to resuscitate patients appropriately.

Year three

IM 411 **Junior District Hospital Attachment:**

This module introduces the student to the practice of medicine at the district hospital. The student needs to know what is possible to do at the district hospital. The student will participate in caring for patients both in the outpatient setting and for those admitted to the ward.

IM 412 **HIV/AIDS and TB at the dDistrict Hospital:**

The twin problems of HIV/AIDS that have affected sub-Saharan Africa need special attention. Large numbers of Malawians are annually put on anti-TB drugs and antiretroviral therapy. Almost 80% of patients diagnosed with TB are HIV co-infected. Interactions of these two important diseases are important to understand.

IM 413 **Dermatological Manifestations of Internal Medicine Disease:**

The skin is the most accessible organ for examination. There are many skin manifestations of primary disease elsewhere. A student of medicine needs to understand this if they are to manage the patient appropriately.

IM 414 **Prevention of Communicable Diseases**

The module introduces the student on measures that they can take when they have an outbreak of a communicable disease at the district hospital for example meningococcal meningitis, cholera, bacillary dysentery, typhoid fever etc.

IM 415 **Research Methods:**

This module introduces students to principles of designing and conducting studies, data presentation and analysis and the inferences that can be made from the data collected.

IM 416 **Infectious Diseases other than HIV and TB**:

This module introduces students to other important infectious diseases not covered under the system approach. Malaria and other protozoa that cause human disease, nematodes, flukes, trematodes etc. Bacterial diseases and important viral diseases.

IM 421 **Dissertation**

The module provides the learners with an opportunity to conduct research of limited scope in their area of interest within the program content to improve their inquiry and interpretive skills.

IM 422 **Clinical Hematology and Oncology**

The module introduces the student to common haematological illnesses in Malawi and what the student may expect at the district hospital. The classification and causes of anaemia will be emphasized. The student should know when to refer the patient for further assessment by a hematologist. Common malignancies seen in medicine will be emphasized and how to manage them.

IM 423 **Diseases Affecting the Kidneys**

This module introduces the student to important renal diseases and how to make a diagnosis that may influence normal restoration of kidney function. This will be an extension of the normal function covered in semester 1.

IM 424 **Musculoskeletal Diseases:**

The module introduces students to rheumatological illnesses that may be seen at the district hospital.

IM 425 **Elective Term in Pediatrics:**

Medicine and pediatrics share a lot in terms of patient presentation and how to work up the patient. It is anticipated that at a district hospital, the specialist clinical officer in medicine may be called upon to cover a colleague in pediatrics when away and vice versa.

Year Five

IM 511 **Senior Attachment at District Hospital**

This module is intended to prepare student for the practice of medicine at the district hospital. The will be less supervised but their work will be scrutinized to determine their capacity to practice alone at this level. The student needs to know what is possible to do at the district hospital.

IM 512 **Management of Sexually Transmitted Illnesses in Malawi:**

Sexually Transmitted illnesses are common in Malawi. Malawi uses the syndromic approach to the management of STI. The student needs to know the ways of making diagnoses of STI including definitive ways. The student will be attached to the STI clinic at QECH during this module.

IM 513 **Senior Attachment in Accidents and Emergency Unit:**

In preparation for being the responsible for internal medicine at the district, the student needs to be competent at managing many of the common medical emergencies that present to the district hospital. Emphasis will be placed on emergency conditions that immediate interventions make significant impact on patient survival.

IM 521 **Attachment to clinics (ART, diabetic, general medical clinic, chest clinic, hypertension, oncology):**

The student will at this time consolidate knowledge on how to manage chronic conditions in the outpatient settings.

IM 522 **ICU Attachment**

IM 523 **Palliative Care Attachment:**

Chronic non treatable conditions are common especially with many cancers in Malawi. Students need to know how to manage patients with incurable patients with empathy, manage chronic pain and other associated symptoms.

Bachelor of Science Anaesthesia and Intensive Care - Post Educationist

The aim of the program is to train specialized Clinical Officers (BSc) in anaesthesia and intensive care to such a level that they can provide high quality anaesthetic and intensive care services. The aim is that such services will be available in all district, rural and mission hospitals throughout the country.

A three-year Bachelor of Science in Anaesthesia and Intensive Care programme for clinical officers (two years for anaesthetic clinical officers) was developed in response to MOH's quest to improve quality clinical care in anaesthesia and intensive care at the district and sub-district level. This programme is tailored specifically for clinical officers and anaesthetic clinical officers who would like to improve their knowledge and their skills as clinicians in anaesthesia and intensive care.

Year three

Module code **Module Name and Descriptor**

BMS 311 **Introduction to Human Anatomy and Physiology:**

This module is designed to introduce students to the function of the human body. Many diseases are the result of abnormal human function. An understanding of normal function will prepare the student to understand disease processes and how to restore normal function.

BMS 312 **Principles of Therapeutics and Pharmacology:**

This module introduces students to principles of pharmacology, modes of drug action, administration of drugs, good prescribing principles etc.

BMS 313 **Introduction to Medical Microbiology and host defences:**

Many of the illnesses that affect Malawians are infectious in nature. The student will be introduced to the common medical microbiological organisms causing diseases in Malawi. The student will be expected to learn how to classify them and recognize which ones are likely to be responsible for which illness.

Many of the diseases are a response to the invading organisms. The student will learn the organization of the human defence system and how the system functions.

BMS 314 **Introductory Research and Statistical Methods:**

This module will provide learners with beginning skills to conduct research, interpret findings for evidence-based decision-making.

BAI 315 **Anaesthetic history, clinical examination and differential diagnosis in the context of Malawi:**

The student will learn how to take an anaesthetic history. They will learn how to approach patients in different age groups in order to optimise the information they can ascertain during the examination. They will be taught how to take a history and carry out an examination in a strategic way so that the outcome of the process is a working diagnosis and differential diagnosis. They will learn how to use investigations to refine their working diagnosis and to rule out possible diagnoses.

BAI 316 **Emergencies/stabilization for transfer procedures**

This module covers the management of common emergencies, including shock, coma, convulsions, stridor and respiratory distress. The module also covers the decision making process about transfer, which factors to consider and if transferring, the completion of a transfer checklist prior to transfer.

BAI 321 **Preoperative Assessment and Preparation:**

Here students should learn to apply the principles of history taking, physical examination and anaesthetic scoring on the pre-operative assessment and the preoperative preparation of the patient for patients requiring surgery, acute resuscitation or intensive care.

BAI 322 **Introduction to the Principles of Safe Anaesthesia:**

This module should provide the student with the knowledge and skills to acquire an understanding for the safe practice of anaesthesia in the district hospital.

BAI 323 **Diseases of the Respiratory System and Management of Respiratory Emergencies in Children and Adults:**

This module builds on the understanding of respiratory physiology. The student will learn how diseases of the respiratory system presents in children and adults, how to investigate and manage them. Emphasis will be placed on common respiratory infections pneumonia, bronchiolitis, asthma, chronic lung disease, pulmonary embolism, ARDS and the complications of in HIV infected patients. Students will develop an understanding of which conditions may require to be transferred to a central hospital and which will be manageable on district level.

BAI 324 **Diseases of the Cardiovascular System and Management of Cardiovascular Emergencies in Children and Adults**

This module builds on the understandings of the normal cardiovascular physiology. Emphasis will be given to common cardiovascular problems in Malawi including hypertension, heart failure with its many causes, pericarditis, rheumatic heart diseases, cardiomyopathies and congenital cardiac conditions present in children. Emphasis too will be given on the investigation and management including the acute management prior to definitive diagnosis. They will gain an appreciation of which cardiac conditions in paediatrics should be referred and the urgency of the referral.

BAI 325 **Management of Neurological Emergencies in Children and Adults:**

Students will become competent in managing epilepsy and they will gain an understanding of which types of epilepsy should be referred for specialist opinion. The will be familiar with the implications of common acute neurological conditions such as hemiplegia, paraplegia, acute flaccid paralysis and cerebral palsy for anaesthesia and which decisions towards referrals should be made. Emphasis will be placed on the speed of management that may result in restoration of function.

BAI 326 **Ethics in Anaesthesia and Intensive Care**

This module covers questions raised by the economic situation we live in (scarce ICU – beds in the country, not enough ventilation possibilities, drug shortage) as well as genuine medical conditions (brain death, renal replacement therapy) and social concerns (prolonged traditional treatment etc.).

BAI 327 **Renal, Endocrine and Metabolic diseases in Anaesthesia:**

This module will introduce to students diseases of the kidneys, Liver and other endocrine and metabolic organs. Knowledge from this module is fundamental in decision making of anaesthetic technique and drugs that may be safer in these conditions and also prepares students to understand their management particularly in the intensive care unit.

Year Four

BAI 411 **Obstetric Anaesthesia for the District:**

Obstetric anaesthesia covers anaesthesia for the most important single operation in the district: caesarean section. The module is designed to deal with all specifics of obstetric anaesthesia. Physiological changes associated with normal and pathological pregnancies, as much as the functions of the placenta, the placental transfer and the foetal-maternal circulation will be covered extensively. A differentiated approach to anaesthesia in caesarean section will

be taught. The management of antepartum or postpartum haemorrhage, of a ruptured uterus and (pre)-eclampsia will be emphasized.

BAI 412 **Applied Anaesthesia for the district I - Regional Anaesthesia:**

This module is designed to make the student familiar with the main method of regional anaesthesia for the district – spinal anaesthesia. The student will use it e.g. in 90% of all Caesareans sections in the district. During this module the student will learn the technique of spinal anaesthesia (single shot and to a certain degree continuous procedures). Indications and contraindications will be clearly outlined. Emphasis will be on the management of side effects in general and on the management of high/total spinals in special.

BAI 413 **Intensive Care I (intensive care for the district):**

The basic principles of intensive care are taught in this course. Most postoperative problems are covered as much as management questions. The differences of an intensive care unit versus a high dependency unit for the district are discussed. Challenges through medical conditions are part of this course as much as the interdependency of anaesthesia and critical care in all its forms.

BAI 414 **Applied Anaesthesia for the Districts II – General Anaesthesia:**

General anaesthesia as the basic of all anaesthesia will be taught in detail in this module. Indications, contraindications, effects and side effects will be taught extensively. Pharmacology of analgesics, sedatives and relaxing drugs have to be discussed in detail. By completion of the course the student should have acquired skills in delivering safe general anaesthesia.

BAI 415 **Management of an Anaesthetic Department:**

Students will be able to ensure smooth running of anaesthesia department with adequate staff and supplies, record keeping, auditing, continued professional development activities and other management activities.

BAI 416 **Anaesthesia for ear/nose/throat, dental & burns surgery for the district:**

This module covers a combination of specialized "small" departments. They all have their special challenges for the anaesthetist in the district and need careful evaluation whether the patient with an operation needs to be referred in a centre.

BAI 421 **Management of Anaesthetic Equipment for the District:**

The management of anaesthetic equipment is of the utmost importance and can be life-saving. The skills, attitudes and the knowledge to deal with the inherent challenges are taught in this module. Anaesthetic breathing machines

and anaesthetic breathing circuits need to be understood. The safe use and the maintenance of oxygen concentrators, oxygen cylinders, anaesthetic monitors, electro-cardiographs, pulsoximeters, defibrillators and suction machines are important parts of this course.

BAI 422 **Pain Management in the District**

This module gives an overview about the possibilities of pain management and its inherent problems for the districts. In times of AIDS as a chronic disease we will see growing numbers of chronic pain patients in the districts.

BAI 423 **Technicalities in the District**

This module deals with the challenges in anaesthesia through the existence or non-existence of radiological services, ultrasound facilities and blood banks – especially in emergencies. Moreover it covers the specific monitoring in anaesthesia and intensive care. Monitoring of the vital functions is absolutely mandatory in anaesthesia. From SaO2, BP and ECG over CO2 measurement, CVP and arterial lines with blood gases to echocardiography and pulmonary artery catheterization the student will learn the specific usefulness and the implications of the method.

BAI 424 **Anaesthesia for General Surgery and Urology**

The module will introduce students to anaesthesia for a wide variety of surgical operations. Typically here we find patients from all age groups, sexes and urgencies. This module deals with (next to obstetrics) the most common and most important anaesthetic problems in the districts of Malawi.

BAI 425 **Anaesthesia for Orthopaedics and Trauma-Surgery**

The student will be taught anaesthesia for emergency and elective orthopaedic procedures. Regional anaesthesia plays a major role in orthopaedic surgery and will be emphasized here. Blood management is part of emergency procedures in this specialty.

BAI 426 **Emergency Anaesthesia:**

The module builds on the understanding of physiology in the absence of a diagnosis. The most common emergency procedures will be discussed and taught. A wide variety of emergencies in the theatres and high/intensive care units has to be considered. From trauma to toxicology the student has to show a broad spectrum of knowledge and specific skills.

Year Five

BAI 511 **Anaesthesia for Cardiovascular Surgery**

This short module should introduce the student to the special challenges of anaesthesia for cardiovascular surgery. Cardiovascular anaesthesia is extremely useful to get an understanding of the complex interdependencies of the cardiac, pulmonary, cerebral and vascular interdependencies.

BAI 512 **Anaesthesia for Neurosurgery and Eye Surgery**

This module will deal with two specialized parts of anaesthesia. The student needs to be familiar with both types of patients even when they usually need a referral. Anaesthesia provides a solid basis for the care of these patients in emergency situations. Referral options are discussed and the ethical problems involved in the care for the neurosurgical patient on district level.

BAI 513 **Applied Anaesthesia III**

During this module the student will be introduced to the more complex forms of regional anaesthesia. Epidural anaesthesia in its lumbar, sacral and thoracic form will be taught as well as the peripheral blocks. Here we´ll focus on the axillary blocks, supraclavicular blocks, penile and ilioinguinal/ illiohypogastric blocks. They will learn which conditions would benefit from these specific blocks and which are useful in the setting of the district hospitals.

BAI 514 **Intensive Care II**

Students will especially learn about paediatric intensive care and the more complex care for the biggest operations usually done in adults Malawi (like oesophagus resection or transthoracic spine surgery) as well as about the care for the multi-morbid elderly.

BAI 515 **Intensive Care III**

Sepsis and head injuries are responsible for a high mortality in developing countries. Sepsis and head injuries are a challenge for all age groups and in all environment. They can both waste precious resources. This module teaches the adequate treatment of sepsis and head injuries in the district hospital as well as the often intercalated problems of multiorgan dysfunction.

BAI 516 **Paediatric Anaesthesia in the District and Central Hospital**

During this module the student will be familiarized with paediatric anaesthesia. This will be supervised closely and the student will have to learn what is applicable in the district and which children have to be referred to the central hospital

BAI 521 **Dissertation/Audit Project**

The module will provide the learners with an opportunity to conduct research of limited scope in their area of interest e.g. the student will plan and carry out an audit) within the programme content to improve their inquiry and interpretive skills.

BAI 522 **HIV / AIDS and Anaesthesia**

This module will review HIV and AIDS transmission, pathophysiology and management. This knowledge will enable students understand HIV /AIDS and Antiretroviral drug effects in relation to the giving of anaesthesia. Students will also gain skills on infection prevention from patient to patient, patient to anaesthetist and anaesthetist to patient.

BAI 523 **Anaesthetic Complications**

This module will review all anaesthetic complications, their causes and recognition. Students will acquire knowledge and skills in managing all anaesthetic complications intra and post-operatively.

BAI 524 **Obstetric Intensive Care (ICU IV)**

Students should acquire knowledge and skills in managing obstetric and gynaecological complicated cases in intensive care unit. Special laboratory and bed side tests, radiological investigations, chest and limb physiotherapy will also be introduced in this module.

Postgraduate Programmes

Master of Medicine Degree Programme in Medicine

Internal Medicine can be seen as the mother specialty from which other specialties have evolved and developed. With each of these specialties an area of common interest and competence persists and the internist is often seen as the central figure who oversees the whole field of medicine. Traditionally, internal medicine encompasses the whole spectrum of diseases affecting the internal organs or organ systems. These diseases may be acute or chronic, with a known or unknown cause. In particular complex conditions affecting multiple organs or organ systems are considered to fall under the competence of internal medicine. The internist has excellent skills in history taking and physical examination and teaches these skills to students. The internist is competent to diagnose and manage patients from a holistic approach, with the overall well-being of the patient as the central theme at all times and under any circumstances. He is guided by research and up-to-date knowledge of medical literature. Medical, scientific and ethical aspects all play an important role; excellent communication skills are required.

Calendar 2016-2018

Curriculum outline

1.1: Duration

The M. Med course in Medicine will be for 4 years; it is divided into 2 parts:

Part I: This covers year 1 and 2. This period will be spent in the Department of Medicine at the College of Medicine in Blantyre; it will include a three months' rotation in the Intensive Care Unit. The course will cover the basic principles of Medicine.

Part II: This covers year 3 and 4. It will involve specialty training in Internal Medicine. At least 6 months will be spent abroad in an institution where Internal Medicine is practiced at the highest level.

1.2: Structure of M. Med Part I (Year 1 and 2: Basic Principles of Medicine)

- Core activity: supervised clinical training
- Learning modules
- Research project leading to a dissertation
-

1.3: Structure of M. Med Part II (Year 3 and 4: Specialty Training in Medicine)

1.3.1: Core activity: supervised clinical training

The postgraduate students will continue to function as registrars and will take part in regular clinical and academic activities within the department.

The final two years will largely be spent in an institution abroad. Collaboration will be sought with an institution where Internal Medicine is practiced according to the highest standards available.

During their rotations the students should meet the standards that apply to their local counterparts.

1.3.2: Topics of study

- Cardiovascular disease
- Respiratory disease
- Endocrinology
- Renal medicine
- Gastroenterology and Hepatology
- Clinical pharmacology
- Dermatology
- Neurology and muscular disorders
- Musculoskeletal disorders
- Infection and Immunology

- Haematology and oncology
- Emergency medicine including poisoning
- Basic radiology
- Principles of epidemiology and statistics
- Principles of Medical Ethics

1.3.3: Allied competencies

The following allied competencies will be acquired:

- Management
- Research methodology
- Literature search; critical appraisal of literature
- Computer skills

Master of Medicine in Orthopaedics

The M Med (Orth) is a postgraduate course of 4 years. During this time a doctor gains experience in, and exposure to, acute orthopaedic emergencies, trauma management, orthopaedic problems and all aspects of elective orthopaedic surgery in Malawi. There is an introduction to the subspecialties of surgery. Students are guided in both textbook and distance learning; tutorials cover many of the core issues in orthopaedic and there is the opportunity to study some topics in depth and write a dissertation. The student is expected to be self-motivated and pro-active in clinical activities that will enable the acquisition of the essential technical expertise necessary for the practise of orthopaedic. There are opportunities to teach undergraduates, supervise interns and acquire many of the skills of teamwork, leadership and management. The M Med (Orth) curriculum serves as a log book.

Training for the MMed Orth has several major components:

- Supervised clinical experience in an appropriate learning environment. This forms the cornerstone of surgical training and reinforces the knowledge gained from other sources. It contributes to the development of clinical problem-solving abilities and technical competencies, and the acquisition of attitudes appropriate for a medical specialist in surgery.
- Participation in teaching modules and seminars as arranged by the department and Postgraduate Dean's Office.
- A dissertation, surgical skills course and a resuscitation and life support course are also required.

Broad objectives and justification of the M.MED (ORTH) programme

The programme will aim to produce specialist orthopaedic and trauma surgeons suited to the local environment. There is a death of orthopaedic surgeons in Malawi. For the population of 12 million people currently there are only four orthopaedic surgeons – one Malawian and three expatriate. There is no postgraduate training programme in orthopaedics currently and therefore the need to train orthopaedic surgeons locally is justified for several reasons.

- Increase the capacity and number of orthopaedic surgeons
- Reduce expenses and costs of training orthopaedic surgeons abroad.

Admission criteria

This will be in line with the general academic regulations for higher degrees of the University of Malawi specific to the College of Medicine. The successful candidates shall

- Possess an MBBS of the University of Malawi or its equivalent from a recognized institution.
- Have passed surgery at first sitting with a credit or higher grade during undergraduate training
- Be a registered medical practitioner with a minimum period of 2 (two) years after internship (housemanship).

Syllabus

Orth 1.1	**Basic Sciences for Surgery**
Orth 1.2	**Core Training in Orthopaedics**
Orth 2.1	**Specialty Training in Orthopaedics**
Orth 2.2	**Dissertation in Orthopaedics**

Master of Medicine in Ophthalmology

Blindness is the world's major human disability. According to WHO, 50 million people are blind and 135 million are visually disabled in the world. As many as 90 % of them live in Developing countries, and approximately 80 % of the global blindness is avoidable, caused by diseases that are either curable or preventable. These statistics portray a needless tragedy of million of human beings.

It is recognized that the major constraint to control blindness is the drastic lack of trained eye care personnel, of whom the ophthalmologist is regarded as team leader. With the exception of South Africa, the ratio of ophthalmologists to population in most African countries remains at 1:1 million.

Goals of the M.Med. Ophthalmology Training

The goals for M.Med. training in Ophthalmology should be to produce a specialist Ophthalmologist equipped with scientific knowledge, abilities and sound attitudes, reliable as a practitioner of this medical specialty, a member of a health care team, and as an individual who is involved in self-education and the education of others.

They outline those qualities of an Ophthalmologist, which are important in the management of patients, the relationships with other practitioners of medicine, members of the healthcare team and the community as a whole.

Such qualities and goals will be reflected in the knowledge, skills, competences and attitudes required by an Ophthalmologist.

Attitudes

It is expected that a specialist Ophthalmologist will hold those values that characterize the conduct of a humane physician and respect for confidentiality in accordance with the Oath of Hippocrates. In addition, by the completion of the training period, a trainee should have developed attitudes that include:

(1) A very high sensitivity to the human needs such as the time the patient has to wait, family economics, and social problems, as well as medical requirements of the patient; and a high respect for the community, including its ethnic and socio-economic diversity.

(2) A willingness to work as a member of a multidisciplinary team, to exercise appropriate leadership, and to show respect for the expertise and concerns of other members of the team.

(3) An appreciation of the value of science in the practice of ophthalmology, and of the importance of evidence-based research in advancing knowledge and in testing the validity of established modes of practice.

(4) An acceptance of the rules of conduct for research.

(5) Commitment throughout his professional career to conduct clinical audits of his practice and to participate in other *quality assurance activities*.

(6) Willingness and Commitment to conduct research and advance science in the field of ophthalmology.

(7) A commitment to continued personal learning from additional sources of material, and a sense of responsibility for the training of junior colleagues.

(8) A commitment to look after personal well-being and to support the welfare of colleagues and subordinates.

(9) Willingness to acknowledge mistakes and to learn from them.

(10) An awareness of current policies on professional issues and a commitment to act in ways consistent with these policies.

(11) Willingness to value the contributions of other health workers in the realization of health of individuals.

(12) Respect for human dignity

List of the Modules

Part One

Year One

Ophth. 110 Basic Sciences 1 (Anatomy,Embryology, Physiology, Refraction)

Ophth. 120 Ophthalmic examination techniques

Year Two

Ophth. 210 Basic Sciences 2 (Ocular Pharmacology & Pathology)

Ophth. 220 Principles and Concepts in Clinical and Surgical Ophthalmology

Part Two

Year Three

Ophth. 310 Community Ophthalmology

Years Three and Four

Ophth. 320 Dissertation

Year Four

Ophth. 410 Advanced Clinical & Surgical Ophthalmology

Master of Medicine in Public Health

This document defines the knowledge, skills, competences and attitudes that a MMed Public Health specialist should acquire during the training period and those attributes that the specialist should maintain and advance throughout the doctor's professional life.

Training Objectives

By the completion of the four year training programme the doctor will be competent and have demonstrated competence in the ten areas of specialist public health practice

(1) Surveillance and assessment of the population's health and well-being (including managing, analysing and interpreting information, knowledge and statistics)

(2) Promoting and protecting the population's health and well-being

(3) Developing quality and risk management within an evaluative culture

(4) Collaborative working for health

(5) Developing health programmes and services and reducing inequalities

(6) Policy and strategy development and implementation

(7) Working with and for communities

(8) Strategic leadership for health

(9) Research and development

(10) Ethically managing self, people and resources (including education and continuing professional development)

Curriculum Outline

The training is in two parts. The first part takes two years and combines academic training leading to a terminal Master of Public Health degree with service experience in an accredited training post obtaining service experience and working to apply theory to practice. The MPH is a pre-requisite for Part 2 training which is devoted to applying theory to practice. By the end of these two years the competencies

listed above will be accumulated. At the completion of the 4th year a terminal examination assesses the competences of the candidate and those who pass receive the Degree of Master of Medicine (Public Health) and become eligible for specialist public health appointments. At the same time a portfolio of work is presented identifying the way the competencies have been reached.

Part 1 – Year 1 & 2

The College MPH is described in detail in the MPH handbook. Candidates may take equivalent 2 year MPH degree courses outside Malawi. Where one year MPH courses are obtained additional components can be taken at the College to provide cumulative credits that summate to be equivalent to a 2 year course.

Service positions must be taken in accredited training positions where the post, the training environment and the trainer are accredited.

Part 2 – Year 3 & 4

Year 3 and 4 are largely taken in accredited training posts in various locations including district, zonal, national, NGO and academic institutions. During this time the competencies are achieved and the written dissertation is prepared.

The competencies acquired are listed and certified by the trainee and the trainer in the portfolio.

Courses are designed to equip students to:-

- Solve health service problems at district level
- Solve health problems in other situations
- Undertake and write a dissertation

Examination is of the dissertation and there is an oral examination at which the dissertation is defended and general competency tested.

The written examination has the following features:-

The Written Submission

Candidates are required to submit between two and four reports based on at least two separate and distinct pieces of work (see Guidance below). It is expected that the material used to prepare the report will usually be derived from the candidate's normal mainstream duties. However, candidates with other relevant interests are encouraged to pursue them and, if they wish, to include reports on such work in their submission. The content, therefore, will depend on their interests, the nature of their work and where it is carried out. Candidates may submit reports based on materials prepared for other purposes (for example, a report to a Health Authority or a paper published on the results of a research project). In such cases the original purpose should be stated and further commentary may be necessary to show how the work fulfils the designated competency. Submissions are expected to demonstrate appropriate levels of academic competence as well as pragmatism within service situations. The choice of topics and ethical clearance, where appropriate, are the responsibility of the candidate. In principle, any topic which falls within the scope of public health practice is acceptable.

Syllabi

The first two years of the M Med (Public Health) course are described in the MPH course. There are 30 modules of training so described of which the student takes the six core modules and a selection of 16 elective modules. These are not described here.

The specific training sylabi for the second part of the M Med course are described here. They relate to Year 3 and Year 4 of the training programme.

Master of Medicine in Paediatrics

Aims

The aim of the Master in Paediatric degree is to train postgraduate students to become specialists in Child Health.

Objectives of teaching

To provide a solid basis of knowledge of the principles and practice of paediatrics

- To give the opportunity to take part in research and to be able to assess the publications and research of others.
- To teach clinical evidence based paediatric practice.

Course Structure

Part I M Med (Paeds) is taken after approximately two years of paediatric in service training at registrar level.

The course content is in the curriculum (see attached) and covers a wide range of child health.

Part II M Med (Paeds) is a further 2 years following Part I during which training and experience in some of the sub specialties of paediatric and child health is expanded. A dissertation, relevant to Malawi is researched, prepared and written in these 2 years. The dissertation must be submitted and accepted 2 months prior to writing the examinations of Part II.

Goals for Professional Training in Paediatrics and Child Health

(A) General Goals

Postgraduate trainees in paediatrics should acquire and retain a thorough understanding of:

- Normal growth and development.
- Abnormalities of growth and development.
- Deviation from the norm and disease states.
- Homeostasis and restoration of bodily functions.
- Organisation of healthcare and facilities for children.
- Paediatric therapeutics.

- The epidemiology of childhood disease

Trainees also need to develop core professional competencies including:

- Clinical competencies, particularly communication with children, families and colleagues
- Problem solving
- Counselling
- Professional behaviours
- Basic technical competencies

(B) Specialty Goals

Trainees need to consolidate basic knowledge and gain clinical experience in the specialty areas relevant to child health and disease:

Community Paediatrics: Social and environment influences on health and disease; organisation and provision of healthcare; health promotion; surveillance & screening; long-term illness and disability; consent to treatment or investigations, children's rights; child abuse and appropriate child care; orphan care.

Emergency Paediatrics: Common childhood injuries, burns, accidents & poisonings; patterns of poisoning: accidental, iatrogenic, traditional medicine, intentional, drug abuse, factitious; epidemiology and preventive measures; pathophysiology of common poisoning: elimination and reduction of absorption; patterns of trauma; pathophysiology of shock complicating trauma; head injury; initial management of burns, common paediatric emergencies.

Genetics and Congenital Malformations: DNA as the basis of inheritance; modes of inheritance of common / important genetic disease: mutation, consanguinity; prenatal diagnosis: indication, practical issue and ethics; screening for genetic disorder: prenatal, newborn, carrier detection; hereditary cancers; basic principles of genetic counselling; common chromosome aneuploidies, non – disjunction, translocation, mosaicism; clinical morphogenesis: classification into malformation, deformities, disruptions, sequence and syndrome; common dysmorphology syndromes.

Growth: Normal growth and physical development through infancy, childhood and adolescence; endocrinology of growth and puberty; effects of deprivation and social class; influence of genetic, prenatal and postnatal environment factors; principles

of growth charts; normal sequence of puberty & variation in timing; assessment of stages of puberty; bone age; principles of growth monitoring; common / important cause of growth failure: nutritional deprivation, chronic disease, long term steroid therapy, dysmorphology syndrome; disproportionate growth.

Developmental Paediatrics: Normal development including gross motor, fine motor, speech and language, emotional, cognitive: normal variation and deviation; methods of developmental assessment; common / important cause of developmental delay.

Adolescent Health: Risk-taking behaviour, development of sexuality & sexual identity; contraception, sexually – transmitted disease, sex education; deliberate self-harm; adolescent as carers; development of independence, work role, place in society, ideals and mores.

Neuromuscular Disease: Structure and function of neurological pathways; neurological assessment; early symptoms and signs of neuromuscular problems; headache & migraine; common epileptic syndrome; management of seizures & status epilepticus; anticonvulsant therapy; differentiation of fits, faints and " funny turns"; mypopathies; neuropathy; intracranial tumours; developmental regression; multiagency assessment and planning for neurodisability; neurorehabilitation.

Learning Difficulties: Classification; cause; associated syndrome& medical consequences; sharing unexpected news; social integration; management of children with multiple disabilities.

Behavioural and Physiological Problems: Normal emotional and behavioural development; common behavioural problems of orphans; bereavement; psychological aspect of physical illness; conduct disorder; depression; somatisation; threatened suicide and deliberate self-harm; school phobia.

Nutrition: Nutrients & nutrition requirements; breast feeding; weaning; common feeding problems; malnutrition; failure to thrive; specific nutritional deficiencies; nutritional support; dietary modifications in systemic disease.

Audiology: Patterns of hearing loss; assessment of hearing / hearing, appropriate testing for age; screening; educational provision; medical interventions.

Child Protection: Patterns of abuse; vulnerable families; recognition of abuse; multiagency assessment; appropriate interventions; medical responsibility & writing reports.

Palliative Care: Recognition of need; family-centred care; symptom control; needs of care-provider & sibling; preparation for death

Neonatology: Demographic, medical and psychosocial factors which influence perinatal mortality and morbidity; high-risk pregnancy and outcome; the effects of antenatal illness on foetal well-being; management of labour and delivery and their effects on the neonate; relationship of perinatal, neonatal and infant mortality/ morbidity; drug therapy and its significance for the foetus, infant and for breast feeding; adaptation to extra uterine life; general principals of the care of the new born; early pointers towards significant illness; prevention, diagnosis and initial management of infection, hypoglycaemia and jaundice; biochemical screening programmes; foetal and neonatal nutrition; kangaroo mothercare; the growth-retarded infant; the preterm infant.

Cardiology: Foetal circulation; congenital heart defects; common associations, presentations, complications; acquired heart disease; rheumatic heart disease; cardiomyopathy; cardiac failure; shock; hypertension; bacterial endocarditis & prophylaxis; cardiac investigations.

Endocrinology: Hormonal actions and control; hypoglycaemia; presentations and management of diabetes mellitus, thyroid disease & other disorders; short & tall stature; intersex; precocious & delayed sexual development.

Gastroenterology and Hepatology: Malabsorption; cause and treatment of dehydration; management of failure to thrive, chronic diarrhea & recurrent abdominal pain; chronic liver disease; jaundice; imaging and Endoscopic techniques.

Calendar 2016-2018

Nephrology: Fluid requirements; management of haematuria, proteinuria; acute nephritis; nephritic syndrome; hypertension; urinary tract infection & vulvo-vaginitis; urinalysis; acute renal failure; haemolytic uraemic syndrome; Henoch Schonlein purpura; schistosomiasis.

Haematology: Differential diagnosis of anaemia, lymphopaenia, neutropaenia & thrombocytopaenia; prevention and management of iron deficiency; bleeding disorder

Oncology: Presentation investigation and management of common childhood malignancies; predisposing factors; principles of investigation and treatment; Burkitt's lymphoma; sharing bad news; palliative care; bereavement counselling.

Metabolic Disease: Major metabolic pathways; hypoglycaemia, jaundice, hypotonia, encephalopathy as presentions of inborn errors of metabolism; initial investigations and management.

Musculoskeletal Disorder, Orthopaedic & Rheumatology: Management of the child with a limp, arthralgia; chronic arthritis; osteomyelitis & septic arthritis; osteitis & syphilis; interpretation of X-ray; non accidental injury; rickets; bone and joint manifestations of systemic disease; common abnormalities of gait and posture.

Ophthalmology: Normal visual development; strabismus; retinoblastoma; proptosis; xerophthalmia; assessment of ocular function; ophthalmoscopy; ocular manifestation of systemic disease.

Respiratory/ ENT: Respiratory physiology & gas exchange, respiratory function tests, upper airway obstruction; otitis media; community – acquired pneumonia; empyema; inhaled foreign body; recurrent respiratory tract infections; tuberculosis; tuberculin skin testing; chronic lung disease, asthma; thoracocentesis; interpretation of chest X-rays.

Dermatology: Normal structure and function of the skin, hair, nail and teeth; common variations in the newborn; dental disease; scabies; eczema; impetigo; tinea; exanthemata; cutaneous/ mucosal manifestations of systematic disease.

Infectious Disease,

Immunology and Allergy: Classifications of infectious agents; cause of vulnerability to infections; mechanism of maternal-fetal infection; action and classifications of antimicrobial agents; mechanism of drug resistance; epidemiology, pathology and natural and natural history of common infections of the fetus, newborn and child; other important infections, inc. TB, HIV malaria, hepatitis B, polio, rabies, diphtheria, measles, tetanus; immunization and control of infections disease; nosocomial infections: basic principles of infection control; notification of communicable disease; presentations, diagnosis and management of meningitis; pathophysiology of septic shock; in the immunocompromised host; host defence mechanism at different ages; primary immunodeficiencies: disorders of neutrophils, disorders of humoral immunity; T-cell disorders; secondary immunodeficiencies, inc. malnutrition; the child with recurrent infection; hypersensitivity & autoimmunity; management of anaphylaxis; food, airborne and drug allergies; preventive strategies, allergy self-treatment programmes.

Pharmacology and Therapeutics: Mechanism of action; pharmacodynamics; drug interactions; safe prescribing; compliance; prescribing in liver, renal disease; drugs in pregnancy & lactation; management of overdose and poisonings; traditional remedies; analgesia; controlled drugs formularies; WHO, national & hospital prescribing policies and guidelines.

Surgery: Presentations and initial common paediatrics surgical problem; acute abdomen, management of scrotal pain, hydrocoele, undescended testes, hernia, soft tissue swelling/ infection; neural tube defects, hydrocephalus; indications for surgical referral.

Radiology: Principles of imaging methods; indications, limitations and interpretation of chest, abdominal and limb X-rays, contrast studies, ultrasound evaluation.

Allied Competencies

Management

(Training and Service Provision): Supervision, appraisal resource management, chairing meetings, interviewing skills, budgeting, team working, audit, service evaluation.

Medical Ethics: Consent, confidentiality, access to care, patient doctor agreements, resource allocations, withholding or withdrawal of treatment, end-of-life directives, medically-assisted suicide.

Research: Research objectives, methodologies, statistics, epidemiological methods.

Teaching and Learning Competencies: Presentational skills, learning styles, self-directed learning plans, literature searches, peer review, critical appraisal of literature.

Master of Medicine in Psychiatry MMED (PSYCH)

The aim of this course is to train psychiatrists who are able to meet the needs of people living with mental illness in Malawi. Over 80% of the population of Malawi live in rural areas, and access to health care through primary care clinics and district hospitals. Extending access to mental health care and decentralising of services are key principles of the Ministry of Health's policy.

Modules

Module Code	Module Name and Descriptor
Psych 1.1	**Basic Sciences for Psychiatry** The aim is to provide a thorough understanding of the basic scientific principles underlying psychiatric clinical practice.
Psych 1.2	**Core Training in Clinical Psychiatry** The aim is to provide a basis in knowledge of the principles and practice of psychiatry To provide trainees with the skills to able to assess and examine patients for mental disorder. To provide trainees with the skills and attitudes appropriate for the care of people living with mental disorder.
Psych 1.3	**Public Health Psychiatry and Psychiatric** The aims of this part of the course are ensure that the graduates are able to meet the demands of leading and developing mental health services in Malawi. Over 80% of the population of Malawi live in rural areas, and access health care through primary care clinics and district hospitals. Extending access to mental health care and decentralising of services are key principles of MOH policy.
Psych 1.4	**Public Health Psychiatry and Psychiatric** The aim is to conduct and present original research work in the field of psychiatry.

Psych 2.1 **Specialty Training in Psychiatry**
The aim is to train postgraduate students to become specialists in Psychiatry. Specialists in Psychiatry will be expected to:

Master of Medicine in Surgery

The M Med (Surg) is a postgraduate course of 4 years. During this time a doctor gains experience in, and exposure to, acute surgical emergencies, trauma management, orthopaedic problems and all aspects of elective general surgery in Malawi. There is an introduction to the subspecialties of surgery. Students are guided in both textbook and distance learning; tutorials cover many of the core issues in surgery and there is the opportunity to study some topics in depth and write a dissertation. The student is expected to be self-motivated and pro-active in clinical activities that will enable the acquisition of the essential technical expertise necessary for the practise of surgery. There are opportunities to teach undergraduates, supervise interns and acquire many of the skills of teamwork, leadership and management. The M Med (Surg) curriculum serves as a log book.

Curriculum Outline

1. Duration

The M Med course in Surgery will be for 4 years part time; it is divided into 2 parts:-

Part 1: Year 1 and 2 will be basic surgical training

Part 2: Year 3 and 4 will be higher surgical training

2. Structure of M. Med

2.1: Core activity: In-service Training

2.2: Formal teaching; modular where possible

2.3: Participation in a research projects: **Dissertation**

3. Detailed structure of the programme

The programme shall be divided into two parts. Part I in first 2 years Part II in the succeeding two years.

3.1 Part I of the programme shall consist of studies in the following areas:-

3.1.1 Surgical Anatomy

3.1.2 Applied Physiology

3.1.3 Surgical Pathology

3.2 There will be lectures and tutorials in Principles of Surgery in General and Systematic Surgery.

3.3 During Part I of the programme candidates will spend an appropriate time in posts in Surgery and relevant disciplines of Surgery as detailed below.

3.3.1 Year I

(1) Six months in General Surgery with emergency work

(2) Six months in Orthopaedic with trauma

3.3.2 Year II

(1) Three months ICU

(2) Three months Paediatric Surgery

(3) The remaining six months may be spent in approved posts in other acute surgical specialties of the trainee's choice. This may consist of two posts, each of 3 months duration or a single six months post. This six month period may also be spent in a general or orthopaedic surgery posting not included above.

Recognised specialties are:-

- Accident and Emergency Medicine
- Cardio thoracic surgery
- Neurosurgery
- Oral and Maxillofacial Surgery
- Otolaryngology
- Paediatric Surgery
- Plastic surgery and Burns
- Urology
- Anaesthesia/Intensive Care

3.3.3 In Year I candidates will take part in the **Basic Sciences Core Course** for one afternoon per week.

3.3.4 In Year I candidates will take part in a **Basic Surgical Skills Course**.

3.3.5 In Year I or II candidates will take part in an **ATLS/Trauma course**, or an **Early Trauma and Critical Care Course**.

3.4 During **Part II** of the programme candidates will spend an appropriate time in post in surgery and relevant disciplines in surgery as in paragraph 3.2 and as detailed below.

3.4.1 Year III

(1) Six months in General Surgery

(2) Six months in a local or regional rotation in General Surgery (including an adequately supervised post in another Central Hospital) or a recognized speciality or subspecialty.

Recognised specialties or subspecialties are:-

- Urology
- Neurosurgery
- Paediatric surgery

- Endocrine surgery
- Breast surgery
- Upper GI surgery
- Hepato-billiary surgery
- Colo-rectal surgery
- Endoscopic surgery
- Vascular surgery
- Trauma surgery

or

Six months in a Clinical Research post.

3.4.2 Year IV

Will be spent in further general surgical rotations.

There will be time for:

(1) Completion of dissertation

(2) Preparation for examinations

3.5 During Part II there shall be further exposure to principles of Surgery, Surgical pathology, the art of surgery and systematic surgery.

3.6 During Part II of the programme, candidates shall be required to submit research work of between 10 000 and 15 000 words as a dissertation. In discussion with the department of surgery students will identify a topic of research or participate in an on-going research project. In the latter case a separate research question will be identified which they can address under supervision of the principal investigator of the project. This dissertation shall be submitted to the Postgraduate Dean in final form by the middle of the fourth year (Final year) of the course.

3.7 Any candidate who fails to submit the dissertation by the due date shall not be permitted to appear in the Final (Part II) Examination.

Syllabi

Surg 1.1 **Basic Sciences for Surgery**

Surg 1.2 **Core Training in Surgery**

Surg 2.1 **Specialty Training in Surgery**

Surg 2.2 **Dissertation in Surgery**

Master of Medicine in Obstetrics & Gynaecology

Since its inception in 1992, the College of Medicine has produced a total of 150 Medical Officers, most of whom are working within the various public and private health institutions in the country. Some have joined the College of Medicine as Staff Associates – i.e. in preparation for specialization in the various disciplines. The College continues to produce approximately 20 new graduates every year.

Skills

At the completion of the training or graduate should have acquired competence in the following:-

- Ability to practice as a safe obstetrician and gynaecologist
- Manage all obstetric and gynaecological cases.
- Obstetric and gynaecological surgical skills.
- Resuscitation of the new borns
- Provide all available modern family planning methods.
- Manage all emergencies in obstetrics and gynaecology
- Screen high risk clients and their management
- Conduct clinical audit, operational research and improve both the quality of work and outcomes.
-

Attitudes

It is expected that a specialist in obstetrics and gynaecology will hold those values that characterise the conduct of a committed, dedicated physician to serve the community

- A personal commitment to life long ethical practice of his/her profession with concern for the welfare of the community, the sick, and enthusiasm for lifelong continuing medical education.
- Willingness to work in a multidisciplinary team, to exercise appropriate leadership and show respect for the team.
- An appreciation of science in the practice of obstetrics and gynaecology.
- The ability to undertake evidence based research in advancing knowledge and in testing the validity of established methods of practice.
- Ability to read published research results critically to suit the local condition.
- Research activities should be conducted according to the set ethical rules/norms and values.
- Respect for the value, norms and culture of the community including its ethnic and socio-economic diversity.
- Willingness to accept mistakes and to learn from the mistakes.
- Needs to follow policies, guideline on the practice of the profession and a personal commitment to act in manners consistent with the set guidelines and policies.

Aims

The aims of a postgraduate training programme in Obstetrics and Gynaecology, in the College of Medicine, University of Malawi are:-

- To train suitably qualified specialists to provide specialised reproductive health care services to the population of Malawi, at all health care levels.
- To train suitably qualified specialists who will become lecturers in the College of Medicine.
- To train suitably qualified specialists who will manage the various reproductive health related programmes and projects in Malawi.

Through the above aims, the country will not only reduce dependence on expatriates, but increase the specialists' coverage of health institutions in Malawi. These will also assist I the development and implementation of appropriate and relevant National Reproductive Health Care Policies, protocols and programmes.

The foregoing will ultimately result in the improvement of the reproductive health and well-being of people of Malawi.

Curriculum, Syllabi and Assessment

Partone

General Objective: At the end of this part of the course, the trainees will be expected to have acquired sound and wide knowledge of basic sciences with particular emphasis in those areas that are direct and practical relevance to the practice of obstetrics, gynaecology and fertility regulations.

Subjects for basic medical sciences will include:-

- Anatomy
- Biochemistry
- Cell Biology and Genetics
- Embryology and the Foetus
- Endocrinology
- Immunology
- Microbiology
- Pathology
- Pharmacology
- Essential of Biostatistics and Behavioural Sciences.
- Elementary Biophysics

Implementation of the M.MED O/G Programme

Part one

Although this segment of the course is mainly basic medical sciences, the main focus is on the type of specialist {product} that will be produced. This will be a clinician capable of practicing obstetrics and gynaecology and fertility control competently using the principles of basic sciences relevant to the discipline.

Basic Medical Sciences

The student will be expected to acquire knowledge in the subjects and areas indicated above, through:-

(a) Self Learning - Most important

(b) Lectures: ***General***- By Basic Sciences Teachers in an integrated manner.

Applied - By Clinicians in O & G largely, but occasionally by invited clinicians fromother specialities.

(c) Seminars and Tutorials.

(d) Demonstrations e.g. in the laboratories, etc.

These sessions i.e. (b) to (d) above, will be scheduled every afternoon between 1400-1600 hours throughout the year.

Clinical Attachments

The students will be integrated into the normal, routine departmental clinical work, i.e.

- Ward Work
- Labour
- Gynaecological
- Antenatal
- Postnatal
- Clinics
- Theatres
- Audit Work
- Perinatal
- Maternal

They will also be integrated into the emergency call rosters.

They will rotate through the different areas/units in department:-

- Gynaecological and Post-abortion care
- Antenatal
- Postnatal and family planning
- Labour Ward.

In all the above, the trainees will be under supervision of the consultant/specialist in the department.

Part two

This part of the course stretches through all the four years of training e.g. YEARS I, II, III and IV. It provides an opportunity for the student to acquire clinical knowledge, skills and experience in obstetrics, gynaecology and fertility control. The student will be expected to use the basic science principles

acquired during the Part I to interpret the modes of presentation of diseases; the clinical findings and any investigative methods that may be used.

Master of Medicine in Anaesthetics

This Master of Medicine Degree in Anaesthetics (MMed Anaes) was developed at a Curriculum Development Conference held in Blantyre in March 2002 by specialist anaesthetists from Kenya, Tanzania, Zimbabwe, Zambia, The Netherlands, United Kingdom and Malawi. After discussions at Faculty and Postgraduate Committees, the College of Medicine adopted the conference recommendations.

Goals of the MMed Anaesthetics Training

The goals for MMed training in anaesthesia define the abilities of a specialist anaesthetist as a practitioner of this medical specialty, a member of a health care team, and as an individual who is involved in self-education and the education of others. They outline those qualities of an anaesthetist, which are important in the management of patients, the relationships with other practitioners of medicine, members of the healthcare team and the community as a whole. Such qualities and goals will be reflected in the knowledge, skills and attitudes required by an Anaesthetist.

Knowledge

By the end of the training period, a trainee doctor should have acquired knowledge in the following areas:

- Advances in basic sciences as they apply to anaesthesia and pain medicine.
- Clinical anaesthesia and pain medicine, and clinical medicine, surgery, obstetrics and paediatrics as they apply to the practice of anaesthesia.
- The general field of anaesthetic practice including relevant legislation, ethical considerations, communication issues, quality assurance, and administrative structures and processes.
- Intensive Care Management.
-

Competences

By the completion of the training period, a trainee should have developed competences in following areas:

- Safe practise of anaesthesia.
- Assigning priorities to clinical problems and to the utilization of resources available for the management of those problems.
- Recognizing the importance of patient's welfare.
- Functioning effectively as a member of a health care team.
- Recognizing changes in the specialty, medicine or society, which requires modification to practice and demonstrating a willingness to adapt accordingly.
- Communicating effectively with patients and with a variety of professional and community groups on topics of relevance to anaesthesia.

- Conducting relevant quality assurance activities including clinical audits for the improvement of clinical practice.
- Demonstrating commitment to continued professional growth and to contribute to the education of medical, nursing and paramedical staff.

Curriculum Outline

Part I

Year 1: Basic Sciences and Anaesthesia

- Pharmacology
- Physiology and biochemistry
- Anatomy
- Physics and clinical measurement
- Statistical methods

Year 1 and 2: Safe Anaesthesia

- Pre-operative assessment of patient and premedication
- Anaesthesia administration equipment and maintenance
- Postoperative and Recovery care
- Cardio pulmonary resuscitation
- Regional Anaesthesia
- Intensive care or high dependency care, adults
- Obstetric anaesthesia and analgesia
- Paediatric anaesthesia for children older than 1 year
- Primary Trauma Care
- Transportation of patients
- Pain management, a basis
- Critical incidents management
- Infection control
- Anaesthesia for Burns

Part II

Year 3: Specialist Anaesthesia, Intensive Care, and Research Proposal for Dissertation

- Obstetric anaesthesia (in-depth)
- Advanced Trauma Life Support

- Diverse and complex regional blockades
- Paediatric and neonatal surgery anaesthesia
- Urology anaesthesia
- Complex orthopaedic surgery anaesthesia
- Eye, ear, nose, dental and throat anaesthesia
- Ethics, Medico-legal issues and Quality Assurance
- Trainee guidance and teaching

Year 4: Clinical rotations (6-month duration, possibly with external elective period) in:

- Anaesthesia for neurosurgery
- Anaesthesia for cardiac, pulmonary and vascular surgery
- Advanced Intensive Care training
- Completion of dissertation

FACULTY OF BIOMEDICAL SCIENCE AND HEALTH PROFESSIONS

Undergraduate programmes

Department of Medical Laboratory Science

Bachelor of Science Medical Laboratory Science (Hons) – 5 Years

The aim of this programme is to educate and train medical laboratory technologists who are versatile and able to apply principles and techniques in the routine and specialised analyses of biological specimens and other substances, manage and organise laboratory operations in accordance with Good Clinical Laboratory Practice and capable of carrying out clinical research to improve laboratory testing in Malawi. The training is tailored to develop knowledge, attitudes and skills in medical laboratory management, testing and interpretation of laboratory data in accordance with statutory requirements including quality, ethics and safety.

Year Zero

Module code	Module Name and Descriptor
PHY 001	**Physics** This course is designed to enable the learner acquire knowledge on basic concepts of physics and assist the learner to apply the concepts with respect to medical laboratory sciences.
MAT 001	**Mathematics** This course is designed to enable the learner acquire knowledge on basic concepts of mathematics and assist the learner to apply the concepts with respect to medical laboratory sciences.
BIO 001	**Biology** This course is designed to enable the learner acquire knowledge on basic concepts of biology and assist the learner to apply the concepts with respect to medical laboratory sciences.
CHE 001	**Chemistry** The course introduces fundamental concepts of chemistry which will enable the students to recognize the behaviour, patterns and properties of chemical systems which are essential to understanding pre-clinical courses in medical biochemistry.
LCI 001	**Language and Communication** The course equips students with theory and skills for effective language and communication, including time management, searching for relevant information from a variety of sources and utilizing it for visual, verbal and non-verbal communication as appropriate to the medical profession.

ICT 001 **Information and Technology Communication**

The course introduces students to a computer as a tool for handling information and communication. Provide students with an overview of a computer, theories behind computer operation, design and architecture, its major components, computer communication network and the Internet. Provide students with hands on experience with various computer applications.

Year One

MLS 101 **General Biochemistry**

The course provides the student with an understanding of carbohydrate, protein and lipid metabolic pathways. The knowledge acquired will be applied to the investigation of metabolic diseases.

MLS 102 **Anatomy & Physiology**

The course introduces the student to the general principles of Anatomy and Physiology in relation to structure and function.

MLS 103 **Medical Genetics**

The course provides the student with an understanding of the principles and concepts of human genetics.

MLS 104 **Introduction to Medical Laboratory Sciences**

The course equips the student with a wide range of basic laboratory skills that are essential to medical laboratory personnel and introduce the learner to laboratory techniques.

MLS 105 **Introduction to Microbiology**

The course provides students with knowledge and skills in the study of micro-organisms in health and disease.

MLS 106 **Introduction to Biostatistics**

The course enables the student to apply principles and theories of biostatistics and experimental design to biomedical science research.

Year Two

MLS 201 **Medical Microbiology**

The student will gain knowledge on pathogenic microorganisms, their medical importance routes of transmission and pathogenesis. The module should also

equip the student, with the practical skills for isolation and identification of selected microorganisms.

MLS 202 **Haematology**

The module provides the student with an understanding of the principles and concepts of various haematological processes in health and disease.

MLS 203 **Clinical Chemistry**

The learner will develop an understanding of biochemical changes in disease and skills in detection and quantitation of metabolic compounds of clinical significance. Emphasis is on principles of analysis and diagnostic significance on biological constituents.

MLS 204 **Immunohaematology and Blood Transfusion Science**

The course enables the student to understand and apply the principles of the science and practice of blood transfusion.

MLS 205 **Molecular Diagnostics**

The course enables the student to understand the principles of molecular diagnostics and its application to diagnosis of disease.

MLS 206 **General Pathology and Histology Techniques**

The course provides an understanding of general diseases processes at the cellular level and enable the student to recognize diseased cells and tissue. The student will also learn the principles, techniques and applications of histology and cytology techniques for the identification of disease processes at both cellular and tissue levels.

Year Three

MLS 381 **Medical Microbiology Laboratory Practicum**

The objective of the clinical rotation is to equip students with workplace skills and understanding to enable them to process clinical samples in medical microbiology in accordance with good clinical laboratory practice. Students will gain practical experience in all aspects of sample processing, analysis, validation, interpretation and reporting of results. Emphasis is put on development of professional behavior.

MLS 382 **Haematology Laboratory Practicum**

The objective of the clinical rotation is to equip students with workplace skills and understanding to enable them to process haematologyin accordance with good clinical laboratory practice. Students will gain practical experience in all aspects of sample processing, analysis, validation and reporting of results. Emphasis is put on development of professional attributes.

MLS 383 **Clinical Chemistry Laboratory Practicum**

The aim of the clinical rotation is to equip students with workplace skills and understanding to enable them to process clinical chemistry samples in accordance with good clinical laboratory practice. Students will gain practical experience in all aspects of sample processing, analysis, validation and reporting of results. Emphasis is put on development of professional behaviour.

MLS 384 **Blood Bank and Blood Transfusion Science Practicum**

The objective of the clinical rotation is to equip students with workplace skills and understanding to enable them to perform tests for screening blood donors and testing to ensure safe transfusion of blood in accordance with good clinical laboratory practice. Students will gain practical experience in all aspects of sample processing, analysis, validation and reporting of results. Emphasis is put on development of professional attributes.

MLS 385 **Serology/Immunology/Molecular Diagnostics Practicum**

The aim of the clinical rotation is to equip students with workplace skills and understanding to enable them to process immunological, serological and virological samples in accordance with good clinical laboratory practice. Students will gain practical experience in all aspects of sample processing, analysis, validation and reporting of results. Emphasis is put on development of professional behaviour.

MLS 310 **Research methods**

The course introduces students to the design and execution of research projects with practical experience of conducting projects relevant to district laboratory support for the EHP.

Year Four

MLS 401 **Medical Laboratory Management**

The course provides the student with knowledge and skills to total quality management systems as applied to clinical laboratory operations.

MLS 405 **Laboratory Medicine Case Series & Seminar**

The course enables the student to correlate didactic knowledge and laboratory investigations with clinical significance and develop critical thinking skills. Examples from the results they will have encountered during the third year laboratory attachment will be extensively utilized. Pathopysiology, aetiology and epidemiology will be reviewed during each case.

MLS 402 **Education (0.5 Module)**

Students will learn how to develop educational objectives and educational methods that they can apply to their workplace and to their roles as laboratory managers, supervisors and teachers.

MLS 406 **Public Health**

The course enables the student understand the basic principles of Public Health.

MLS 403 **Medical Laboratory Ethics (0.5 Module)**

The course introduces students to the code of medical ethics, with special emphasis on laboratory aspects.

MLS 480 **District Hospital Laboratory Practicum**

The course provides students with practical experience of conducting essential medical laboratory tests to a high quality standard in a real life district hospital setting in Malawi and equip them with skills to be able to address new problems in the workplace.

MLS 450 **Research Project**

This course will enable students to prepare and execute an individually guided research project. They will be trained to devise a project proposal in an identified study areaof their choice.

Department of Pharmacy

Bachelor of Science Pharmacy (Hons) – 5 Years

This programme is aimed at equipping the Malawi health sector with pharmacists who have necessary knowledge, skills, attitudes and values in order to help health institutions with everyday procurement and storage procedures of drugs, medicines and other health facilities. This, in turn, will help institutions avoid wastage and reduce costs of medicines on both short and long term bases.

Module Code	Module Name and Descriptor
PHA 100	**Pharmacy – An Introduction** The course provides students with a broad perspective of Pharmacy as a profession and the general health care environment.
PHA 200	**Pharmaceutics I** The course introduces the students to the physicochemical properties and processes as applied to pharmaceutics and principles of dosage form design.
PHA 201	**Pharmaceutical Chemistry I** The course provides a firm grounding in the most important principles of chemistry including, reactions and mechanisms, analytical chemistry, and laboratory techniques.
PHA 202	**Pharmacology I** The course imparts knowledge on indications, adverse effects, mechanism of action, interactions and contraindications of various drugs, administered through various routes, classified according to organ systems.
PHA 203	**Pharmacognosy** The course enables students to understand the medicinal properties of natural products, their identification and isolation of principle components.
PHA 205	**Pharmaceutical Calculations** The course introduces students to pharmaceutical calculations that are applicable to the preparation and dispensing of different dosage forms, technology to prepare all the dosage forms in practical situation and the physical-chemical properties that play a role in the dosage form development.
PHA 300	**Pharmaceutics II** The course imparts knowledge and skills to the students on the current Good Manufacturing Practices of medicines and practical skills in drug dosage form preparation.
PHA 301	**Pharmaceutical Chemistry II** The course provides students with an understanding of principles of analysis and laboratory procedures which are necessary to ensure and determine the

quality of pharmaceutical and ancillary products and which can also be applied in pharmaceutical and clinical research.

PHA 302 **Pharmacology II**

The course imparts knowledge on indications, adverse effects, mechanism of action, interactions and contraindications of various drugs, administered through various routes, classified according to organ systems.

PHA 304 **Pharmacy Practice I**

The course provides students with an understanding of the role of the pharmacist in relation to the patient, and the wider role in the community and how to read and interpret prescriptions.

PHA 305 **Pharmacy Law**

The course introduces thestudent to the development, structure and functions of Pharmacy, Medicines and Poisons Board and Pharmaceutical Society of Malawi; and helps the student understand the Pharmacy Regulations and the Code of Ethics.

PHA 306 **Drug and Medical Supplies Management I**

The course imparts to students principles of general management and administration, essential drugs concepts, national medicine policy and the selection of medicines and medical supplies.

PHA 400 **Pharmaceutics III**

The course equips students with the principles of biopharmaceutics, deeper understanding in pharmacokinetics and to be able to analyse data and calculate various pharmacokinetic parameters.

PHA 401 **Clinical Pharmacy**

The course imparts knowledge on the basic principles (patho-physiology) of common disease processes, together with the principles of rational drug therapy.

PHA 402 **Pharmacology III**

The course imparts knowledge on indications, adverse effects, mechanism of action, interactions and contraindications of various drugs, administered through various routes, classified according to organ systems.

PHA 404 **Pharmacy Practice II**

The course enables the student to make correct and objective decisions relating to the use of prescription and non-prescription medications in minor illnesses, through knowledge of disease conditions and medicines, and effective communication.

PHA 406 **Drug and Medical Supplies Management II**

The course imparts knowledge to the students on managing, selecting, procuring, storing, distributing, and rational use of drugs.

PHA 407 **Medicinal Chemistry**

The course imparts knowledge in chemical and biochemical determinants of therapeutic action, the basic concepts of physico-chemical properties of the drug and the fate of drug upon administration.

PHA 408 **Toxicology**

The course imparts knowledge on the evaluation of laboratory data, risk assessment and understand the experimental methods used to develop toxicological data and how different routes of exposure can influence toxicity.

Department of Biomedical Sciences, Community Health and Pathology Inputs

Year One

Module Code	Module Name and Descriptor
PHA 110	**Anatomy**

The course introduces students to the structure and organisation of the human body and the methods of the study of anatomy.

PHA 130 **Physiology**

The course enables students to understand and relate structure and functions of the human body.

PHA 120 **Biochemistry**

The course provides both theoretical and practical knowledge and understanding of the basic concepts of biochemistry and pathology.

PHA 107 **Principles of Epidemiology and Biostatistics**

The course provides both a theoretical and practical knowledge and understanding of the basic concepts of epidemiology and biostatistics. The course also introduces students to the basic concepts of the distribution and determinants of health-related states and events in specific populations, and to develop an understanding of the uses of biostatistical methods and their simple application.

PHA 108 **Introduction to Community Health**

The course aims to:

- To provide both a theoretical and practical knowledge and understanding of the basic concepts of community health.
- To introduce students to the social context of health including poverty, the public health approach, management principles of health services and the ethics of health and health care.
- To provide both a theoretical and practical knowledge and understanding of the role and function of pharmacy in the community.
- To introduce students to the scientific issues relating to pharmacy in the community and to the practical and cultural issues that support good practice and cost effective pharmacy services at community level.

Year Two

PHA 204 **Microbiology**

The course aims to:

- To provide the student with knowledge and skills in the study of microorganisms in health and disease.
- To provide an understanding of the basic aspects of medical microbiology and immunology.

PHA 206 **Introduction to Pathology**

The course rovides an understanding of general diseases processes at the cellular level and enable the student to recognize diseased cells and tissue. The student will also learn the principles, techniques and applications of histology and cytology techniques for the identification of disease processes at both cellular and tissue levels.

Year Three

PHA 310 **Research in Practice I**

The course introduces students to study design and the choice of appropriate study methods, ethical issues in mounting a research study, project planning and implementation, data management and analysis, writing up and presentation.

Year Four

PHA 410 **Research in Practice II**

The courses introduces students to study design and the choice of appropriate study methods, ethical issues in mounting a research study, project planning and implementation, data management and analysis, writing up and presentation.

Department of Physiotherapy

Bachelor of Science Physiotherapy (Hons) – 5 years

The Programme aims to equip the learners with knowledge, attitudes and skills in the physiotherapy and rehabilitative management of patients, clients and physiotherapy and rehabilitative facilities at all levels of health delivery system in collaboration with other departments and sectors.

Specific Objectives

- Effectively manage patients and clients with diseases and conditions related to physiotherapy and rehabilitation practice.
- Provide promotive, preventive, curative, institutional and community rehabilitation services.
- Competently manage resources and physiotherapy and rehabilitative facilities at all levels in collaboration with other sectors.
- Apply principles of professional ethics in the provision of physiotherapy and rehabilitation services Department of Physiotherapy Academic Staff.

Year One

Module code **Module Name and Descriptor**

BIOCHEM 110 **General Biochemistry**

The module is designed to equip students with a theoretical foundation in general physiochemical principles of biochemistry including macromolecules and their role in the human body.

ANAT 110 **Human Anatomy**

This module is designed to equip students with a theoretical foundation of human anatomy including the structure, organisation and function of the body

systems (cardiovascular, respiratory, gastrointestinal, urinary, reproductive, endocrine, immune, nervous, skin). Students will also learn strategies and methods of how to best study anatomy with a physiotherapy specific focus.

ANATMS 110 **Musculoskeletal Anatomy**

This module is aimed at equipping students with skills on how to integrate knowledge of the structure, organisation and function of the human body into a Physiotherapy specific context.

MICRO 110 **General Microbiology**

This module is designed to equip students with a theoretical foundation of general microbiology including micro-organisms and their role in the human body and formulation of disease.

PHYS 110 **Human Physiology**

This module is designed to equip students with a theoretical foundation of human physiology including the structure and function of the body systems.

CLINPT 121 **First Aid**

This course serves as part of an introduction and orientation to physiotherapy as a profession. It offers the knowledge and skills on how to effectively assess, plan and manage people requiring first aid and emergency care.

PETH 111 **Communication**

The module is designed to equip the students with a theoretical foundation that will enable them to communicate in a culturally and socially competent manner with patient/clients, family members, care giver, practitioners, interdisciplinary team members, consumers, payers and policy makers. It will also enable the students understand the role of physiotherapy in a multidisciplinary team.

PETH 112 **Ethics**

The aim of this course is to introduce students to the code of medical ethics.

PETH 113 **Professional Orientation with Workplace Visits**

The module is designed to orientate students to the physiotherapy profession including understanding and observing the role of physiotherapy within a multidisciplinary team.

SOCSCI 121 **Clinical Psychology**

The module is designed to equip students with a theoretical foundation in psychology including the role and impact of psychological factors and how they affect patients recovering from injury or illness.

SOCSCI 122 **Clinical Sociology**

The module is designed to equip students with a theoretical foundation in sociology that will enable them to understand the influence society plays on patients' actions and beliefs.

COMMPT 120 **Learning by Living**

This community placement provides students with an understanding of cultures, beliefs and attitudes within Malawian communities. The placement helps students explore social interactions within communities and the effect on human behaviour. The students will observe the relationship between different societal groups such as health care workers, social workers, people with disabilities and people with chronic conditions in the Malawian setting.

Year Two

EXPHYS 211 **Exercise Physiology for Physiotherapists I**

The course equips students with a basic knowledge and understanding of physiological responses to exercise in healthy and asymptomatic individuals.

EXPHYS 222 **Exercise Physiology for Physiotherapists II**

The course equips students with advanced knowledge and understanding of physiological responses and adaptations to exercise and training in a healthy and asymptomatic population as well as other specific and unhealthy populations.

CLINSCI 211 **Communicable Disease**

This module is designed to equip students with knowledge of communicable diseases and information on strategies of control and prevention within the clinical setting as well as in the community.

CLINSCI 212 **Orthopaedic Surgery with Imaging**

This module is designed to equip students with knowledge, attitudes and skills to help them appreciate the application of orthopaedic surgery and interpreting imaging in the management of various orthopeadic conditions in physiotherapy.

CLINSCI 213 **Pathology**

The module is designed to equip students with an understanding of systemic, musculoskeletal, dermatological and neurological disease processes at the cellular level and enable the student to recognize disease processes in patients undergoing physiotherapy.

CLINSCI 214 **Paediatrics**

This module is designed to equip students with knowledge, attitudes and skills to help them appreciate common paediatric conditions and understand the multidisciplinary management of these patients.

MOVSCI 211 **Biomechanics and Kinesiology**

Students will be expected to learn how to identify abnormalities and underlying biomechanical causes of disability and injury.

MOVSCI 212 **Goniometry and Manual Muscle Testing**

This module provides students with knowledge of the joint range of motion, measurement and interpretation of range of motion degrees. It also equips the student with knowledge of muscle tissue assessment and function, including the components. Furthermore, the module aims to provide an understanding of relationship between goniometry and muscle function.

MOVSCI 222 **Balance and Postural Control**

The course the student with an understanding of the underlying causes affecting the ability to balance and maintain postural control; as well as, how to construct an effective, tailored and progressive exercise programmes for patients with balance and postural control problems using standardised testing.

MVTSCI 223 **Ergonomics**

The courses provides the student with an understanding of the principles of Ergonomics in the work place, in the community, at school and at home among clients of various abilities and ages.

MOVSCI 224 **Clinical Assessment**

This module will equip students with appropriate skills, and attitudes, to help them effectively perform a physiotherapy specific subjective and objective assessment of a patient, and are able to plan effective management of the patient using Problem Oriented Medical System.

MVTSCI 213 **Therapeutic Exercise**

This module will equip students with skills and competencies of using exercise as a therapeutic technique in addressing functional limitations and disability in the Malawian population. Students will be expected to learn principles of exercising as well as techniques such as PNF and hydrotherapy.

PTMGT 221 **Cardiorespiratory Physiotherapy**

This module is intended to equip the students with knowledge, appropriate attitudes and skills that will enable them to manage patients with different cardiorespiratory conditions. This course is a foundation for a clinical placement.

PTMGT 222 **PT Science I – PT Management I – Soft Tissue Mobilisation**

This module is intended to equip the students with appropriate knowledge and skills that will enable them to effectively assess and manage patients with different soft tissue injuries using safe and effective soft tissue mobilization techniques.

PTMGT 223 **Lifting and Transfers**

This module ensures that students have adequate knowledge and skills to select appropriate, effective and safe lifting and transfer techniques.

PTMGT 224 **Paediatric Physiotherapy**

This module aims to equip the student with knowledge and skills in the management of various paediatric conditions. The course provides a foundation for clinical placement in paediatrics.

PTMGT 225 **Normal Development Across Lifespan**

This module is designed to develop the student's knowledge on normal development across the life span. The course provides a basis to understand the abnormal development across the life span in the aspects of social, psychological and physical development.

PTMGT 226 **Physiotherapy Management III - Musculoskeletal Physiotherapy I**

The module will begin with an introduction to assessment, treatment and clinical reasoning in musculoskeletal physiotherapy. Following this, there will be a general overview of soft tissue injuries and fractures. There will be an introduction to manual therapy. Following this the students will examine pathology, assessment of impairments, activity limitations and participation restrictions and treatment of musculoskeletal conditions (advice and education,

manual therapy and exercise) of the lumbar spine, hip and pelvis and lower limb. The module will aim to equip the student with a thorough knowledge, understanding and application of skills in physiotherapy management of these musculoskeletal disorders.

CLINPT 220 **Clinical Physiotherapy I**

This module equips the learners with appropriate knowledge, skills and attitudes, to help them effectively perform subjective and objective assessment of a patient, and be able to plan effective management of the patient using Problem Oriented Medical Systems.

PETH 210 **Professionalism and Ethics**

This course is designed to equip students with practical skills in demonstrating ethical principle and professional behaviour in the working environment regardless of culture, religion, political affiliation, social economic status and sexual orientation.

COMMPT 211 **Community Based Rehabilitation**

This module is designed to provide the physiotherapy student with an understanding of the core principles of establishing rehabilitation services in the community; that are owned and led by the community itself.

COMMPT 212 **Health Promotion**

This module is designed to introduce the physiotherapy student to the principles of health promotion. It helps the student understand the important elements towards building a health promotion practice in the community.

COMMPT 213 **Primary Health Care**

This module is designed to introduce the physiotherapy student to the principles of health care within the Malawian community context. It emphasises the role of physiotherapists in empowering the community towards primary health care responsibility.

COMMPT 214 **Teaching and Learning Methods**

This module explores different philosophies that explain the different styles of learning and teaching. It provides the student with experiences and knowledge that enable them to identify teaching and learning methods best suited to clinical practice.

Year Three

CLINSCI 311 **Anaesthetics**

Students will be expected to learn the basics of anaesthesia in a physiotherapy context including the effects of anaesthesia on various body systems.

CLINSCI 312 **Medicine including Rheumatology, Cardiorespiratory and Neurological**

Students will be expected to know about the medical involvement for cardiorespiratory, neurological and rheumatic patients.

CLINSCI 313 **Pharmacology**

This module introduces the basic concepts of pharmacology and the general principles of drug mechanisms and their effects on the human body tissues and microorganisms.

CLINSCI 314 **Burns and Plastic Surgery**

Students will be expected to know about the general burns and plastic surgical procedures including indications for surgery, medical pre and post-operative care and physiotherapy management.

CLINSCI 315 **Surgery including Cardiothoracic, Abdominal and Neurological**

Students will be expected to know about the general surgical procedures, types and indications of cardio-thoracics, abdominal and neurological surgeries.

PTMGT 310 **Physiotherapy Management IV - Musculoskeletal Physiotherapy II**

This module will examine pathology, assessment of impairments, activity limitations and participation restrictions and treatment of musculoskeletal conditions (advice and education, manual therapy and exercise) of the thoracic spine, cervical spine, shoulder, elbow and wrist. It will also examine systemic disorders (arthropathies, bone and joint disorders) and amputations and how these conditions affect the musculoskeletal system. The module will aim to equip the student with a thorough knowledge, understanding and application of skills in the physiotherapy management of basic and complex musculoskeletal disorders.

PTMGT 311 **Burns**

This module is intended to equip the students with knowledge, appropriate attitudes and skills that will enable them to assess and manage patients with different degrees of burns from various causes. This course is a foundation for a clinical placement.

PTMGT 312 **PT Science II- PT Management V - Cardiac Rehabilitation**

This module is intended to equip the students with knowledge, and skills that will enable them to manage patients with different cardiopulmonary conditions.

PTMGT 313 **PT Science II-PT Management VElectrotherapy**

This module aims to teach the student the principles, techniques, effects, dosage parameters, indications, contraindications and precautions for various electro therapeutic modalities used for the restoration of physical function.

PTMGT 314 **PT Science II-PT Management V - Geriatrics**

This module aims to develop and equip the students with knowledge and skills in the management of various geriatric conditions.

PTMGT 315 **Women's Health**

This module is designed to develop and equip the student's with knowledge, altitude and skills in the management of various conditions related to women's health.

PTMGT 316 **Adult Neurology**

This module is designed to equip students with knowledge of pathology, assessment of impairments, activity limitations and participation restrictions and treatment of different neurological conditions. It will also equip students with ability to understand the roles of different health professionals in management of different neurological conditions.

PTMGT 317 **Disability, HIV and Rehabilitation**

This module will help students to apply rehabilitation management skills in HIV related conditions. Students will attain an understanding of disability studies, exercise and health maintenance on HIV clients. Students will learn to associate the link between HIV and disability.

CLINPT 320 **Clinical Physiotherapy II, Burns**

This clinical placement is designed to introduce students to a practical component and a handson experience to patients with a burns injury. This will enable the student to show professionalism in assessing and managing patients suffering from burns.

CLINPT 322 **Clinical Physiotherapy II, Cardiorespiratory**

This clinical placement is designed to introduce students to a practical component and a handson experience to cardiopulmonary conditions. This will enable the student to show professionalism in assessing and managing patients experiencing cardiopulmonary ailments.

CLINPT 323 **Clinical Physiotherapy II, Geriatrics**

This clinical placement is designed to introduce students to a practical component and a handson experience to geriatric conditions. This will enable the student to show professionalism in assessing and managing an elderly patient.

CLINPT 324 **Clinical Physiotherapy II, Muscoloskeletal**

This clinical placement is designed to introduce students to a practical component and handson experience to musculoskeletal conditions. This will enable the student to show professionalism in assessing and managing patients experiencing musculoskeletal ailments.

CLINPT 325 **Clinical Physiotherapy II, Neurology**

This clinical placement is designed to introduce students to a practical component and handson experience to neurological conditions. This will enable the student to show professionalism in assessing and managing patients experiencing neurological ailments.

CLINPT 326 **Clinical Physiotherapy II, Paediatrics**

This clinical placement is designed to introduce students to a practical component and a handson experience to a variety of paediatric conditions. This will enable the student to show professionalism in assessing and managing a paediatric patient.

CLINPT 327 **Clinical Physiotherapy II, Women's Health**

This clinical placement is designed to introduce students to a practical component and handson experience to women's health patients. This will enable the student to show professionalism in assessing and managing patient's with women's health ailments.

RES 311 **Biostatics and Epidemiology**

This module enables the student to apply principles and theories of biostatistics and experimental design to biomedical science research.

RES 312 **Research Methods**

This module introduces students to the design and execution of research projects with practical experience of conducting projects relevant to district laboratory support for the EHP.

RES 313 **Research Proposal**

This research project module is designed to help students integrate theoretical and practical knowledge attained in biostatistics, epidemiology and research methods to plan a research project and create a research proposal.

COMMPT 320 **Community Needs Assessment**

This module is designed to give the physiotherapy student with a more contextual understanding of the local Health Care System. It presents a more practical learning of community needs assessment skills. It also builds up and consolidates the knowledge on teaching and learning methods, primary health care and health promotion gained in second year.

Year Four

PTMGT 411 **Integrated Case Management (ICM)**

This module is designed to expose students to the more complex patients who present with co-morbidities. The student will learn how to perform a detailed and full assessment and to determine the patient's problems, prioritize them and systematically and holistically manage each problem.

PTMGT 412 **ICU**

This course is designed to equip students with practical skills in ICU and will be expected to understand and demonstrate effective and safe assessment and treatment techniques for patients in the ICU.

PTMGT 413 **Mental Health**

This module is designed to develop and equip the student's with knowledge, attitude and skills in the physiotherapy management of various Mental Health conditions.

PTMGT 414 **Palliative Care Physiotherapy Management**

This module is designed to help the student assemble the right attitudes, knowledge, and skills with respect to the care of people with life limiting illnesses in different settings. It will equip the student with the skills to assess grief and bereavement issues, psychological and social issues and skills to work collaboratively in interdisciplinary learning groups.

PTMGT 415 **Physiotherapy Management VII – Sports**

This module will give an overview of how the principles of physiotherapy can be applied in a sports population. It will cover the role of sports in maintaining a healthy lifestyle and the role physiotherapists can play within this framework in terms of injury prevention, assessment and management of acute sporting injuries and emergencies and rehabilitation of sports injuries. It will also examine the role of research in sports physiotherapy practice. The module will aim to equip the student with thorough knowledge, understanding and application of skills in physiotherapy practice in a sporting population.

CLINPT 421 **Clinical Physiotherapy III, ICM**

This clinical placement is designed to help students to build on the knowledge, clinical reasoning and hands on skills attained in Workplace Practice III, Physiotherapy Management VII and corresponding lecture classes and introduce them to more complex patients experiencing multiple conditions. This will enable the student to show professionalism and independence in assessing and managing this group of patients holistically and comprehensively while using the Problem Oriented Medical System (POMS).

CLINPT 422 **Clinical Physiotherapy III, ICU**

This clinical placement is designed to help students build on the knowledge, clinical reasoning and hands on skills attained in Workplace

Practice III, Physiotherapy. Management VII and corresponding lecture classes and introduce them to more complex patients found in the ICU. This will enable the student to show professionalism and independence in assessing and managing this group of patients holistically and comprehensively while using the Problem Oriented Medical System (POMS).

CLINPT 424 **Clinical Physiotherapy III, Neurology**

This clinical placement is designed to help students build on the knowledge; clinical reasoning and hands on skills attained in Workplace Practice III, Physiotherapy Management VI and corresponding lecture classes and introduce them to more complex neurological conditions. This will enable the student to show professionalism and independence in assessing and managing this group of patients holistically and comprehensively while using the Problem Oriented Medical System (POMS).

CLINPT 424 **Palliative Care Clinical Physiotherapy**

The placement is designed to help students to build on the knowledge, clinical reasoning and handson skills attained in Workplace Practice III, Physiotherapy Management VII and corresponding lecture classes. It will especially consolidate skills in working with patients and clients with life limiting conditions. The students will be expected to show professionalism and independence in assessing and managing this group of patients holistically and comprehensively while using the Problem Oriented Medical System (POMS). The placement will also introduce them to the palliative care system utilized in Malawi, including the multidisciplinary team involved.

CLINPT 425 **Clinical Physiotherapy III, Paediatrics**

This clinical placement is designed to help students build on the knowledge, clinical reasoning and hands on skills attained in Physiotherapy Management II, Workplace. Practice III and corresponding lecture classes and introduce them to more complex paediatric conditions. This will enable the student to show professionalism and independence in assessing and managing this group of patients holistically and comprehensively while using the Problem Oriented Medical System (POMS).

CLINPT 426 **Clinical Physiotherapy III, Sports**

This clinical placement is designed to help students build on the knowledge, clinical reasoning and hands on skills attained in Workplace Practice III, Physiotherapy Management VII and corresponding lecture

classes. Students will be expected to manage sporting injuries, enhance athletic performance, promote an active life style and prevent sports related injuries. This will enable the student to show professionalism and independence in assessing and managing this group of athletes holistically and comprehensively while using the Problem Oriented Medical System (POMS).

PETH 410 **Management and Administration**

This course examines the role of the professional physiotherapist as an administrator and manager of patient care, personnel and resources with consideration for ethical, medical and legal implications. Various business models and organizational structures will be examined.

RES 410 **Research Project**

This research project module is designed to help students integrate theoretical and practical knowledge attained in biostatistics, epidemiology and research methods to execute a research project with practical experience of conducting projects relevant to health care.

COMMPT 420 **Community Based Rehabilitation**

Providing physiotherapy students with the opportunity to synthesize all the knowledge and skills gained on core principles of community based rehabilitation. The students design a community based rehabilitation program and implement it following the right order and structure. It allows them to demonstrate clinical analytical skills in planning, implementation and evaluation processes of the programme.

SCHOOL OF PUBLIC HEALTH AND FAMILY MEDICINE

Department of Health Systems and Policy

Bachelor of Science Health Management

Malawi has an extensive and comprehensive health system infrastructure consisting of dispensaries, health centres, community, district and central hospitals linked through a referral system. The health system throughout the country needs strengthening at all levels both in terms of providing the essential supplies as well as in reorienting the skills and knowledge of health workers including management and leadership to address health challenges. On the other hand districts lack the capacity to effectively plan, budget, manage and implement the responsibility of direct provision of services. There are 61 central, district, CHAM and Community Hospitals. MoH has 45 Health Service Administrators posts of which only three are filled with inappropriately qualified persons. In the context of the devolution of health services to District Assemblies such capacity is critical for effecive and efficient delivery of health services. It is also of paramount importance to rationalize coordination, collaboration, linkages and working in partnerships with communities, NGO and private sector to address the fragmented approach to health delivery services.

The Ministry of Health (MOH) is committed to decentralization and strengthening of district management to take on the management of local health services and in so doing implement the Essential Health Package (EHP) as part of its commitment to poverty reduction. There is a need therefore to underpin the development work of the senior members of district management teams (DMTs). Some have had formal management training; others have not. A small number of individuals have received management training as part of a postgraduate degree or diploma course outside the country, which is expensive and not necessarily appropriate for Malawi. A local training programme is needed which is able to provide the academic foundation to the development as managers of middle and senior health staffs, based on the realities of the health sector in Malawi.

The course will be of particular interest to physicians/clinical officers, health service managers (administrators), health finance officers, nurse/midwives, health information management officers and others working as middle managers in the health sector to build up the professionalism of health management in general. The course will consist of seventeen modules spread over a period of two years.

Further, College of Medicine endeavors to assist the ministry in its overall objective to develop a health delivery system that is pro-actively responsive to the prevailing needs of the communities through training of managers to work in their respective fields with improved management that will contribute to effective management teams.

13.1 Year One

Learners will be prepared to use systematic planning approaches to develop and execute plans for programmes and initiatives aimed at implementing the district health system. They will be able to use information effectively as part of that planning process. Learners will also be familiar with financial systems and assessing financial implications of decisions. To enhance their leadership capacity in planning and implementation, learners will develop improved communication and reporting skills.

Module Code	Module Name and Descriptor
HM 301	**Introduction to Health Service Management** This module is designed to ensure the seamless transition of learners from the work place to higher education setting and to establish basic principles that underpin the course.
HM 302	**Organisation Communications** This module recognises the importance of communication within the organization to foster common understandings of organizational goals, knowledge sharing, good interpersonal relationships for teamwork and excellent communication with community members, District Assemblies, and Ministry of Health.

HM 303 **Human Resource Management 1**

This module equips learners with knowledge, skills and attitudes for the effective management of people in an organization. Focus will be on motivation, management of teams, performance management and staff development.

HM 304 **Introduction to Research Methodology and Statistics**

This module provides learners with beginning skills to conduct research, interpret findings for evidence based decision making.

HM 305 **Knowledge Management for Health Service Quality Improvement**

Knowledge easily available to health service managers includes data gathered routinely in health service facilities for HMIS; local census data; local knowledge about the community and other organizations; technical knowledge derived from training materials, books, journals and the world wide web and that knowledge which results from professional reflective practice. All these provide a rich knowledge resource for health service managers. This module provides learners with skills to access knowledge and apply it appropriately in day to day management.

HM 306 **Stewardship and Governance 1: Financial Management**

This module provides the learner with necessary analytical skills in financial accounting, management accounting, and cost accounting needed to process and use information for financial decision making, planning and control.

HM 307 **Stewardship and Governance 2: Planning and Operations Management for Sustained Quality Services**

This module builds on the earlier ones to take the learners from a level where they are able to apply basic management theory and competencies in the context of any organization at a micro level to a higher level where they will be able to use planning cycles and operations management to actively develop organizations.

HM 308 **Quality Improvements**

This module extends learners' leadership and problem solving skills to address more complex challenges related to annual/ project cycle planning and effectively manage operations.

HM 309 **Human Resource Management 2**

Having achieved modest quality gains through application of basic human resource management and performance management processes in the organization, this module prepares learners for more complex human resource management responsibilities.

HM 310 **Stewardship and Governance 3: Asset Management**

This module seeks to equip learners with skills to steward assets effectively through accountable management of physical assets and supplies including preventive maintenance, of buildings and equipment avoiding pilferage and misuse because of poor procurement procedures, inventory and stock control.

HM 311 **Stewardship and Governance 4: District Health Governance and Community Participation**:

This module equips learners to be pro-active in engagement with civil society and across sectors to ensure open governance of health services.

Year Two

HM 401 **Stewardship and Governance 5: Financing Health Care**

This module builds on the understandings of the wider context of health sector reform and decentralisation to enable learners to increase the size of the resource envelope available for delivery of quality health services.

HM 402 **Essential Health Package 1: Infectious Diseases**

This module provides a context for dealing with the health services component of managing health districts. A specific update vis-à-vis HIV and AIDS, STI and TB will be coupled with programme development processes relevant to all types of services but using these services as an applied example.

HM 403 **Essential Health Package 2: Child Health**

This module focuses on child health policies and their implementation, monitoring, coordination and sharing of best practices. Learners will demonstrate skills in setting priorities for child health programmes.

HM 404 **Dissertation**

The module will provide the learners with an opportunity to conduct research of limited scope in their area of interest within the program content to improve their inquiry and interpretive skills.

HM 405 **Essential Health Package 3: Sexual and Reproductive Health**

This module focuses on integrated sexual and reproductive health service: adolescent health, family planning, ante-natal care, intra- and post-natal care, and other related reproductive health services. Learners will demonstrate skills in identification of gender specific needs and their interventions.

HM 406 **Mentoring and Couching**

This module prepares learners for their mentoring, coaching and staff development roles including the development of a professional portfolio for themselves and staff.

HM 407 **Health Service Management Practicum**

The module provides the learners the opportunity to demonstrate their ability to lead and principles of quality focused and contextualised management approaches and procedures to effect change.

Department of Community Health

Postgraduate Programmes

Master of Public Health (MPH)

Upon completion of the MPH program students will be able to:

- Demonstrate the ability to apply knowledge in the core disciplines of public health: epidemiology, statistics, health management, health services, disease prevention and social sciences.
- Demonstrate specialised knowledge and skills in other areas relevant to the practice of public health from a wide range of choices (for example, health promotion, demography, organisational management, health information systems).
- Apply these skills to identify and assess public health problems and evaluate actions designed to improve public health.
- Formulate public health strategies and approaches to public health problems which are appropriate to different cultures and environments.
- Critically assess relevant aspects of their own and other student's professional experience in the field of public health.
- Apply appropriate research skills, including literature review, study design and analysis and evaluation and use of research findings.

Calendar 2016-2018

Core Modules

Module code	Module Name and Descriptor
MPH601	**Orientation to Public Health** The aim is to introduce students to public health and its determinants and how to study for a MPH.
MPH602	**Essential Epidemiology** The aim of this module is to introduce students to the basic concepts and methods of epidemiology.
MPH603	**Essential Biostatistics** The aim is to introduce students to the basic statistical methods used in public health research.
MPH604:	**Health Systems – Health Economics & Health Policy** The aim is to provide an introduction to both health economics and health policy.
MPH605	**Health Management, Global Health Principles & Organisation Theory** The aim is to introduce students to the theory of organisations and the influence of colonisation, poverty and globalisation on health and health care.
MPH606	**Disease Prevention – Health Promotion and Environmental Health** The aim is to introduce to students the concepts and skills needed to analyse the interaction between human health and the environment. The course also teaches students to apply the theories, principles and practices of health promotion and disease prevention.
MPH607	**Social Sciences for Public Health** The aim is to provide an overview of social sciences and their application to the empirical study of health and health care.

Elective Modules

MPH608 **Research Ethics and Good Clinical Practice**

The aim is to provide students with an overview of research ethics and their applications in clinical research.

MPH609 **Research Methods and Proposal Writing**

This module aims to provide practical experience of planning and forming a research project.

MPH610 **Adolescent Health**

The course aims to help students:

- appreciate the most common health issues of the adolescents age group.
- be familiar with malleable public health interventions for this age group in this region.

MPH612 **Application of Health Economics**

The course helps students deepen their understanding of how concepts and methods of economic analysis can be used effectively in the formulation, planning and evaluation of health policy.

MPH613a **Bioethical Theories and Principles and Introduction to African Bioethics**

The course provides students with a basic introduction to the subject of bioethics in order to introduce the skills needed to address ethical dilemmas in health care, public health and health research and to provide a critical appreciation of the theories, principles and guidelines.

MPH613b **Bioethics - Research Governance and Systems**

The aim of the course is to provide students with an overview of research oversight and the management of ethics committees.

MPH613c **Bioethics – Professionalism, Integrity of Research, Data and Publication**

The course introduces students to ethical issues that arise in the conduct of research with human beings. It also introduces students to international codes that guide researchers in conducting research.

MPH613d **Bioethics – Theories, Principles, Design and Practice of Informed Consent**

Th aim of the course is to provide students with an overview of informed consent and the approaches used in obtaining informed consent to participate in research and in dealing with vulnerable populations.

MPH613e **Bioethics - Global Research Ethics**

The aim is to acquaint students with international ethical and regulatory codes governing research and challenges in international collaborative research.

MPH613f **Bioethics - Public Health Law and ethics**

The course introduces students to a wide variety of public health laws the and in so doing to provide an understanding of the basic principles of health law and to demonstrate how those principles are applied to various issues facing the health care system, individuals and society.

MPH613g: **Bioethics – Emerging Topics and Trends**

The course provides students with an awareness of special and current issues in Bioethics so as to prepare students to respond to the ethical challenges they will encounter in their roles as health care providers, researchers policy makers and medical administrators.

MPH613h: **Bioethics – Global Health, ethics and human rights**

The course provides students with an introduction to the interaction between health, ethics and human rights.

MPH614: **Introduction to Health Informatics**

The course provides an overview of the field of health informatics. It also provides students with knowledge of the concepts of health informatics and how technology can be used to deliver health care. The course will enable students to design, configure, use and maintain informatics interventions to improve health care.

MPH615a: **Introduction to Database Systems**

This module provides knowledge, attitude and skills to develop database applications for clinical practices, clinical trials, patient information, resource administration, policies and research.

MPH615b: **Design and Implementation of Database Systems**

This module will focus on advanced aspects of Design and Management of Database by proving basic concepts of the theory and practice of database.

MPH616a: **Health Management Information Systems**

The aim is to equip students with:

- Knowledge concerning the role and use of information technology for planning, management and delivery of health services. (This includes information requirements and flow, system design and analysis methodologies, the generation and accumulation of data for decision-making, and the implementation and control of information systems.)
- Skills to identify indicators and use them to assess health needs and status.
- Understanding of the generation of data and assessment of data quality for informed decision-making.

MPH616b: **Implementation of Health Management Information Systems**

The course equips students with practical skills in quality data collection, analysis and presentation in Health Management Information Systems (HMIS) using HMIS such as DHIS and electronic medical records (EMR) for patient care management.

MPH617: **Health Policy Implementation**

The course enables students to use a range of tools and skills to identify key challenges in their work place that are within their sphere of responsibility to address.

MPH618: **Resource Allocation in Health Care**

The course provides students with an understanding of effective resource planning, allocation and priority setting in the health sector with emphasis on equity dimensions in a realistic context.

MPH619: **Health System Design and Evolution**

The course provides students with an opportunity to explore the design features of health systems and how they evolve.

MPH622: **Child Health**

The course helps students appreciate and know the range of child health issues of public health importance and to identify the means to assess these and respond at the community level where appropriate.

MPH623: **Communicable Disease Control**

The course provides students with an understanding of the control of communicable diseases including schistosomiasis, onchocerciasis, trypanosomiasis, filariasis, and soil transmitted helminths.

MPH625: **Demography**

The course presents a range of techniques for demographic analysis.

MPH626: **Effective Group Leadership**

The course develops leadership skills through an appreciation of an individual's personal responses to interactions with other people.

MPH627: **Family Planning**

The course helps students to gain an understanding of the structure and functions of family planning (FP) programmes.

MPH628: **Gender and Health**

The aims to help students understand how gender issues effect health and health care.

MPH629: **Health Financial Management**

The course helps students to understand the principles and practice of health financial systems and apply these to health care delivery services in Malawi.

MPH630: **Introduction to Health Management Information Systems**

The course helps students to understand the principles of information systems specifically designed to assist in management and planning of health programmes and service delivery.

MPH631: **HIV and AIDS**

The course covers a comprehensive range of topics on HIV and AIDS.

MPH632: **Strategic Human Resource Management**

The aim of the course is to identify the management processes involved in maximizing the use of human resources and how these processes can be used in practice in Southern Africa.

MPH633: **Malaria**

The aim of the course is to give students a broader view of malaria as a public health problem and to explore the key aspects of insect vector behavior, vector ecology and vector-parasite interactions relevant to the epidemiology and control of malaria.

MPH634: **Maternal Health**

The course explores the nature and determinants of ill-health in pregnant women and the design and evaluation of strategies to improve their health.

MPH635a: **Introduction to Nutrition**

The course provides an overview of the assessment of nutritional status with a general introduction to malnutrition and to provide an overview of and to examine the policy context of nutrition programme planning for Malawi.

MPH635b: **Nutritional Epidemiology and Assessment of Nutritional Status**

The course helps students to understand the principles of nutritional epidemiology including longitudinal data analysis, and growth curves and to be able to select and use a range of tools to assess diet and nutritional status.

MPH635c: **Nutrition – Management of Severe and Moderate Malnutrition**

The course teaches students to manage children and adults with moderate and severe malnutrition in both hospital NRU, and community settings according to Malawi national guidelines.

MPH635d: **Nutrition – Infant Nutrition and breastfeeding**

The course equips students with an understanding of the immunological

and nutritional benefits of breastfeeding, and the initiatives to promote this and; an understanding of the beliefs of communities relating to feeding practices in infancy, and nutritional messages and interventions that may improve the diet of children.

MPH635e: Nutrition – Diet and Disease

The course helps students to understand the relationship between diet and subsequent disease and to be able to advise on appropriate diets for patients with specific medical conditions, including obesity.

MPH635f: Nutrition and HIV

The course helps students to understand the interactions between HIV infection and nutritional status, and the interventions available in Malawi to mitigate this impact and to recognise that HIV affects the nutritional status of communities, families, and particularly children, who may be affected by HIV although not infected.

MPH635g: Nutrition –an Integrated District Nutrition Improvement Project

The aim of the course is to provide the skills with which to design an integrated district nutrition improvement project.

MPH642: Primary Health Care

The course enables students to develop the skills needed for planning, managing and evaluating primary health care (PHC) programmes.

MPH643: Programme Planning

The course aims equip students with relevant knowledge and skills to design a health programme relevant for Southern Africa.

MPH644: Research Synthesis – Systematic Reviews

The course helps students to understand the principles of systematic reviews in the synthesis of research.

MPH646: Sexually Transmitted Diseases

The aim of the course is to provide students with an overview of the principles and practice of control of sexually transmitted diseases (STDs).

MPH647: **Tuberculosis (TB)**

The aim of the course is to provide students with an overview of the key issues in the prevention, control and programme management of TB.

MPH648: **Quality Assurance in Health Care**

Using a total quality management approach, participants will acquire knowledge and skills required to undertake quality improvements at their own work environment and deal with problems related to quality efficiently and effectively. In addition, participants will be able to maximize the use of limited resources to achieve service quality gains that are appreciated by users and contribute to worker motivation.

MPH649a: **District Health Governance I**

The aim is to equip participants with analytical skills in exploring practical aspects of district health governance architecture in relation to the decentralisation of the management function. The participants will be able to network effectively to ensure that local services delivered are coherent with policy guidelines and are also responsive to community's needs and perceptions about improved practice. Local managers will effectively feedback lessons learned into the development of effective management guidelines and policy dialogue at higher levels.

MPH649b: **District Health Governance Architecture: Management under De-centralisation (District Health Governance Part II)**

The aim of the course is to enable participants to network effectively to ensure that local services delivered are coherent with policy guidelines and defined quality standards and are also responsive to community's perceptions about improved practice. Local managers willeffectively feedback lessons learned into the development of effective management guidelines and policy dialogue at higher levels.

MPH655: **Essentials of Data Management and Analysis for Dissertations**

The course equips students with knowledge and skills to be able to manage data, derived descriptive statistics and perform simple statistical hypothesis tests typically required for dissertation using Epi Info and Excel.

MPH656: **Introduction to Data Management and Analysis using Stata**

The course equips students with knowledge and skills to be able to manage data, derived descriptive statistics and perform simple statistical

hypothesis tests typically required for dissertation using Stata. This module is a pre-requisite for advance epidemiology modules (MEP611, MEP612, MEP613 and MEP614).

MEP611: **Descriptive Study Design and Analysis**

The aim of the course is to enable learners to understand and apply advanced concepts used in the design of descriptive studies and their analytical approaches.

MEP612: **Cohort Study Design and Time-to-event Analysis**

The aim of the course is to enable learners to understand and apply advanced concepts used in the design of cohort studies and their analytical approaches

MEP613: **Case Control Study Design, Regression Analysis**

The aim of the course is to enable learners understand and apply advanced principles in design of case control studies including design and conduct of a case control study, sample size calculations, analysis and interpretation.

MEP614: **Experimental Studies and Correlated Data Analysis**

The course enables learners to understand and apply advanced principles in the design and conduct of experimental studies, including clinical trials, sample size calculations, analysis and interpretation. It also enables learners to understand the consequence of clustering or repeated measurements in statistical analysis and to be able to apply different statistical techniques to analyse and interpret clustered or longitudinal data using Stata.

MPH661 and MPH662: **Case Study 1 and 2**

The aim of these modules is to ensure that students can identify and solve health and health system problems in a comprehensive manner using the strengths of a multi-disciplinary team.

MPH681: **Dissertation**

The aim of the module is to show that students can identify and investigate health and health system problems in a comprehensive manner, and that they can formulate appropriate interventions.

Masters of Philosophy (MPhil)/Doctor of Philosophy (PhD)

The CoM launched its Masters of Philosophy (MPhil)/Doctor of Philosophy (PhD) degree programme in 2010 with the key objective of generating a cadre of high quality scientists in health-related disciplines who will contribute to the discovery of products and strategies for improving the health status of Malawians and mankind. The expected duration of the PhD degree programme is 3-4 years. The CoM initially registers all students wishing to pursue PhD studies in an MPhil programme for 1 year. Thereafter, CoM Postgraduate Committee (PGC) reviews their academic progress reports and makes a decision to upgrade promising students into the PhD programme. A student needs 1-2 additional years to complete an MPhil degree and 2-3 additional years to complete a PhD degree.

The CoM PGC (consisting of representatives from all faculties and postgraduate students), coordinates the formulation, review and implementation of MPhil/PhD policies and regulations at the CoM. Its key responsibilities include reviewing and approving the selection and registration of MPhil/PhD students and monitoring their academic progress. The Office of Postgraduate Studies and Research serves as the secretariat of the PGC and oversees the day-to-day running of MPhil/PhD programmes across all departments. It collaborates with the Academic Registrar office, which manages the administrative aspects of MPhil/PhD studies such as the registration of postgraduate students and the organization of graduation ceremonies.

MPhil/PhD students receive training and implement studies within relevant departments which provide the necessary facilities and supervision as approved by the Head of Department (HoD). However, students are encouraged to seek services, resources and expertise from any CoM department that can add value to their research project and deepen or broaden their expertise. Similarly, students are required to have formal and informal interactions with fellow postgraduate students to share experiences or skills and identify common solutions to challenges. Note that various departments and the CoM Research Support Centre run seminars, journal clubs and courses that are open to students. Supervisor and colleagues can help students identify relevant fora that can improve their research knowledge and skills.

Calendar 2016-2018

KAMUZU COLLEGE OF NURSING

Kamuzu College of Nursing has two faculties, the Faculty of Nursing and Faculty of Midwifery, Neonatal and Reproductive Health Studies. The College is made up of two campuses; namely, Blantyre Campus situated in the City of Blantyre within the premises of Queen Elizabeth Central Hospital with a satellite campus at Kameza and the Lilongwe Campus situated in Lilongwe overlooking Lilongwe Central Hospital.

The College has a student enrolment of 1239 undergraduate students, 84 postgraduate students and a total of 91 members of academic and administrative staff.

The Faculty of Nursing is served by the following four departments:

a) Department of Basic Studies
b) Department of Community & Mental Health Nursing
c) Department of Medical/Surgical Nursing
d) Department of Clinical Nursing.

The Faculty of Midwifery, Neonatal and Reproductive Health Studies has the following two departments:

a) Department of Midwifery
b) Department of Clinical Studies

KCN'S Vision

Kamuzu College of Nursing's vision is to be an academic institution providing relevant world-class nursing and midwifery education, research and services for sustainable development of Malawi and the region.

KCN's Mission Statement

The mission of Kamuzu College of Nursing is to deliver high quality, cost-effective nursing and midwifery education plus other health related programmes to students and other stakeholders through teaching, research, consultancy and community engagement, advance professional growth and promote the health of the people of Malawi and beyond.

KCN Programmes

Kamuzu College of Nursing offers certificate, undergraduate and postgraduate programmes as follows:

Undergraduate Programmes

a) Bachelor of Science in Nursing and Midwifery (Generic)
b) Bachelor of Science (Direct Entry) in:
    i. Adult Health Nursing
    ii. Child Health Nursing
    iii. Community Health Nursing
    iv. Mental Health and Psychiatric Nursing
    v. Midwifery
c) Bachelor of Science in Nursing (Post Basic)
d) University Certificate in Midwifery

Postgraduate Programmes

Masters Programmes

a) Master of Science in Child Health Nursing
b) Master of Science in Community Health Nursing
c) Master of Science in Midwifery
d) Master of Science in Nursing Midwifery Education
e) Master of Science in Reproductive Health

Doctoral Programmes

a) Doctor of Philosophy in Interprofessional Health Care Leadership
b) Doctor of Philosophy in Nursing
c) Doctor of Philosophy in Midwifery

The programmes at Kamuzu College of Nursing prepare graduate nurses and midwifery personnel with a high level of professional ability to contribute to the overall development of a healthy society. The programmes provide students with a broad understanding of the scope and nature of contemporary health issues along with relevant knowledge, skills, attitudes and professional behaviour in primary health care as well as leadership and management in health care systems. The graduates are therefore prepared to provide a variety of health-related services in a variety of community and hospital settings.

Faculties, Programmes and Modules

Integrated Programmes

Bachelor of Science in Nursing and Midwifery

Year One

Module Code	Module Name and Descriptor
BIO 100	**Bio-Sciences I**
	This module covers Human Anatomy and Physiology and Microbiology including Parasitology. These bio-sciences provide a foundational knowledge base that supports nursing and midwifery practice.
BEH 101	**Behavioural Sciences**
	This module covers the disciplines of psychology and sociology and their application to nursing and midwifery sciences. The module provides mandatory information on HIV prevention and Life skills.
COM 102	**Community Health Nursing Science**
	This module provides students with knowledge on primary health care, health promotion and nutrition across the life span. Students also acquire knowledge and skills to be applied in client/patient education in a variety of health care settings.

CIS 103 **Communication and Information Systems**

This module provides students with knowledge and skills in language and communication, information technology and health management information systems relevant to nursing and midwifery.

NUR 104 **Nursing Science I**

This module enables students to develop and value the fundamental knowledge, skills and attitudes required to practice within the nursing profession. This represents a foundation to the development of nursing expertise and the essential preparation for the acquisition of evidence-based practice.

BIO 105 **Bio-Sciences II**

The module builds on pre-requisite knowledge of human anatomy and provides students with knowledge of physiological processes of the human body. It further provides students with understanding of biochemical processes and pharmacological principles.

PRO 106 **Professionalism in Nursing**

The module is designed to promote an understanding of nursing regulations, nursing theories and the development of ethical practice. It also helps student to assume the role and function of a professional nurse within the structures of health care systems.

COM 107 **Community Health Nursing II**

The module is designed to assist students acquire knowledge in epidemiology, theories and models relevant to community/public health nursing. It also enables students acquire knowledge, skills and appropriate attitudes in school health nursing and health assessment.

NUR 108 **Nursing Science Practice I**

This module offers students an opportunity to provide basic and comprehensive care to clients utilizing knowledge of health assessment, community health nursing and fundamentals of nursing.

INF 109 **Infection Prevention**

This module provides an opportunity for students to develop knowledge, skills and competence in basic infection control principles. Emphasis is placed on universal precautions.

Year Two

NUR 200 **Nursing Science II Adult Health Nursing I**

The module provides an in-depth study of pathophysiological mechanisms of diseases and nursing management of adult patients with acute conditions. Emphasis is placed on assessment and acute care interventions. This incorporates the problem solving approach and relevant nursing theories.

NUR 201 **Nursing Science II Adult Health Nursing Practice I**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of adult clients with acute conditions. Emphasis is placed on the use of problem solving approach and selected nursing theories.

NUR 202 **Nursing Science III Adult Health Nursing II**

The module provides an in-depth study of pathophysiological mechanisms of diseases and nursing management of adult patients with chronic and terminal conditions. Emphasis is placed on surveillance, maintenance of health and rehabilitation/needs based approaches and where applicable end of life care.

NUR 203 **Nursing Science III Adult Health Nursing Practice II**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of adult patients with chronic/terminal conditions. Emphasis is placed on surveillance, maintenance of health and rehabilitation/needs based approaches and where applicable end of life care.

HIV 204 **HIV and AIDS Theory**

This module provides the fundamental scientific information on HIV and AIDS throughout the life span. Emphasis is placed on comprehensive nursing management of clients/patients with HIV and AIDS in various health care settings.

NUR 205 **Nursing Science IV Mental Health and Psychiatric Nursing**

This module introduces the mental health-mental disorder continuum and explores mental and social health as positive concepts. It is designed to prepare students to gain knowledge, skills and appropriate attitudes to enable them provide care in mental health and psychiatric nursing.

NUR 206 **Nursing Science IV Mental Health and Psychiatric Nursing Practice**

This module provides an opportunity for students to apply knowledge gained in

mental health and psychiatric nursing in managing clients in the community and hospital setting.

ETH 207 **Ethics and Law**

This module builds on previous knowledge acquired from professionalism and is designed to promote an understanding of the ethical and legal issues that impact on nursing and midwifery.

Year Three

NUR 300 **Nursing Science V Child Health Nursing I**

The module provides an in-depth study of pathophysiological mechanisms of diseases and nursing management of the well, acute and chronically ill children. This incorporates the problem solving approach and relevant nursing theories.

NUR 301 **Nursing Science V Child Health Nursing Practice I**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of the well, acute and chronically ill children. Emphasis is placed on the use of problem solving approach and selected nursing theories.

NUR 302 **Nursing Education and Health Services Management and Leadership**

This module is designed to provide students with an understanding of principles and theories of nursing education and health service management.

NUR 303 **Nursing Education and Health Services Management and Leadership Practice**

This module offers students an opportunity to apply knowledge, skills and appropriate attitudes for education, leadership and management in the health care service.

RES 304 **Research and Statistics**

This module introduces students to nursing research with focus on both quantitative and qualitative approaches including methodology for various types of research. Emphasis is placed on the research process and statistics as well as utilization of research findings.

REP 308 **Reproductive Health**

This module introduces students to nursing care of well individual and families

and those experiencing deviations from normal reproductive health problems. Students apply health assessment and nursing care skills in the management of reproductive individuals and families in a variety of multidisciplinary health care settings.

REP 309 **Reproductive Health Practice**

This module offers students an opportunity to provide care to well individual and families and those experiencing deviations from normal reproductive health problems. Students apply health assessment and nursing care skills in the management of individuals and families with reproductive health needs/problems in a variety of multidisciplinary health care settings.

MID 310 **Midwifery Science I**

This module provides an introduction to the midwifery profession and provides fundamental concepts basic to the practice of midwifery. Emphasis is placed on the midwifery management process, critical thinking, decision making and application of bio-psychosocial concepts in the management of mothers and families in a variety of health settings.

COM 311 **Community Health Nursing Science III**

This module provides students with knowledge, skills and appropriate attitudes on community assessment, occupational health nursing, geriatric nursing and home based care. Emphasis is placed on promotive, preventive and rehabilitative management of individuals and families.

COM 312 **Community Health Nursing Practice**

This module offers students an opportunity to provide care to individuals and families in the home, industry and the community utilizing the community health nursing process, systems theory and the primary health care concept.

Year Four

MID 400 **Midwifery Science Practice**

This module enables students to apply concepts, knowledge, skills and appropriate attitudes acquired in Midwifery Science 1 in the provision of care to mothers and their families. Emphasis is placed on individualized and culturally acceptable management using the midwifery management process. Critical thinking and decision-making skills are utilized.

RES 401 **Research Seminar**

This module gives students a practical experience where they complete an individual/group research project on proposal development that applies to nursing practice or health care innovation. The project is under guidance of faculty members. Students are also given an opportunity to acquire skills for critiquing research studies.

NEO 402 **Neonatal Science II Theory and Practice**

This module provides knowledge, skills and appropriate attitudes necessary for the management of neonates in health care facilities and community settings. The midwifery management process, problem solving skills and essential new born care package are applied to assist students develop relevant skills and attitudes essential for the management of neonates.

NUR 403 **Nursing Science VI Theory: Critical Care Nursing**

The module is designed to assist students acquire knowledge of pathophysiological mechanisms of diseases and manage patients with critical conditions. The module also enables students to gain skills in theatre nursing.

MID 404 **Midwifery Science II**

This module equips students with knowledge, skills and appropriate attitudes in midwifery to comprehensively manage peri-natal mothers with complications and their families in health care facilities.

MID 405 **Midwifery Science II Practice**

This module enables students apply concepts, knowledge, skills and appropriate attitudes acquired in Midwifery Science I and II in the provision of care to perinatal mothers with complications and their families.

COM 406 **Community Midwifery**

This module introduces students to community midwifery and enables them to consolidate knowledge, skills and appropriate attitudes acquired in Midwifery and Neonatal Sciences to comprehensively manage perinatal mothers and their families in health care facilities in community settings. Emphasis is placed on the role of the midwife in community health settings.

FACULTY OF NURSING

Department of Basic Studies

Master of Science in Nursing and Midwifery Education (MSc. NURS. ED)

Module Code	Module Name and Descriptor
NSc.ED 701	**Instructional Design and Implementation**

This module focuses on instructional design and implementation for classroom and clinical settings. It deals with elements of instructional design and implementation, sources of information for instructional design and stages of instructional design and implementation**.** Emphasis is placed on teacher and learner centered approaches, with particular reference to those factors which affect teaching and learning respectively. Use of technology in designing and implementing instruction is critical. The underlying factor in the module is problem solving using critical thinking.

NSc. ED 703 **Curriculum Design and Evaluation**

This module covers the processes of planning, developing, designing implementing and evaluation educational curriculum. It prepares graduates for designing, implementing and evaluating nursing and midwifery curriculum for a complex, dynamic, and multicultural health care environment.

NSc. ED 705 **Educational Assessment**

This module is designed to enable students acquire knowledge and skills to develop and evaluate assessment tools used in classroom and clinical teaching. Emphasis is placed on developing evidence-based tools for assessing all the domains of learning. Role of assessment in education, variety of strategies for assessing and evaluating learning on all domains, ethical, legal issues in educational assessment and use of assessment to improve teaching and learning will be discussed.

NSc. 712 **Conceptual and Theoretical Frameworks/Models**

The module is designed to assist students to critically analyse the development and application of selected conceptual and theoretical models of nursing and other disciplines for practice, research, education and management.

NSc. 714 **Bioethics**

The module provides opportunity for students to evaluate ethical theories and principles of bio-ethics for application to maternal and neonatal health, research, education, administration and clinical practice. The emphasis is on ethical, moral and professional decision making based on human rights.

NSc. ED 704 **Educational Leadership and Administration**

This module provides a framework for applying theory to the practice of leadership and administration of nursing educational institutions. Students will examine the changing educational and health contextual issues to enable them create conducive and transformative teaching and learning environment. The module will also enable learners to compare and critique selected national and

international models and policies as they relate to educational planning and financing.

NSc. ED 706 **Integrated Teaching Practicum 1**

This module enables students apply knowledge, skills and appropriate attitudes acquired from Instructional Design and Implementation; Contemporary Issues in Nursing Education; Curriculum Design and Evaluation; Educational Leadership and Administration; and Educational Assessment in teaching nursing students. The students are encouraged to be innovative and demonstrate ability to integrate classroom and clinical teaching and perform leadership and administrative roles.

NSc. 721 **Research Methods and Statistics**

This module builds on the students' knowledge on the application of research methods to nursing and midwifery problems, as well as data analysis techniques for qualitative and quantitative data. Emphasis is also placed on research evaluation and utilization in nursing and midwifery education.

CHN 721 **Advanced Community Health Nursing**

This module is designed to provide students with advanced knowledge and skills, and foster appropriate attitudes, to enable them assess and analyse the health of communities. Students will use this data to address community health needs using evidence based approaches. The focus of this module is on application of the Community Health Nursing Process and analysis of relevant community health programmes and policies. Learners will also analyse current trends and issues in Community Health Issues in Nursing.

NSC. 726 **Maternal and Neonatal Care**

This module builds on students' previous knowledge in anatomy and physiology of obstetrics, and basic maternal and neonatal care. The module provides in-depth knowledge of physiological and pathophysiological processes of pregnancy, labor, puerperium and the neonate. Emphasis is placed on the students' ability to interpret the physiological and pathophysiological processes and their implications on maternal and neonatal outcomes. The students will also be equipped with knowledge and skills of promoting community mobilisation for improving maternal and neonatal care with a focus on participatory communication design.

Mid. SC. 728 **Women's and Men's Sexual and Reproductive Health**

The module is designed to assist students to critically analyse SRH issues surrounding men and women. Emphasis is placed on social-cultural, economic, environmental, behavioural and political factors that affect men's and women's fertility and reproductive health.

NSc. ED 702 **Contemporary Issues in Nursing and Midwifery Education**

The module is designed to equip students with knowledge, skills and promote appropriate attitudes in dealing with contemporary issues that affect nursing and midwifery education.

NSc. ED 706 **Integrated Teaching Practicum II**

This builds on Teaching Practicum 1 and enables students continue to apply knowledge, skills, and appropriate attitudes acquired from Instructional Design and Implementation; Contemporary Issues in Nursing Education; Curriculum Design and Evaluation; Educational Leadership and Administration; and Educational Assessment in teaching nursing students. The students are encouraged to be innovative and demonstrate ability to integrate classroom and clinical teaching and perform leadership and administrative roles.

Mid. Sc. 734 **Thesis**

This module provides knowledge on the research process. Students will apply knowledge and skills, acquired from NSc.ED 701, NSc.ED 702, NSc.ED 703, NSc.ED 704, NSc. ED 705, NSc. ED 706 and other modules to produce a thesis. Emphasis is placed on originality of the research.

Department of Community and Mental Health Nursing

Bachelor of Science in Nursing (Community Health)

Year One

Module Code	Module Name and Descriptor
BIO 111	**Biosciences I**

The module provides students with knowledge of the levels of structural organisation of the body and interrelatedness of the various body systems. It further provides students with understanding of biochemical processes.

CIS 112 **Communication and Information Systems**

This module provides students with knowledge and skills in language and communication, information and communication technology including information literacy relevant to nursing and midwifery.

NUR 113 **Nursing Science I**

This module enables students to develop and value the fundamental knowledge, skills and attitudes required to practice within the nursing profession. This represents a foundation to the development of nursing expertise and the essential preparation for the acquisition of evidence-based practice.

HIV 114 **HIV and AIDS**

The module provides students with current information on HIV and AIDS infection and prevention. It equips students with knowledge, attitudes and skills necessary to protect self and others. It also helps learners to support and encourage those who have the virus to live positively. It also provides information on life skills.

BEH 115 **Behavioural Sciences**

This module embodies the disciplines of psychology and sociology and their application to nursing and midwifery sciences.

NUR 116 **Nursing Practicum I**

This module forms a basis for addressing the basic needs of patients/clients. It enables students to develop the cognitive, psychomotor and effective skills to care for individuals, vulnerable groups, families and community in totality. This module also enables students to develop knowledge and skills to assess, plan, implement and evaluate the nursing interventions for the basic needs of the patient.

CHN 121 **Community Health Nursing Science I**

This module provides students with knowledge on primary health care, health promotion and nutrition across the life span. Students also acquire knowledge and skills to be applied in client/patient education in a variety of health care settings.

HAS 122 **Health Assessment**

This course is designed to equip students with appropriate attitudes, knowledge and skills in normal health assessment findings with recognition of abnormal variations across the life span of patients/clients. Emphasis is placed on the utilisation of assessment findings in clinical decision making.

NUR 123 **Nursing Practicum II**

This module builds on competencies achieved in previous modules i.e. Nursing Science I and Nursing Practicum I. It will enable students to develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. The module also enables students apply theoretical knowledge acquired in Health assessment. The emphasis is placed on utilization of assessment findings in making clinical decisions.

BIO 124 **Biosciences II**

This module enable students understand the structure and function of the human body and the harmful effects of microorganisms and parasites on the health of an individual.

Year Two

PRO 211 **Professionalism**

The module is designed to promote an understanding of the nursing professional, legal and ethical framework. It will also assist the learner to assume the role and function of a professional nurse within the structures of health care systems. This module is designed to impart knowledge for developing decision-making frames of reference on professional, legal and ethical issues. The course provides the learner with skills to deal with ethical dilemmas and to help clients in making responsible choices about their social well-being. The learner will develop competencies in respecting rights of individuals, families and the community in an ethical manner. Professional regulation and principles of professional practice in midwifery will be highlighted as a foundation upon which midwifery practice will be built. The learner will be introduced to legal concepts relevant to the practice of midwifery.

NUR 212 **Nursing Science II**

The module examines the health status of different population groups and Investigates priority health conditions and issues in Malawi. Students analyze priority health conditions and issues and examine the roles that the health system plays in achieving health for all Malawians.

NUR 213 **Nursing Practicum III**

This module builds on competencies achieved in previous modules i.e. Nursing Science Practice I. The module enables students to apply theoretical knowledge acquired in Priority Health Conditions, Pharmacology and Health Assessment in the provision of patient care.

PHA 214 **Pharmacology**

The module provides students with basic knowledge on the role of pharmacology in the management of commonly encountered medical conditions.

OBS 221 **Obstetric Nursing**

This module provides students with knowledge, attitudes and skills in obstetric nursing care. Emphasis is on the nursing process, critical thinking and decision making skills in the management of individuals, families and communities.

MHP 222 **Fundamentals of Mental Health and Psychiatric Nursing I**

This module introduces students to knowledge about mental health and psychiatric nursing to enable them provide basic mental care to individuals, families and communities. Emphasis is placed on patient/family/community education.

NED 223 **Nursing Education**

This module is designed to prepare students for their roles as nurse educators. Focus is placed on principles and theories related to teaching and learning.

OBS 224 **Obstetric Nursing Practicum**

This module is designed to enable students develop competence in the provision of culturally sensitive emergency obstetric nursing care. Students should be able to identify women with complicated conditions and refer appropriately. Emphasis is placed on individualized and effective management of clients and families. The nursing process, critical thinking and decision making skills are applied.

Year Three

RES 311 **Research and Statistics**

This module introduces students to nursing research with focus on both quantitative and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilization of research findings.

CHN 312 **Community Health Nursing Science II**

This module is designed to assist students in developing an in-depth understanding in the field of community health nursing. It helps students to develop skills for nursing intervention in various aspects of community health care settings. Emphasis is placed on health promotion, environmental health and disease prevention based on the primary health care model. Students are also provided the opportunity to assess and manage the health needs of well and sick children in the community settings.

CHN 313 **Community Health Nursing Science III (SRHR)**

This module offers students an opportunity to gain knowledge, skills and appropriate attitudes on Sexual and Reproductive Health and Rights. The focus is on issues and the management of individuals, families and communities with Sexual and Reproductive Health needs and problems. Emphasis is on Behaviour

change amongst youth and adolescents, women and men.

CHN 314 **Community Health Nursing Practice I**

This module gives students an opportunity to provide care to both well and sick children, adolescents, women and men with sexual and reproductive health needs and problems. Issues of environmental health and sanitation at different community settings are also included.

HSM 321 **Health Services Management and Leadership**

This module is designed to prepare students for their role as managers of health services. Focus is placed on principles and theories related to health service management. It also provides learners with knowledge and skills in management of health information.

HSM 322 **Health Services Management and Leadership Practice**

This module offers students an opportunity to apply knowledge of management and leadership theories to develop appropriate skills and attitudes the delivery of health services in various health care settings.

CHN 323 **Community Health Nursing Science IV**

This module is designed to assist students to acquire knowledge and skills in epidemiological studies, nutritional programmes, community diagnosis and needs assessment. Emphasis is placed on promotive and preventive management of individuals and families in different community settings.

CHN 324 **Community Health Nursing Practice II**

This module provides students an opportunity to asses and diagnose the health needs and problems of selected communities utilizing the community health nursing process. Emphasis is placed on analysing culture, values and behaviours of individuals, families of the community which can influence their health. Students are expected to apply nutritional principles and epidemiological approaches in managing individuals, families and communities in various settings.

Year Four

RES 411 **Research Seminar and Dissertation**

This module assists students to develop a research proposal, conduct the study and submit a dissertation. It also provides students with an opportunity to critique existing research studies and publications.

CHN 412 **Community Health Nursing Science V**

This module is designed to assist students assess, identify and manage problems and needs of individuals, families and communities in the homes, workplace and other settings. Emphasis is placed on promotive, preventive and rehabilitative management of individuals and families in various settings.

CHN 413 **Community Health Nursing Science VI**

This module provides students an opportunity to plan, assess and evaluate community health programmes in various community settings. Emphasis is placed on inter professional and multi-sectoral approaches for effective programme management. Students also acquire knowledge of diseases of concern and their management in the global community.

CHN 414 **Community Health Nursing Practice III**

This module provides students opportunities to manage individuals, families and communities in the home, workplace and other settings. Students also manage disasters in the community.

CHN 421 **Community Health Nursing Practice IV**

This module provides students opportunities to develop mastery in the management of health problems and needs of individuals, families, groups and communities in various settings.

CHN 422 **Community Health Nursing Seminar**

This module provides students with opportunities to discuss issues of interest in community health nursing which have arisen during their field practice. Emphasis is on discussing the role of the community health nursing practitioner.

Bachelor of Science in Nursing (Mental Health)

Year One

Module Code	Module Name and Descriptor
BIO111	Biosciences

The module provides students with knowledge of the levels of structural organisation of the body and interrelatedness of the various body systems. It further provides students with an understanding of biochemical processes.

CIS112 **Communication and Information Systems**

This module provides students with knowledge and skills in language and communication, information and communication technology including information literacy relevant to nursing and midwifery.

NUR113 **Nursing Science I**

This module enables students to develop and value the fundamental knowledge, skills and attitudes required to practice within the nursing profession. This represents a foundation to the development of nursing expertise and the essential preparation for the acquisition of evidence-based practice.

HIV114 **HIV and AIDS**

The module provides current information on HIV and AIDS infection and prevention. It equips students with knowledge, attitudes and skills necessary to protect self and others. It also helps students to support and encourage those who have the virus to live positively. It also provides information on life skills.

BEH115 **Behavioural Sciences**

This module covers the disciplines of psychology and sociology and their application to nursing and midwifery sciences.

NUR116 **Nursing Practicum I**

This module forms a basis for addressing the basic needs of patients/clients. It enables students to develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. This module also enables students to develop knowledge and skills to assess, plan, implement and evaluate the nursing interventions for the basic needs for the patient.

COM121 **Community Health Nursing Science I**

This module provides students with knowledge on primary health care, health promotion and nutrition across the life span. Students also acquire knowledge and skills to be applied in client/patient education in a variety of health care settings.

HAS122 **Health Assessment**

This course is designed to equip students with appropriate attitudes, knowledge and skills in normal health assessment findings with recognition of abnormal variations across the life span of patients/clients. Emphasis is placed on the utilisation of assessment findings in clinical decision making.

NUR123 **Nursing Practicum II**

This module builds on competencies achieved in previous modules i.e. Nursing Science I and Nursing Practicum I. It will enable the student to develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. The module will also enable the student apply theoretical knowledge acquired in health assessment. Emphasis is placed on utilisation of assessment findings in making clinical decisions.

BIO124 **Biosciences II**

This module enables students understand the structure and function of the human body and the harmful effects of microorganisms and parasites.

Year Two

PRO211 **Professionalism**

The module is designed to promote an understanding of the nursing professional, legal and ethical framework. It also assists students to assume the role and function of a professional nurse within the structures of health care systems.

NUR212 **Nursing Science II**

The module examines the health status of different population groups and Investigates priority health conditions and issues in Malawi. Students analyse priority health conditions and issues and examine the roles that the health system plays in achieving health for all Malawians.

NUR213 **Nursing Practicum III**

This module builds on competencies achieved in previous modules i.e Nursing Science Practice I. This module enables students to apply theoretical knowledge acquired in Priority Health Conditions, Pharmacology and Health Assessment in the provision of patient care.

PHA214 **Pharmacology**

The module provides students with basic knowledge on the role of pharmacology in the management of commonly encountered medical conditions.

OBS221 **Obstetric Nursing**

This module provides students with knowledge, attitudes and skills in obstetric nursing care. Emphasis is on the nursing process, critical thinking and decision making skills in the management of individuals, families and communities.

MHP222 **Fundamentals of Mental Health and Psychiatric Nursing**

This module introduces students to knowledge about mental health and psychiatric nursing to enable them provide basic mental care to individuals, families and communities. Emphasis is also placed on patient/family/community education.

NED223 **Nursing Education**

This module is designed to prepare students for their roles as nurse educators. Focus is placed on principles and theories related to teaching and learning.

OBS224 **Obstetric Nursing Practicum**

This module is designed to enable students develop competence in the provision of culturally sensitive emergency obstetric nursing care. Students should also be able to identify women with complicated conditions and refer appropriately. Emphasis is placed on individualised and effective management of clients and families. The nursing process, critical thinking and decision making skills are applied.

Year Three

RES311 **Research and Statistics**

This module introduces students to nursing research with focus on both quantitative and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilisation of research findings.

MHP312 **Mental Health-Psychiatric Nursing I**

The module is intended to equip students with knowledge, skills and appropriate attitudes in assessing, diagnosing and managing problems of mental health care users. It also focuses on psychotropic drugs used in the treatment of mental health problems.

MHP313 **Mental Health-Psychiatric Nursing I Practice**

This module enables students to integrate and apply knowledge, skills and appropriate attitudes for managing clients with enduring psychiatric disorders in various settings. Emphasis is placed on assessment, diagnosis and treatment of mental disorders.

MHP314 **Psychopharmacology**

This module enables students build on knowledge gained in pharmacology module. Emphasis is placed on psychotropic drugs and other medicines used in the treatment of mental health problems.

HSM 321 **Health Services Management and Leadership**

This module is designed to prepare students for their roles as managers of health services. Focus is placed on principles and theories related to health service management. It also provides students with knowledge and skills in management of health information.

HSM322 **Health Services Management and Leadership Practice**

This module offers students an opportunity to apply knowledge of management and leadership theories to develop appropriate skills and attitudes the delivery of health services in various health care settings.

MHP 323 **Mental Health-Psychiatric-Nursing II**

The module equips students with knowledge, skills and appropriate attitudes in mental health and psychiatric nursing necessary for providing quality psychiatric nursing care to clients. Emphasis is placed on utilisation of nursing theories and nursing process in the provision of mental health. The module also focuses on current and emerging issues and trends impacting the delivery of mental health nursing care locally and globally.

MHP324 **Mental Health-Psychiatric-Nursing II Practice**

The module enables students integrate and apply mental health-psychiatric nursing knowledge, skills and appropriate attitudes in the care of clients in various settings. Emphasis is placed on masterly of relevant competences in mental health-psychiatric nursing.

Year Four

RES411 **Research Seminar and Dissertation**

This module gives students a practical experience where they complete a group research project relevant to nursing practice and health care innovation. Students work under the guidance of faculty supervisors. They also acquire skills for critiquing research publications.

MHP412 **Psychosocial Rehabilitation**

The module equips students with knowledge, skills and appropriate attitudes for providing psychosocial rehabilitation services to people living with a range of sustained and serious mental illnesses in a variety of settings.

MHP413 **Psychosocial Rehabilitation Practice**

The module enables students to apply knowledge, skills and appropriate attitudes for psychosocial rehabilitation in provision of mental health care in a variety of settings. Emphasis is placed on assisting mentally ill persons to live and function independently in the community.

MHP421 **Community and Mental Health Nursing**

The module equips students with knowledge, skills and appropriate attitudes in community mental health necessary for management of clients with mental health problems in the community.

MHP422 **Community Mental Health Nursing Practice**

The module enables students apply mental health-psychiatric nursing knowledge, skills and appropriate attitudes in the care of clients with mental health problems in the community. The module also focuses on promotion of mental health of community.

Master of Science Degree in Community Health Nursing

Module Code **Module Name and Descriptor**

NSc 712 **Conceptual and Theoretical Models/ Frameworks**

The module is designed to assist students to critically analyse the development and application of selected conceptual and theoretical models of nursing and other disciplines to practice, research, education and management.

NSc 713 **Leadership and Management**

This module provides students with advanced knowledge and interpersonal skills in leadership and management to promote quality performance and outcomes in health care.

NSc 714 **Bioethics**

The module provides opportunity to students to evaluate ethical theories and principles of bio-ethics for application to community health nursing, research, education, administration and clinical practice. The emphasis is on ethical, moral, professional decision making based on social justice and human rights.

NSc 715 **Nursing Education**

The module provides students with the opportunity to gain advanced knowledge and skills; and design, implement and evaluate learning experiences among peers, clients, and communities. Emphasis is on the application of teaching, learning and evaluation strategies for education.

CHN 711 **Advanced Community Health Nursing**

This module is designed to provide students with advanced knowledge and skills, and foster appropriate attitudes, to enable them to assess and analyse the health of communities. Students use this data to address community health needs using evidence based approaches. The focus of this module is on application of the Community Health Nursing Process and analysis of relevant community health programmes and policies. Students also analyse current trends and issues in Community Health Issues in Nursing.

NSc. 721 **Research Methods and Statistics**

This module builds on students' knowledge on the application of research methods to community health nursing, as well as data analysis techniques for qualitative and quantitative data. Emphasis is also placed on research evaluation and utilisation in Community health nursing practice.

NSc. 722 **Health Policy, Planning and Financing**

This module provides knowledge on theories, principles and objectives of health policy, planning and financing. Students compare/critique selected national and international models and policies as they relate to health care, planning and financing.

CHN 721 **Epidemiology**

This module builds on knowledge gained from the basic epidemiological concepts. It focuses on the application of epidemiologic research to population health to prevent and control diseases.

CHN 722 **Environmental Health and Diseases**

This module introduces students to the concept of environment, environmental health and the issues and tools of intervention in solving environmental health problems. It covers the history, development and scope of environmental health and explores issues of professionalism, global environmental problems, relationship between environmental health and other health related disciplines. Students should be able to describe the links between the environment and human health and confidently discuss the main environmental health activities. They should also be able to deal with specialists such as civil and public heath engineers and Environmental Health Officers with whom they come in contact

during their work.

CHN 723 **Advanced Community Health Nursing Practicum I**

This module provides an opportunity for students to apply advanced knowledge gained from the following core modules: Leadership and Management, Health Policy, Planning and Financing, Advanced Community Health Nursing Theory, Epidemiology, Environmental Health and Diseases and Programme Management in care of clients in selected community settings. Students are placed in clinical agencies with preceptors who are responsible for implementing and evaluating community health programmes or agencies.

CHN 731 **Programme Management**

The module is designed to equip students with knowledge and skills of programme planning, implementation, monitoring and evaluation in community settings. Emphasis is on application of Community Nursing Centre Model and utilisation of interprofessional and multi sectoral approaches for effective programme management.

CHN 732 **Community Mental Health Nursing**

This module emphasizes the development of advanced knowledge and skills for improving mental health outcomes for communities. The focus is placed on assessment, identification and management of Common Mental Health Problems (CMHPs) in the community; developing mental health promotion and consultation or referral to relevant professionals. Students also analyse the policies and pieces of legislation governing the provision of mental health services.

NSc 725 **Gender and Health**

The module empowers students to critically analyse gender as it relates to health and other disciplines for practice, research, education and management to influence the planning, application and implementation of gender sensitive programmes and policies at different levels.

NSc 727 **Sexually Transmitted Infections, HIV and AIDS**

The module equips students with advanced knowledge in STIs, HIV and AIDS as they relate to reproductive health issues, to facilitate development of moral duty, to adopt innovative ideas and find new strategies to make a difference in the epidemic so as to achieve optimum reproductive health and well-being of the individuals, families and communities.

CHN 741 **Advanced Community Health Nursing Practicum II**

This module provides an opportunity for students to consolidate and apply knowledge, skills and appropriate attitudes gained from all previous and concurrent modules in the provision of community health care. Emphasis is placed on promotion of health and provision of evidence-based and culturally sensitive nursing care to communities.

NSc 734 **Thesis**

This module provides knowledge on the research process. Learners will apply knowledge and skills acquired from NSc 712, NSc 713, NSc 714, NSc 715, NSc 721, NSc 722, NSc 725, NSc 727, CHN 711, CHN 721, CHN 722, CHN 723, CHN 731, CHN 732, and CHN 741 to produce a Thesis.

Department of Medical/Surgical Nursing

Bachelor of Science in Nursing (Child Health) (KCN-CH)

Year One

Module Code	Module Name and Descriptor

BIO 111 **Biosciences I**

The module provides students with knowledge of the levels of structural organisation of the body and interrelatedness of the various body systems. It further provides students with understanding of biochemical processes.

CIS 112 **Communication and Information Systems**

This module provides students with knowledge and skills in language and communication, information and communication technology including information literacy relevant to nursing and midwifery.

NUR 113 **Nursing Science I**

This module enables students to develop and value the fundamental knowledge, skills and attitudes required to practice within the nursing profession. This represents a foundation to the development of nursing expertise and the essential preparation for the acquisition of evidence-based practice.

HIV 114 **HIV and AIDS**

The module provides current information on HIV and AIDS infection and prevention. It equips students with knowledge, attitudes and skills necessary to

protect self and others. It also helps students to support and encourage those who have the virus to live positively. It also provides information on life skills.

BEH 115 **Behavioural Sciences**

This module embodies the disciplines of psychology and sociology and their application to nursing and midwifery sciences.

NUR 116 **Nursing Practicum I**

This module forms a basis for addressing the basic needs of patients/clients. It enables students to develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. The module also enables students to develop knowledge and skills to assess, plan, implement and evaluate the nursing interventions for the basic needs for the patient.

COM 121 **Community Health Nursing Science I**

This module provides students with knowledge on primary health care, health promotion and nutrition across the life span. Students also acquire knowledge and skills to be applied in client/patient education in a variety of health care settings.

HAS 122 **Health Assessment**

This course is designed to equip students with appropriate attitudes, knowledge and skills in normal health assessment findings with recognition of abnormal variations across the life span of patients/clients. Emphasis is placed on the utilisation of assessment findings in clinical decision making.

NUR 123 **Nursing practicum II**

This module builds on competencies achieved in previous modules i.e. Nursing Science I, Nursing Practicum I. It is designed to enable students develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. The module also enables students apply theoretical knowledge acquired in health assessment. The emphasis is placed on utilisation of assessment findings in making clinical decisions.

BIO 124 **Biosciences II**

This module enable students understand the structure and function of the human body and the harmful effects of microorganisms and parasites.

Calendar 2016-2018

Year Two

PRO 211 **Professionalism**

The module is designed to promote an understanding of the nursing professional, legal and ethical framework. It also assists students to assume the role and function of a professional nurse within the structures of health care systems.

NUR 212 **Nursing Science II**

The module examines the health status of different population groups and investigates priority health conditions and issues in Malawi. Students analyse priority health conditions and issues and examine the roles that the health system plays in achieving health for all Malawians.

NUR 213 **Nursing Practicum III**

This module builds on competencies achieved in previous modules i.e Nursing Science Practice I. This module enables students apply theoretical knowledge acquired in Priority Health Conditions, Pharmacology and Health Assessment in the provision of patient care.

PHA 213 **Pharmacology**

The module provides students with basic knowledge on the role of pharmacology in the management of commonly encountered medical conditions.

OBS 221 **Obstetric Nursing**

This module provides students with knowledge, attitudes and skills in obstetric nursing care. Emphasis is on the nursing process, critical thinking and decision making skills in the management of individuals, families and communities.

MHP 222 **Fundamentals of Mental Health and Psychiatric Nursing I**

This module introduces students to knowledge about mental health and psychiatric nursing to enable them provide basic mental care to individuals, families and communities. Emphasis is also placed on patient/family/community education.

NED 223 **Nursing Education**

This module is designed to prepare students for their roles as nurse educators. Focus is placed on principles and theories related to teaching and learning.

OBS 224 **Obstetric Nursingpracticum**

This module is designed to enable students apply theoretical knowledge acquired in obstetric nursing and nursing education in the provision of care.

Year Three

RES 311 **Research and Statistics**

This module introduces students to nursing research with focus on both quantitative and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilisation of research findings.

CHI 312 **Child Health Nursing Science I**

The module provides an in-depth study of principles, concepts, trends and issues related to child health care. Emphasis is placed on care of the well child and it incorporates evidence based guidelines in the provision care to the well child.

CHI 313 **Nursing Practicum IV**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of the well child in various settings both clinical and non-clinical. Emphasis is placed on growth monitoring, nutritional assessment immunisations and school health.

HSM 321 **Health Services Management and Leadership**

This module is designed to prepare students for their roles as managers of health services. Focus is placed on principles and theories related to health service management. It also provides students with knowledge and skills in management of health information.

HSM 322 **Health Services Management and Leadership Practice**

This module offers students an opportunity to apply knowledge of management and leadership theories to develop appropriate skills and attitudes the delivery of health services in various health care settings.

CHI 323 **Child Health Nursing Science II**

The module provides an in-depth study of pathophysiological mechanisms of diseases and nursing management of children with acute and chronic conditions including TB, HIV and AIDS and management of children on ART. It incorporates

the problem solving approach and relevant nursing theories.

CHI 324 **Nursing Practicum V**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of children with acute and chronic paediatric conditions including TB, HIV and AIDS and management of children on ART. Emphasis is placed on the use of problem solving approach and selected nursing theories.

Year Four

RES 411 **Research Seminar and Dissertation**

This module introduces students to nursing research with focus on both quantitative and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilization of research findings.

CHI 412 **Paediatric Critical Care**

The module is designed to assist students acquire and apply knowledge of pathophysiological mechanisms of diseases and manage children with critical conditions. The module also enables students to gain skills in paediatric theatre nursing.

CHI 413 **Nursing Practicum VI**

This module is designed to enable students apply knowledge of pathophysiological mechanisms of diseases and manage children in critical care settings. The module also enables students gain skills in paediatric theatre nursing.

CHI 421 **Community Child Health Nursing Science**

This module provides students with knowledge, skills and appropriate attitudes on community child health nursing issues with emphasis on care of vulnerable groups and school going children. Emphasis is placed on promotive, preventive and rehabilitative management of individuals and families. The module also provides students with knowledge, skills and appropriate attitudes on paediatric TB, HIV and AIDS and ART.

CHI 422 **Nursing Practicum VII**

The module is designed to enable students apply knowledge of community child health in the provision of care to children in various community settings. The module also provides students with knowledge, skills and appropriate attitudes on

the management of paediatric TB, HIV and AIDS and ART.

Bachelor of Science in Nursing (Adult Health) (KCN-AH)

Year One

Module Code	Module Name and Descriptor
BIO 111	**Biosciences I**
	The module provides students with knowledge of the levels of structural organization of the body and interrelatedness of the various body systems. It further provides the students with understanding of biochemical processes.
CIS 112	**Communication and Information Systems**
	This module provides students with knowledge and skills in language and communication, information and communication technology including information literacy relevant to nursing and midwifery.
NUR 113	**Nursing Science I**
	This module enables students develop and value the fundamental knowledge, skills and attitudes required to practice within the nursing profession. This represents a foundation to the development of nursing expertise and the essential preparation for the acquisition of evidence-based practice.
HIV 114	**HIV and AIDS**
	The module provides current information on HIV and AIDS infection and prevention. It equips students with knowledge, attitudes and skills necessary to protect self and others. It also helps students to support and encourage those who have the virus to live positively. It also provides information on life skills.
NUR 115	**Behavioural Sciences**
	This module embodies the disciplines of psychology and sociology and their application to nursing and midwifery sciences.
NUR 116	**Nursing Practicum I**
	This module forms a basis for addressing the basic needs of patients/clients. It enables students to develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. The

module also enables students to develop knowledge and skills to assess, plan, implement and evaluate the nursing interventions for the basic needs for the patient.

COM 121 **Community Health Nursing Science I**

This module provides students with knowledge on primary health care, health promotion and nutrition across the life span. Students also acquire knowledge and skills to be applied in client/patient education in a variety of health care settings.

HAS 122 **Health Assessment**

This course is designed to equip students with appropriate attitudes, knowledge and skills in normal health assessment findings with recognition of abnormal variations across the life span of patients/clients. Emphasis is placed on the utilization of assessment findings in clinical decision making.

NUR 123 **Nursing Practicum II**

This module builds on competencies achieved in previous modules i.e. Nursing Science I, Nursing Practicum I. It enables students to develop the cognitive, psychomotor and effective skills to care for individual, vulnerable groups, families and community in totality. The module also enables students apply theoretical knowledge acquired in health assessment. The emphasis is placed on utilization of assessment findings in making clinical decisions.

BIO 124 **Biosciences II**

This module is designed to enable students understand the structure and function of the human body and the harmful effects of microorganisms and parasites.

Year Two

PRO 211 **Professionalism**

The module is designed to promote an understanding of the nursing professional, legal and ethical framework. It also assists students to assume the role and function of a professional nurse within the structures of health care systems.

NUR 212 **Nursing Science II**

The module examines the health status of different population groups and investigates priority health conditions and issues in Malawi. Students analyse priority health conditions and issues and examine the roles that the health system

plays in achieving health for all Malawians.

NUR 213 **Nursing Practicum III**

This module builds on competencies achieved in previous modules i.e. Nursing Science Practice I. The module enables students to apply theoretical knowledge acquired in Priority Health Conditions, Pharmacology and Health Assessment in the provision of patient care.

PHA214 **Pharmacology**

The module provides students with basic knowledge on the role of pharmacology in the management of commonly encountered medical conditions.

OBS 221 **Obstetric Nursing**

This module provides students with knowledge, attitudes and skills in obstetric nursing care. Emphasis is on the nursing process, critical thinking and decision making skills in the management of individuals, families and communities.

MHP 222 **Fundamentals of Mental Health and Psychiatric Nursing**

This module introduces students to knowledge about mental health and psychiatric nursing to enable them provide basic mental care to individuals, families and communities. Emphasis is also placed on patient/family/community education.

NED 223 **Nursing Education**

This module is designed to prepare students for their role as nurse educators. Focus is placed on principles and theories related to teaching and learning.

OBS 224 **Obstetric Nursing Practicum**

This module enables students to apply theoretical knowledge acquired in obstetric nursing andnursing education in the provision of care.

Year Three

RES 311 **Research and Statistics**

This module introduces students to nursing research with focus on both quantitative

and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilisation of research findings.

AHN 312 **Adult Health Nursing Science**

The module provides an in-depth study of principles, concepts and trends and issues related to adult health care. Emphasis is placed on developmental processes and health assessment of the adult.

AHN 313 **Nursing Practicum V**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of adults with acute and chronic conditions including TB, HIV and AIDS and management of adults on ART. Emphasis is placed on the use of problem solving approach and selected nursing theories.

HSM 321 **Health Services Management and Leadership**

This module is designed to prepare students for their role as managers of health services. Focus is placed on principles and theories related to health service management. It also provides students with knowledge and skills in management of health information.

HSM 322 **Health Services Management and Leadership Practice**

This module offers students an opportunity to apply knowledge of management and leadership theories to develop appropriate skills and attitudes the delivery of health services in various health care settings.

AHN 323 **Adult Health Nursing Science II**

The module provides an in-depth study of pathophysiological mechanisms of diseases and nursing management of acute and chronically ill adults. It incorporates the problem solving approach and relevant nursing theories.

AHN 324 **Nursing Practicum VI**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological and behavioural sciences in the management of adults with acute and chronic conditions including TB, HIV and AIDS and management of adults on ART. Emphasis is placed on the use of problem solving approach and selected nursing theories.

Year Four

RES 411 **Research Seminar and Dissertation**

This module introduces students to nursing research with focus on both quantitative and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilization of research findings.

AHN 412 **Reproductive Health**

This module is designed to equip students with knowledge and skills to recognise, manage and refer clients with reproductive health conditions. It emphasizes on life threatening conditions. It also provides an opportunity for students to acquire knowledge and skills for provision of preconception care and family planning services to child bearing women and their families to promote sexual and reproductive health. Students should be able to apply communication and counseling skills to deliver services.

AHN 413 **Nursing Practicum VII**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from nursing, biological, behavioural sciences and reproductive health in the management of adults with reproductive health needs. Emphasis is placed on the use of problem solving approach and selected nursing theories.

AHN 421 **Adult Critical Care Nursing**

The module is designed to assist students acquire knowledge of pathophysiological mechanisms of diseases and management of adults with critical conditions. The module also enables students to gain skills in theatre nursing.

AHN 422 **Nursing Practicum VIII**

The module is designed to enable students apply knowledge of pathophysiological mechanisms of diseases and manage adults in medical-surgical settings and critical care settings. The module also enables students to gain skills in theatre nursing.

Bachelor of Science in Nursing (Post Basic)

Bachelor of Science in Nursing (ME)

Year One

Module Code **Module Name and Descriptor**

BI 501 **Human Physiology**

This course builds on the students' pre-requisite knowledge on Human Anatomy and Physiology. This pre-requisite knowledge provides students an understanding of the Physiology of the human body in maintaining homeostasis.

EN 501 **Language and Communication**

This course strengthens students language and communication skills required in academic and professional settings. It also provides students with the opportunity to practise their communication skills in different situations.

BS 501 **Principles and Practice of Management**

This course prepares the professional nurse to function as a nurse manager able to effectively manage facilities and the community. The focus is on general, human resources and financial management.

ED 501 **Theories and Principles of Education and Teaching Methods**

This course prepares nursing professionals for their role as educators of patients, clients and nursing students. It focuses on educational theories and principles of learning and their application to the teaching and learning of adults.

NSG SC 501 **Theories and Concepts in Nursing**

This course introduces students to nursing theories and concepts that are applied to nursing and midwifery practice, education, management and research. Concepts of person, health, nursing and environment are explored from a variety of theoretical perspectives. Different perspectives regarding patterns of knowing in nursing, the art and science of nursing, and the ethical principles that guide nursing practice are examined.

NSG SC 503 **Ethics in Nursing**

The course is designed to provide students with opportunity to review and analyse critical issues that arise in the biomedical and nursing field to enable them make critical decisions on ethical dilemmas.

ED 502 **Testing, Measurement and Evaluation in Education**

This course provides knowledge in the basic principles of testing, measurement and evaluation of students' educational performance. It focuses on those assessment strategies used in a learning environment.

SOC 501 **Research and Statistics**

The first part of this course gives an introduction to basic statistics as a basis for understanding the research process. The second part of the course assists students develop skills required in writing research proposals and reports.

NSG SC 504 **Clinical Teaching and Supervision**

This course prepares students for their role as clinical nurse teachers and supervisors. Emphasis is placed on the application of theories and principles of education.

NSG SC 502 **Health Assessment**

This course is designed to equip students with appropriate attitudes, knowledge and skills of patients/clients health assessment. Emphasis is placed on collection of objective data from adult and paediatric patients/clients through physical examination.

Year Two

SOC 601 **Research Seminar and Dissertation**

This course assists students develop a research proposal, conduct a research study and submit a dissertation. It also provides students with an opportunity to critique existing research studies and publications.

Option 1: Education

NSG ED 601 **Curriculum and Instruction in Nursing**

The course assists students who are or will be engaged in teaching the health care professions to acquire knowledge and skills in curriculum development and instruction.

NSG ED 603 **Education Administration in Health Training Institutions**

This course provides students with the opportunity to apply knowledge gained from previous courses into their role as Nurse Education Managers. Students are assisted to develop knowledge and apply principles of leadership in the management of health training institutions.

NSG ED 604 **Teaching Practice in Health Training Institutions**

This course assists students to develop teaching and evaluative skills through the application of principles of education and methods of teaching. Students are given the opportunity to understudy roles and responsibilities of institutional managers.

NSG ED 602 **Nursing Education Seminar**

This course assists students to develop a broader perspective in the current trends and issues taking place in nursing education and the nursing profession, and which have impacted on the delivery of health care services in Malawi. Students discuss how to deal with challenges encountered during the teaching practice and nursing profession through debates, seminar and presentations.

Option 2: Health Services Management

HSM 601 **Health Services Management I**

This course prepares students for their role as nurse managers. The focus is on equiping learners with management and leadership skills required for managing health care institutions and programs.

HSM 603 **Health Services Management II**

This course develops management competencies in middle managers. Students are expected to develop skills in services delivery, programme planning, monitoring and evaluation to support health management systems at the district and community levels.

HSM 604 **Health Services Management Practice**

This course provides students with guided practical experience in the health facilities and communities. Students have the opportunity to develop and practice skills essential to the nurse manager and to understudy roles and responsibilities of institutional managers.

HSM 602 **Health Services Management Seminar**

The course provides students with a forum for discussing and sharing management issues arising from the nursing profession and management courses. The course provides an opportunity for students to develop skills in oral and written presentations.

Option 3: Community Health Nursing

NSG SC 601 **Community Health Nursing**

The course prepares students to acquire knowledge, skills and attitudes to assume responsibility for comprehensive community health nursing. Emphasis is placed on the application of primary health care concepts, health promotion and utilisation of the community health nursing process in the management and control of diseases.

HEP 601 **Health Promotion**

This course provides students underlying concepts, principles, historical development, theory, and current practice of health promotion.

EPI 601 **Epidemiology**

This course provides students with in-depth knowledge in the science of epidemiology to help them manage and control communicable and non-communicable diseases.

NSG 604 **Community Health Nursing Practice**

Students are to function interdependently in community health nursing. Emphasis is placed on the development of the community health nurse practitioner role.

NSG SC 602 **Community Health Nursing Seminar**

In this module, students discuss issues of interest in community health nursing which have arisen during their field practice. Opportunities are provided to discuss the role of a community health nursing practitioner.

Option 4: Mental Health and Psychiatric Nursing

NSG SC 603 **Mental Health and Psychiatric Nursing**

The course prepares students to assume responsibility for the management of clients with mental health problems and psychiatric illnesses. The application of primary health care to individuals, families and communities is emphasised.

NSG 603 **Mental Health and Psychiatric Nursing Practice**

The focus of this course is on the clinical role preparation and acquisition of advanced clinical skills in psychiatric nursing practice.

NSG 602 **Mental Health and Psychiatric Nursing Seminar**

In this module, students discuss issues of interest in community health nursing which have arisen during their field practice. Opportunities are provided to discuss the role of a community health nursing practitioner.

Option 5: Midwifery Science

MID SC 601 **Midwifery Science**

This course provides students with an opportunity to study applied anatomy and physiology of obstetrics and pathophysiological dynamics in pregnancy, labour, puerperium and the neonate. The main focus of the course is to develop an autonomous practitioner who has critical thinking and clinical judgement skills.

NEO SC 601 **Neonatal Science [Theory and Practice]**

This course provides students with knowledge, skills and appropriate attitudes necessary for the management of neonates in health care facilities. The emphasis is placed on critical thinking and clinical judgment in managing neonates with and without complications.

MID 602 **Advanced Midwifery Science Practice**

This course enables students to apply critical thinking and decision making skills in the management of clients and health facilities. Emphasis is placed on quality improvement to reduce maternal morbidity and mortality.

MID SC 604 **Community Midwifery [Theory and Practice]**

This course equips midwives with knowledge, skills and appropriate attitudes necessary for provision of midwifery care in the community. Emphasis is on prevention of maternal and neonatal morbidity and mortality in the community.

Option 6 Medical/Surgical Nursing - Paediatric

NSG SC 605 **Paediatric Nursing**

The course is designed to provide students with opportunity to build on previous knowledge of pediatric nursing in order to comprehensively manage pediatric clients. This course emphasizes on students' ability to effectively communicate with pediatric clients, multidisciplinary team members, and guardians in provision of pediatric nursing care.

NSG 606 **Paediatric Nursing Practice**

The course is designed to enable students to integrate knowledge of paediatric nursing to clinical practice by providing comprehensive care. Emphasis is placed on critical thinking and application of biopsycho-social sciences to care of paediatric clients, guardians, and collaborate effectively with team members.

Option 7 Medical/Surgical Nursing – Adult Health Nursing

NSG SC 607 **Adult Health Nursing**

The course provides opportunities for students to integrate knowledge derived from biopsycho-social and cultural sciences to deliver competent nursing care to adult clients with selected medical and surgical conditions. Emphasis is placed on current trends and issues in the nursing management of the selected conditions.

NSG 608 **Adult Health Nursing Practice**

The course provides opportunities for learners to utilise knowledge from the biopsychosocial sciences, to deliver competent care to selected patients across the life span experiencing acute and chronic alterations in health. Emphasis is placed on prioritisation of care through collaboration with other members of the health care team, patients and their families.

Master of Science in Adult Health Nursing

Module Code **Module Name and Descriptor**

BIO 711 **Advanced Biosciences**

This module builds on students' previous knowledge in human anatomy, physiology and pharmacology. It focuses on assisting students to recognise the impact of pathophysiological changes in the human body, as well as the effect of pharmaceutical agents in the human body. This knowledge forms the basis of biological principles and concepts essential for advanced nursing practice.

NSc 712 **Conceptual and Theoretical Models/ Frameworks**

The module is designed to assist students to critically analyse the development and application of selected conceptual and theoretical models of nursing and other disciplines to practice, research, education and management.

NSc 713 **Leadership and Management**

This module provides students with advanced knowledge and interpersonal skills in leadership and management to promote quality performance and outcomes in health care.

NSc 714 **Bioethics**

The module provides opportunity to students to evaluate ethical theories and principles of bio-ethics for application to adult health nursing, research, education, administration and clinical practice. Emphasis is placed on professional morals and ethical decision making.

NSc 735 **Advancing Nursing Practice**

The programme equips students with advanced knowledge and understanding of philosophy, principles, concepts and evidence base of advancing nursing practice. It allows students to develop a critical understanding and synthesis of the concepts underpinning the advancement of practice. Emphasis is placed on analysing current issues essential for the advancement of nursing practice.

NSc 736 **Advanced Adult Health Nursing Science I**

This module builds on knowledge from biosciences and nursing sciences and is designed to enable students analyse common acute and critical health conditions of adults. It provides a foundation in advanced nursing care of common acute and critical health conditions and applications of evidence-based practice to restore function, promote wellness and enhance self-care capacity. Emphasis is placed on advanced health assessment, advanced pathophysiology, advanced pharmacology and advanced comprehensive nursing.

NSc. 721 **Research Methods and Statistics**

This module is designed to enable students apply research methods to the conduct of research on adult health nursing issues, as well as the utilisation of data analysis techniques for both qualitative and quantitative data. Emphasis is also placed on research evaluation and utilisation in adult health nursing practice.

NSc. 722 **Health Policy, Planning and Financing**

This module provides knowledge on theories, principles and objectives of health policy, planning and financing. Students compare/critique selected national and international models and policies as they relate to health care, planning and financing.

NSc 737 **Advanced adult health nursing Practicum I**

This module is designed to enable students apply knowledge, skills and appropriate attitudes acquired from advanced physiology, pharmacology, bioethics and advanced adult health nursing science in the provision of care to patients experiencing acute and critical health conditions. Emphasis is placed on promoting evidence based and culturally sensitive care and innovativeness.

NSc 738 **Evidence Based Practice**

This module is designed to provide students with advanced knowledge, skills and appropriate attitudes for the development of evidence based nursing practice. It focuses on the synthesis, critique and application of evidence to support quality in clinical practice. Students analyse evidence-based practice models in order to integrate best evidence to adult health nursing practice.

NSc 739 **Advanced Adult Health Nursing Science II**

The module is designed to provide students with advanced knowledge and skills and appropriate attitudes to enable them to assess and manage clients with common chronic conditions. The module builds on previous knowledge on physiology, pathophysiogy, pharmacology and nursing science. Emphasis is placed on evidence-based practice, inter-professional collaboration, promotion of self-care, family centred approach to care and promotion of physical-psychosocial adaptation. Students acquire knowledge and practical skills to creatively respond to the needs of the chronically ill patients and their families while maintaining a holistic approach to care.

NSc 740 **Advance Adult Health Nursing Practicum**

This module provides an opportunity for students to apply advanced knowledge gained from the following core modules: Leadership and Management, Health Policy, Planning and Financing, Advanced Adult Health Nursing Evidence based practice, Advanced Biosciences, conceptual and theoretical frameworks, and Programme Management in caring for adult clients with chronic health conditions. Emphasis is placed on promoting evidence-based care and implementing change.

Elective Modules

NSc 715 **Education for Health Professionals**

The module provides students with the opportunity to gain advanced knowledge and skills, and to design, implement and evaluate learning experiences. Emphasis is placed on the application of teaching, learning and evaluation strategies for education.

NSc 725 **Gender and Health**

The module empowers students to critically analyse gender as it relates to health and other disciplines for practice, research, education and management to influence the planning, application and implementation of gender sensitive programmes and policies at different levels.

NSc 727 **Sexually Transmitted Infections (STIs), HIV and AIDS**

The module equips students with advanced knowledge in STIs, HIV and AIDS as they relate to reproductive health issues, to facilitate development of moral duty, to adopt innovative ideas and find new strategies to make a difference in the epidemic so as to achieve optimum reproductive health and well-being of the individuals, families and communities.

CHN 731 **Programme Management**

The module is designed to equip learners with knowledge and skills of programme planning, implementation, monitoring and evaluation in adult health care. Emphasis is on utilisation of interprofessional and multisectoral approaches for effective programme management.

NSc 734 **Thesis**

This module enables students to utilise research knowledge in the conduct of research on any topic in adult health nursing.

Master of Science in Child Health Nursing

Module Code	Module Name and Descriptor
NSc - BIOS. 611	**Advanced Biosciences**

This module builds on students' previous knowledge in Human Physiology and Pharmacology. The focus is on assisting students to recognize the impact of pathophysiological changes in the human body, as well as the effect of pharmaceutical agents in the human body. Emphasis includes physiology of the pregnant mother, foetus, neonate and children. This knowledge provides students with the biological principles and concepts essential for advanced child nursing practice.

NSc –THEO. 612. **Conceptual & Theoretical Frameworks/Models**

The module is designed to assist students to critically analyse the development and application of selected conceptual and theoretical models of nursing and other disciplines for practice, research, education and management.

NSc –BIOE. 611 **Bioethics**

The module provides opportunity to students to evaluate ethical theories and principles of bio-ethics for application to Child Health Nursing, research, education, administration and clinical practice. Emphasis is placed on professional morals and ethical decision making.

CH. Sc 611 **Professional Development Studies**

The module provides students with an in-depth understanding of child health care origins, approaches and services. It is designed to enable students to explore and analyse the contextual issues that affect the health and survival of children, and measurement of child health. The module also helps students develop knowledge, communication skills and appropriate attitudes to assist them to

provide comprehensive, culturally sensitive, evidence based and family and child-centred care to well and sick children from age zero to eighteen years in a variety of settings.

NSc. – RESE. 611 Research Methods and Statistics

This module is designed to enable students apply research methods to the conduct of research on child health nursing issues, as well as the utilisation of data analysis techniques for both qualitative and quantitative data. Emphasis is also placed on research evaluation and utilization in child health nursing practice.

CH. Sc 621 Advanced Child Health Assessment

This module provides students with advanced knowledge and skills, and appropriate attitudes in the assessment of a well-child using locally available resources. Utilising child and family-centered care models, the assessment focuses on health and developmental aspects of the child from birth to 18 years. The module also introduces students to genetic screening and counseling, and common genetic anomalies in the Malawian population.

CH - PRAC. 621 Advanced Child Health Assessment Practicum

This module is clinically based and provides students with the opportunity to link theory gained from Professional Development Studies, Conceptual Frameworks, Biosciences, Bioethics and Advanced Assessment to practice. It helps students to further develop skills in the assessment of a child at all levels of health care using available resources, which will result in the identification and management of individual children's needs. Emphasis is placed on promoting evidence based and culturally sensitive care. The learner will develop skills for interpreting findings of physiological, sociological, psychological and spiritual assessment and their implications on child health.

CH. Sc 631 Advanced Child Health Nursing

The module provides students with advanced knowledge and appropriate attitudes in responding to a range of childhood emergencies, assessment and management of acutely and chronically ill children and their families. In addition, the module provides knowledge on different approaches in advanced child health nursing.

CH. – PRAC. 631 Advanced Child Health Nursing Practicum I

This module is designed to enable students incorporate knowledge, skills and appropriate attitudes acquired from Biosciences, Professional Development Studies, Leadership and Management, Research and Child Nursing speciality modules in the provision of advanced care of the ill children and their families. The focus is on evidence-based and culturally sensitive care of the ill child at

facility and community level, including collaboration with the interprofessional team. Students are expected to be innovative and demonstrate ability to interpret the physiological, pathophysiological, sociological, psychological and spiritual aspects and their implications on child health.

CH. PRAC. 642 **Advanced Child Health Nursing Practicum II**

This module is designed to enable students incorporate knowledge, skills and appropriate attitudes acquired from Biosciences, Professional Development Studies, Leadership and Management, Research and Child Nursing speciality modules in the provision of advanced care of the ill children and their families. The focus is on evidence-based and culturally sensitive care of the ill child at district and community level, including collaboration with the interprofessional team. Students are expected to be innovative and demonstrate ability to interpret the physiological, pathophysiological, sociological, psychological and spiritual aspects and their implications on child health.

NSc. HPPF. 611 **Health Policy, Planning, Financing and Economics**

This module provides knowledge on theories, principles and objectives of health policy, planning and financing. Students compare/critique selected national and international models and policies as they relate to health care, planning and financing.

NSc. EDUC. 611 **Education for Health Professionals**

The module provides students with the opportunity to gain advanced knowledge and skills; and to design, implement and evaluate learning experiences. Emphasis is placed on the application of teaching, learning and evaluation strategies for education.

CHN PROG. 623 **Programme Management**

The module is designed to equip students with knowledge and skills of programme planning, implementation, monitoring and evaluation in adult health care. Emphasis is on utilisation of interprofessional and multisectoral approaches for effective programme management.

NSc. 642 **Dissertation**

This module provides knowledge on the research process. Students will apply knowledge and skills, acquired from NSc. THEO. 611, NSc. BIOE. 611, NSc. RESE.611, CH. Sc 611,, CH. Sc. 621, CH. PRAC 621, CH. Sc 631, CH. Sc. PRAC. 631, and CH. Sc - PRAC 641, to produce adissertation.

Department of Clinical Nursing

Members of staff in this department are committed to maintaining excellence in clinical teaching and supervision through integration of knowledge from research, consultancy, professional and personal development. Innovative leadership is central to the fulfilment of the department's mission.

The Clinical Nursing department is responsible for organizing and coordinating all clinical nursing activities at the college. The department contributes to training student nurses to become competent, effective and safe professional nurse practitioners by offering clinical courses from Year One to Year Four of the BSc. Generic Programme and Year One of Mature Entry Programme. Students are allocated in hospital and community settings for clinical practice. At the end of each allocation, the students are evaluated.

FACULTY OF MIDWIFERY, NEONATAL AND REPRODUCTIVE HEALTH STUDIES

Department of Midwifery

University Certificate in Midwifery

Module Code	Module Name and Descriptor
MID SC 501	**Anatomy and physiology of Obstetrics**
	This course provides a basis for understanding the changes which occur in pregnancy, labour and puerperium. The course builds on BI 101, Human Anatomy and Physiology studies in year one of Bachelor of Science in Nursing programme (Generic). The major emphasis of the course is on the physiological processes related to the reproductive system, embryology and foetal development.
MID SC 502	**Midwifery Science l (Low Risk)**
	This course gives an introduction to the midwifery profession. It also provides fundamental concepts basic to the practice of midwifery. Basic midwifery knowledge, skills and attitudes relevant for the management of low risk mothers and their families are discussed. The design of this course places emphasis on the use of problem solving approach, midwifery management process and application of biological and physiological concepts in the management of low risk mothers and families in health care delivery and community settings. Strategies for screening and identifying high-risk women and their families are introduced to assist the students make early identification and appropriate referrals.
MID 502	**Clinical Midwifery l (Low risk)**
	This course builds on the concepts, knowledge, skills and attitudes acquired in Midwifery Science l (**MID SC 502**) in the provision of care to low risk mothers and their families. Emphasis is placed o individualized, clinically and culturally acceptable management process. Critical thinking skills and the risk concept

approach are utilized throughout.

NEO SC 501 **Neonatology l (Low Risk)**

This course provides knowledge, skills and attitudes necessary for the management of low risk neonates in health care facility and community settings. The midwifery management process and problem solving skills are applied to assist students develop relevant skills and attitudes essential for the management of low risk neonates.

MID SC 503 **Midwifery Science II (High Risk)**

This course builds on the concepts, skills, knowledge and attitudes studied in the Midwifery Science. The risk concept approach, patient centred problem solving approach and midwifery management process continue to be used to identify and manage common complications of the mother during the maternity cycle. Issues related to high risk parenthood are also examined. Emphasis is placed on management of high risk client/patients in the maternity cycle, decision making in the high risk care and identification of those who need referral for obstetrical or medical management. The role of the midwife in rural and urban settings as a member of the health team is examined.

NEO 501 **Clinical Neonatology l (Low Risk)**

This course builds on concept, knowledge, skills and attitudes acquired in Midwifery Science l **(MID SC 502)** and Neonatology l (**NEO SC 501**) in the management of low risk mothers, their neonates and families. Midwifery management process and critical decision making skills continue to be used to identify and manage the low risk mothers, their neonates and families.

MID 503 **Clinical Midwifery II (High Risk)**

This course builds on Midwifery Science ll **(MID SC 503).** The risk concept approach and midwifery management process are utilised in the management of high risk clients/patients during the antepartum, intrapartum and postpartum periods.

NEO SC 502 **Neonatology ll (High Risk)**

This course builds on Neonatology l **(NEO SC 501)**. Its focus is on the management of high risk neonates within the context of the family unit. The biological and psychosocial aspects are studies as a basis for midwifery practice. Emphasis is placed on the role of the midwifery in improving services to high risk neonates with the purpose of decreasing mortality and morbidity rates and improving the quality of life of high risk neonates. Integrated Management of Childhood illness guidelines and midwifery management process are utilized in the management of these high risk neonates.

NEO 502 **Clinical Neonatology (High Risk)**

This course builds on the concept, skills, knowledge and attitudes acquired in all midwifery theoretical and clinical courses. The risk concept approach of integrated management of childhood illness guidelines and the midwifery management process continue to be utilized to identify and manage common complications of the high risk neonates.

Bachelor of Science in Midwifery (KCN-MID)

Year One

Module Code	Module Name and Descriptor
BIO 111	**Bio-Sciences I**

This module provides students with knowledge of the levels of structural organization of the body and interrelatedness of the various body systems. It further provides students with understanding of biochemical processes.

CIS 112 **Communication and Information Systems**

This module provides students with knowledge and skills in language and communication, information and communication technology including information literacy relevant to nursing and midwifery.

FOU 113 **Foundations of Midwifery**

The module introduces students to the science and art of midwifery focusing on theoretical, conceptual, practical perspectives of the profession and professional development trends.

HIV 114 **HIV and AIDS**

The module provides current information on HIV and AIDS infection and prevention. It equips students with knowledge, attitudes and skills necessary to protect self and others. It also helps students to support and encourage those who have the virus to live positively. It also provides information on life skills.

BEH 115 **Behavioural Sciences**

This module covers the disciplines of psychology and sociology and their application to nursing and midwifery sciences. The module emphasises on psychosocial care of patients.

MED 116 **Midwifery Education**

This module is designed to prepare students to their role as midwifery educators. Focus is placed on principles and theories of midwifery education.

CHM 117 **Community Health Midwifery Science I**

This module introduces students to basic principles of community health midwifery, community health context for public health and Maternal child health services.

CHP 118 **Community Health Midwifery Practice I**

The module introduces students to community health services of relevance to community health midwifery and population health. Students also gain insight on how public health systems operate in relation to communal services, industry, occupational and environmental health.

PHA 121 **Pharmacology**

The module provides students with basic knowledge on role of pharmacology in the management of commonly encountered medical and obstetric conditions.

HAS 122 **Health Assessment**

This module is designed to equip students with appropriate knowledge, attitudes and skills in normal health assessment and recognition of abnormal variations across the life span of patients/clients. Emphasis is placed on the utilisation of the assessment findings in clinical decision making.

FOM 123 **Fundamentals of Midwifery**

This module introduces students to basic midwifery practice, the critical values of professional midwifery practice including fundamental knowledge, skills and attitudes for basic midwifery care.

BIO 124 **Biosciences II**

This module enables students understand the structure and function of the human body and the harmful effects of microorganisms and parasites.

FMP 125 **Fundamentals of Midwifery Practice**

The module builds on Fundamentals of Midwifery theory and assists students develop beginning competences in assessment and basic midwifery care.

Year Two

BIO 211 **Biosciences III**

The module presents an introduction to genetics, conception, embryonic and fetal development. It also embodies specific anatomy and physiology of reproduction and the newborn focusing mainly on structural changes and physiological processes that influence favourable maternal, fetal and neonatal adaptations. Emphasis is placed on the utilization of this information for genetic counselling, preventive health, and maternal, foetal and newborn care.

POM 212 **Professionalism of Midwifery**

The module is designed to enable students value midwifery as a practice discipline and gain understanding of how professional standards, regulation, ethical and legal obligations shape the profession.

WHS 213 **Women's Health Sciences I**

The module introduces students to fertility, infertility and preconceptional care as a basis for providing family planning services and preconceptional care. The midwifery management process is used to guide decision making and care.

WHP 214 **Women's Health Practice I**

In this module, students are given the opportunity to develop assessment skills and clinical competences for managing women and families with infertility, family planning and preconception care needs. The midwifery management process will be used for care decisions.

MID 215 **Midwifery Science I**

This module covers perinatal theory. It is designed to help students develop an understanding of perinatal care. Emphasis is placed on use of woman-centred approach, midwifery management process, reflective thinking, sound clinical judgments and standards of care.

NEO 221 **Neonatal Science I**

The module introduces students to neonatal care of full term healthy and responsive neonates and families using the woman centred approach. Emphasis is placed on meeting newborn baby's bio-psychosocial needs, assisting parents understand and respond to their newborns and develop relevant parenting skills.

ANP 222 **Antenatal Care Practice I**

This module is designed to enable students develop beginning competences to work in partnership with clients in the provision of antenatal care for women and families with no complications. Emphasis is placed on making effective clinical decisions, using acceptable guidelines and standards for antenatal care.

IPC 223 **Intrapartum Care Practice I**

The module provides students with the opportunity to develop beginning competences for intrapartum care of women and families with no complications using a woman centered approach. Use of the midwifery management process, reflective thinking, acceptable guidelines and standards of care are emphasised.

Year Three

RES 311 **Research and Statistics**

This module introduces students to nursing and midwifery research with focus on both quantitative and qualitative approaches. It also introduces students to statistical methods for data analysis. Emphasis is placed on the research process and statistics as well as utilisation of research findings.

PNN 312 **Postnatal and Neonatal Care**

This module allows students to develop beginning competences for postnatal and newborn care using a woman/neonate centred approach and midwifery management process. Health promotion activities, parenting skills, facilitation of newborn adaptation, growth and development and parent-infant interaction are emphasised.

WHS 313 **Women's Health Science II**

The module introduces students to factors that influence women's health including physical, mental, gynaecological and reproductive. Reflective thinking, correct clinical judgment and collaboration with other health care workers are emphasised.

WHP 314 **Women's Health Practice II**

This module is designed to develop competencies for providing general physical, mental and gynaecological health care. The midwifery management process is applied in the care of women with gynaecological, mental health, physical and functional problems.

HSM 321 **Health Services Management and Leadership**

This module is designed to prepare students for their roles as managers of health services. Focus is placed on principles and theories related to health service management. It also provides students with knowledge and skills in management of health information.

HSM 322 **Health Services Management and Leadership Practice**

The module offers students an opportunity to apply knowledge of management and leadership principles and theories to develop appropriate skills and attitudes for delivery of health services in various health care settings.

MID 323 **Midwifery Science II**

In this module, students develop an understanding of care of mothers and families with known complications during the perinatal period. Emphasis is placed on correct interpretation of bio-psychosocial and pathophysiological factors and the use of a woman centred approach and the midwifery management process for care.

NEO 324 **Neonatal Science II**

The module prepares students to provide holistic care to neonates with ill or compromised health, developmental limitations, and functional impairments; understand developmental and pathophysiological context of neonatal care and treatment and make sound neonatal care decisions.

ANP 325 **Antenatal Care Practice II**

The module enables students to develop new competences for comprehensive care of pregnant women and families with medical, obstetrical and mental health problems; for prevention of complications and facilitation of adaptation. Emphasis is placed on collaborative and holistic care.

Year Four

RES 411 **Research Seminars and Dissertation**

This module introduces students to nursing and midwifery research with focus on both qualitative and quantitative approaches. It also enables students to utilise statistical methods and research findings to solve an existing clinical issue or problem of relevance to midwifery practice.

IPC 412 **Intrapartum Care Practice II**

The module is designed to assist students develop competencies for the holistic care of women and families with intrapartum problems, complications and life threatening conditions. The focus is on safety, correct and timely decision making.

PNC 413 **Postnatal Care**

The module prepares students to acquire competencies for postnatal care

of women with medical and obstetric complications and their and families. Emphasis is placed on collaborative care, prevention of complications, accurate decisions, facilitation of postnatal adaptations and parenting.

NEO 421 **Neonatal Care**

This module provides the opportunity for students to develop competencies for the care of neonates with complications and emergencies. Emphasis is placed on use of the midwifery management process, maternal/neonatal-centred approach and making correct clinical midwifery decisions.

CHM 422 **Community Health Midwifery Science II**

This module prepares students to understand population health and develop competences for community health midwifery for childbearing women and families at community level using the Primary Health Care (PHC), participatory action and midwifery approaches.

CHP 423 **Community Health Midwifery Practice II**

This module is designed to assist students integrate PHC concepts, participatory action, epidemiological and midwifery approaches for community health midwifery care.

MIE 424 **Midwifery Entrepreneurship**

This module assists students to understand the processes, resources needed and mechanisms of financing, setting up, managing and sustaining midwifery practice as business.

Master of Science in Midwifery

Module Code	Module Name and Descriptor
NSc. BIOS. 601	**Advanced Biosciences**

This module builds on students' previous knowledge in Human Physiology and Pharmacology. The focus is on assisting students to recognise the impact of pathophysiological changes in the human body, as well as the effect of pharmaceutical agents in the human body. This knowledge provides students with the biological principles and concepts essential for advanced nursing practice.

NSc. THEO. 602 **Conceptual and Theoretical Frameworks/Models**

The module is designed to assist students to critically analyse the development and application of selected conceptual and theoretical models of nursing and other disciplines for practice, research, education and management.

NSc. LEAD. 603 **Leadership and Management in Nursing/Midwifery Practice**

This module provides students with advanced knowledge and interpersonal skills in leadership and management in order to promote quality performance and outcomes in health care.

NSc. BIOS. 611 **Bioethics (10 Credits)**

The Module provides the opportunity to students to evaluate ethical theories and principles of bio-ethics for application to maternal and neonatal health, research, education, administration and clinical practice. The emphasis is on ethical, moral and professional decision making based on human rights.

NSc. EDUC. 611 **Nursing Education**

The module provides students with the opportunity to gain knowledge and skills in educational strategies and curriculum development in order to facilitate teaching and learning among peers, clients and the community.

NSc. RESE.604 **Research Methods and Statistics**

This module builds on the students' knowledge on the application of research methods to nursing and midwifery problems, as well as data analysis techniques for qualitative and quantitative data. Emphasis is also placed on research evaluation and utilization in nursing/midwifery.

NSc. HPPF. 605 **Health Policy Planning and Financing**

This module provides knowledge on theories, principles and objectives of health policy, planning and financing. Students compare/critique selected national and international models and policies as they relate to health care, planning and financing.

Mid. Sc. 600 **Advanced Midwifery Science Theory**

This module builds on students' previous knowledge in Anatomy and Physiology of Obstetrics, and basic midwifery. The module provides in-depth knowledge of advanced physiology and midwifery practice. Emphasis is on the students' ability to interpret the physiological and pathophysiological changes for advanced midwifery practice.

Mid. Sc. 601 **Advanced Practice in Nursing and Midwifery**

The module provides students with advanced knowledge, skills and appropriate

attitudes to enable them critically analyse nursing practice to ensure quality improvement based on current research findings. In addition, students develop skills to appraise professional performance and explore quality improvement strategies and initiatives.

Mid. Sc. 603 **Integrated Advanced Midwifery Practicum**

This module is designed to enable students apply knowledge, skills, and appropriate attitudes acquired from advanced Physiology, Midwifery Science I and II in the provision of care to perinatal mothers and their families. Emphasis is placed on promoting evidence based care and implementing change.

Mid. Sc. 604 **Reproductive Health, HIV and AIDS**

The module provides students with advanced knowledge in Reproductive Health issues, including gender, HIV and AIDS to facilitate empowerment of women and men to achieve optimum reproductive health and well being within the individual, family and community. The module enables students develop strategies to address the various problems/needs.

Mid. Sc. 605 **Advanced Neonatal Science Theory and Practicum**

This module builds on students' previous knowledge in anatomy and physiology of the neonate and basic neonatal care. Emphasis is on the students' ability to interpret the physiological and pathophysiological changes for advanced neonatal practice.

CHN 631 **Program Management**

This module is designed to equip students with knowledge and skills of program planning, implementation, monitoring and evaluation in community settings. Emphasis is placed on application of community nursing centre model and utilisation of interprofessional and multisectoral approaches for effective program management.

Mid. SC. 606 **Community Midwifery Theory and Practicum**

The module provides in-depth knowledge of community midwifery and neonatal care. Emphasis is on the students' ability to analyse environmental, sociocultural, political and economical determinants of maternal and neonatal health and implement strategies for improving maternal and neonatal care.

Mid. Sc. 634 **Dissertation**

This module provides knowledge on the research process. Students will apply knowledge and skills, acquired from NSc. Theo 602, NSc. RESE 604, NSc. HPPF 605, Mid. Sc. 600, Mid. Sc. 601 Mid. Sc. 603, Mid. Sc. 604, Mid. Sc. 605,

Mid. Sc. 606 and other modules to produce a dissertation. Emphasis is placed on originality of the research.

Master of Science Degree in Reproductive Health

Module Code	Module Name and Descriptor
NSc. 711	**Advanced Biosciences**
	This module builds on students' previous knowledge in Human Physiology and Pharmacology. The focus is on assisting students to recognize the impact of pathophysiological changes in the human body, as well as the effect of pharmaceutical agents in the human body. This course provides the students with knowledge of biological principles and concepts essential for advance practice.
NSc. 712	**Conceptual and Theoretical Frameworks/Models**
	The module is designed to assist students to critically analyse the development and application of selected conceptual and theoretical models of nursing and other disciplines for practice, research, education and management.
NSc. 713	**Leadership and Management**
	This module provides students with advanced knowledge and interpersonal skills in leadership and management in order to promote quality performance and outcomes in health care.
NSc. 714	**Bioethics**
	The module provides an opportunity to students to evaluate ethical theories and principles of bio-ethics for application to maternal and neonatal health, research, education, administration and clinical practice. The emphasis is on ethical, moral and professional decision making based on human rights.
NSc. 715	**Education for Health Professionals**
	The module provides students with the opportunity to gain knowledge and skills in educational strategies and curriculum development in order to facilitate teaching and learning among peers, clients and the community.
NSc. 721	**Research Methods and Statistics**
	This module builds on the students' knowledge on the application of research methods, as well as data analysis techniques for qualitative and quantitative data. Emphasis is also placed on research evaluation and utilisation.

NSc. 722 **Health Policy Planning and Financing**

This module provides knowledge on theories, principles and objectives of health policy, planning and financing. Students compare/critique selected national and international models and policies as they relate to health care, planning and financing.

NSc. 725 **Gender and Health**

The module empowers students to critically analyse gender as it relates to health and other disciplines for practice, research, education and management to influence the planning, application and implementation of gender sensitive programs and policies at different levels.

NSc. 726 **Maternal and Neonatal Care**

This module builds on students' previous knowledge in anatomy and physiology of obstetrics, and basic maternal and neonatal care. The module provides in-depth knowledge of physiological and pathophysiological processes of pregnancy, labour, puerperium and the neonate. Emphasis is placed on the students' ability to interpret the physiological and pathophysiological processes and their implications on maternal and neonatal outcomes. Students are also equipped with knowledge and skills of promoting community mobilisation for improving maternal and neonatal care with a focus on participatory communication design.

NSc. 727 **STI/HIV and AIDS**

The module equips students with advanced knowledge in STI, HIV and AIDS as they relate to Reproductive health issues, to facilitate development of a moral duty, to adopt innovative ideas and find new strategies to make a difference in the epidemic, so as to achieve optimum reproductive health and well-being of the individuals, families and communities.

NSc. 728 **Women's and Men's Reproductive Health**

The module is designed to assist students to critically analyse SRH issues surrounding men and women. Emphasis is placed on social-cultural, economic, environmental, behavioural and political factors that affect men's and women's fertility and reproductive health.

NSc. 729 **Adolescent Reproductive Health**

The module is designed to equip students with advanced knowledge on adolescent reproductive health focusing on developmental issues, gender, risks and contextual factors that affect adolescence and adolescent reproduction and health.

NSc. 730 **Integrated Reproductive Health Practicum**

This module is designed to enable students apply knowledge, skills, and appropriate attitudes acquired from physiology of obstetrics, gender and health, STI, HIV and AIDS, maternal and neonatal care, men's and women's reproductive health and adolescent modules in the provision of reproductive care to individuals and families on both hospital and community settings. Emphasis is placed on promoting evidence based, and culturally sensitive care and innovativeness.

NSc. 734 **Dissertation**

In this module, students apply knowledge and skills acquired from NSc. 712, NSc. 713, NSc. 714, NSc. 721, NSc. 726, NSc. 728, NSc. 730 and other modules in the production of a dissertation. Emphasis is placed on originality of the research, scientific rigor and relevance of the research to needs of Malawians.

Doctor of Philosophy in Interprofessional Health Care Leadership

Module Code	Module Name and Descriptor

HCL. 735 **Philosophical and Theoretical Perspectives in Health Care**

This module is designed to assist students to analyse philosophical and theoretical perspectives in healthcare. Emphasis is placed on examining the development of the philosophy of science as it relates to the evolution of the nursing and other health care related disciplines, including theory development, and its application to health care research and practice. The interrelationships among philosophy, theory development, research, and practice is analysed as they relate to nursing and other health related disciplines.

HCL. 736 **Interprofessional Collaboration for Education, Research, and Leadership in Health Care**

This module provides a critical overview and analysis of research and policy recommendations related to the importance of interprofessional collaboration in health care, research and education. Students analyse barriers and facilitators to Interprofessional collaboration and develop a proposal to enhance such collaboration in a selected health care or educational setting.

BIS. 737 **Biostatistics I**

This course introduces students to statistical concepts and analytical methods used in biological medical and other health related research. It aims at preparing students to apply or use statistical tools to analyse data and interpret the results.

HCL. 738 **Quantitative Research Methods and Design**

This course is designed to prepare students with the research knowledge and skills to use current research findings and improve practice. Students are prepared to use the process of research to examine questions identified in one's biological, medical and health related practice, as well as to contribute to expansion of professional knowledge base. This course will include integration of the following elements and or activities: critical thinking, synthesis of quantitative research literature, scholarly writing, scientific integrity, human diversity and social issues. The advanced practice role emphasis of this course is that of investigator, research collaborator and content expert in a selected practice field.

HCL. 739 **Qualitative Research Methods and Design**

The module provides students with a sound knowledge base to conduct rigorous and robust qualitative research and to critically appraise such research.

BIS. 740 **Biostatistics II**

This course is designed to develop students' expertise in more advanced methods of statistical analyses, research designs and modelling that are utilised in biological, medical research and other health related research. Students gain the skills to design, analyse and interpret results of statistical data analyses and will further be able to critically evaluate scientific research protocols, presentations and papers. Topics include analysis of variance, parametric and non-parametric tests and multiple regressions.

HCL. 741 **Advanced Leadership, Management, and Policy for the Health Professions**

This core course builds on master's level coursework on leadership, management and policy in health care. It is designed to prepare doctoral health professions students to apply theories in health care leadership, management and health policy in: (1) analysis of an organization and development of proposals to address challenges identified, (2) analysis of a health policy and development of a proposal to improve existing policy in a selected area of health care, (3) self-analysis of leadership style to identify strengths and weaknesses, and (4) development of a personal leadership plan to guide future professional development.

HCL. 742 **Responsible and Ethical Conduct of Research**

The module provides an opportunity to students to understand guidelines, concepts and principles which underpin the ethical conduct of health related research. Emphasis is placed on engaging students in productive discussions about ethical issues that are commonly encountered during the conduct of research.

HCL. 743 **Dissertation**

The module is designed to advance students' knowledge and skills of the research process. Students will apply knowledge and skills acquired from masters course work and doctoral modules (HCL 801, HCL 802, BIS 803,HCL 804, HCL 805, BIS 806, HCL 807, HCL 808, and HCL 809). Emphasis is placed on originality of the research, scientific rigor and relevance of the research to the needs of Malawians. Dissertation seminars will be conducted prior to commencing work on the dissertation proposal.

Department of Clinical Studies

Doctor of Philosophy (Option 1 – Nursing) (Option 2 – Midwifery)

Module Code	Module Name and Descriptor
NUR 750	**Philosophical and Theoretical Perspectives**

This module is designed to assist students to analyse philosophical and theoretical perspectives in health care. Emphasis is placed on examining the development of the philosophy of science as it relates to the evolution of the nursing and other health care related disciplines, including theory development, and its application to health care research and practice. The interrelationships among philosophy, theory development, research, and practice will be analysed as they related to nursing and other health related disciplines.

NUR 751 **Issues and Trends in Health Care Delivery System**

The module is designed to assist students to evaluate the issues and trends that have shaped nursing/midwifery and health care practice, education, and research. Emphasis will be placed on historical, technical, political, and social forces affecting nursing and health care in Malawi and globally.

BIS. 737 **Biostatistics I**

This course introduces students to statistical concepts and analytical methods used in biological, medical and other health related research. It aims at preparing students to apply or use statistical tools to analyze data and interpret the results.

NUR 752 **Theory Development**

The module surveys the history of nursing theory development with special emphasis placed on the approaches to concept and theory development and factors affecting these approaches. Issues such as the level of theory, where theory derives are examined in the light of the needs of a practice discipline. Students examine the components of theory and role that theory plays in research, practice, and education. Future directions for theory development in nursing/ midwifery are explored.

NUR 753 **Quantitative Research Methods and Design**

This course is designed to prepare students with the research knowledge and skills to use current research findings and improve practice. Students are prepared to use the process of research to examine questions identified in one's biological, medical and health related practice, as well as to contribute to expansion of professional knowledge base. This course includes integration of the following elements and/or activities: critical thinking, synthesis of quantitative research literature, scholarly writing, scientific integrity, human diversity and social issues. The advanced practice role emphasis of this course is that of investigator, research collaborator and content expert in a selected practice field.

NUR 754 **Qualitative Research Methods and Design**

The module is designed to prepare students with sound knowledge and skills related to the conduct of rigorous and robust qualitative research. Students are prepared to understand philosophy of science parameters underpinning different qualitative research approaches. Emphasis is placed on developing students' ability to formulate research questions, develop effective research design, apply the most appropriate methods to address the research questions and understand how to analyse, interpret and present qualitative results. Students should further be able to critically appraise such research.

BIS. 740 **Biostatistics II**

This course is designed to develop students' expertise in more advanced methods of statistical analyses, research designs and modelling that are utilised in biological, medical research and other health related research. Students should be able to design, analyse and interpret results of statistical data analyses and will further be able to critically evaluate scientific research protocols, presentations and papers. Topics include analysis of variance, parametric and non-parametric tests and multiple regression.

NUR 755 **Advanced Leadership, Management, and Policy for Health Care**

This course builds on master's level coursework on leadership, management, and policy in health care. It is designed to prepare doctoral health professions students to apply theories in health care leadership, management, and health policy particularly in: (1) analysis of an organization and development of proposals to address challenges identified, (2) analysis of a health policy and development of a proposal to improve existing policy in a selected area of health care, (3) self-analysis of leadership style to identify strengths and weaknesses, and (4) development of a personal leadership plan to guide future professional development.

NUR 756 **Responsible and Ethical Conduct of Research**

The module provides an opportunity to students to understand guidelines, concepts and principles which underpin the ethical conduct of health-related research. Emphasis is placed on engaging students in productive discussions about ethical issues that are commonly encountered during the conduct of research.

EPI 700 **Epidemiology of Maternal and Neonatal Health**

The course provides an opportunity for students to examine the effect of social conditions and programmatic strategies for maternal and neonatal health. Students are grounded in epidemiology of reproductive and neonatology to better understand complex conditions.

EPI 701 **Epidemiology of Chronic Diseases**

This module provides an opportunity for students to explore how chronic diseases tend to share certain characteristics and causes that are inherited and those that originate from lifestyle and social factors. Students are grounded in epidemiology of chronic diseases to better understand these complex conditions.

NURS 757 **Scholar Practicum I**

The module is designed to assist students apply knowledge, skills, and appropriate attitudes acquired from Advanced Leadership, Management, and Policy in a hospital setting. Emphasis is placed on application of theories in nursing leadership, management, and health policy frameworks to improve patient care and staff performance.

NUR 758 **Scholar practicum II**

This module enables students to acquire training and development in research skills tailored to a specific project. The students will apply knowledge, skills, and appropriate attitudes of research process acquired from master's course work and doctoral modules (NUR 750, NUR 751, BIS 737, NUR 752, NUR 753, NUR 754, BIS 740, NUR 755, NUR 756, NUR 757). The students will be attached to an organization that is implementing research relevant to their area of interest.

HCL. 743 **Dissertation**

The module is designed to advance students' knowledge and skills of the research process. Students apply knowledge and skills acquired from master's course work and doctoral modules. Emphasis is placed on originality of the research, scientific rigor and relevance of the research to the needs of Malawians.

THE POLYTECHNIC

The Polytechnic has five faculties, namely: Faculty of Applied Sciences, Faculty of Built Environment, Faculty of Commerce, Faculty of Education and Media Studies and Faculty of Engineering.

Calendar 2016-2018

The college offers undergraduate and postgraduate programmes outlined below.

FACULTY OF APPLIED SCIENCES

Diploma Programmes

- Diploma in Industrial Laboratory Technology

Undergraduate programmes

- BSc in Environmental Health
- BSc in Environmental Science & Technology
- BSc in Industrial Laboratory Technology
- BSc in Information Technology
- BSc in Management Information Systems
- BSc in Mathematical Sciences Education

Postgraduate Programmes

- MSc in Water Resources and Supply Management (MWRSM)
- MSc in Environmental Protection and Management (MEPM)
- MSc in Environmental Health (MEH)
- MPhil in Applied Sciences (Industrial Process Technology)
- MPhil in Applied Sciences (Environmental Protection and Management)
- MPhil in Applied Sciences (Environmental Health)
- PhD and MPhil in Applied Sciences (Environmental Sanitation)
- PhD and MPhil in Applied Sciences (Renewable Energy)
- PhD in Applied Sciences (Public Health Engineering)
- PhD in Applied Sciences (Information Technology)

FACULTY OF BUILT ENVIRONMENT

Undergraduate Programmes

- Bachelor of Science in Architectural Studies – 4 years
- Bachelor of Science in Land Economy – 5 years
- Bachelor of Science in Land Surveying – 5 years
- Bachelor of Science in Physical Planning – 5 years
- Bachelor of Science in Quantity Surveying – 5 years

FACULTY OF COMMERCE

Undergraduate Programmes

- Bachelor of Accountancy – 4 years
- Bachelor of Business Administration (Generic) – 4 years
- Bachelor of Business Administration (Marketing) – 4 years
- Bachelor of Laws in Commercial Law – 4 years
- Bachelor of Commerce (Entrepreneurship) – 4 years
- Bachelor of Commerce (Internal Audit) - 4 years
- Bachelor of Commerce (Tourism Management) –4 years
- Bachelor of Procurement and Logistics Management –4 years

Postgraduate Programmes

- Master of Business Administration (MBA)– 2 years
- PhD in Entrepreneurship
- PhD in Strategic Management
- PhD in Financial Management

FACULTY OF EDUCATION AND MEDIA STUDIES

Undergraduate Programmes

- Bachelor of Arts in Business Communication – 4 years
- Bachelor of Arts in Journalism – 4 years
- Bachelor of Education (Business Studies) – 4 years
- Bachelor of Education (Technical) – 4 years
- Bachelor of Technical Education (Science) – 4 years

Postgraduate Programmes

- Master of Vocational & Technical Education (MVTE) – 2 years
- Master of Arts in Health and Behavioural Change Communication (MHBCC) – 2 years

FACULTY OF ENGINEERING

Diploma Programmes

- Diploma in Automobile Engineering

- Diploma in Biomedical Engineering
- Diploma in Civil Engineering
- Diploma in Electrical and Electronics Engineering
- Diploma in Electronics and Computer Engineering
- Diploma in Electronics and Telecommunication Engineering
- Diploma in Mechanical Engineering
- Diploma in Fabrication and Welding Engineering
- Diploma in Mining Engineering Mining
- Diploma in Metallurgy and Mineral Processing Engineering
- Diploma in Geological Engineering Mining

Undergraduate Programmes

- Bachelor of Civil Engineering (Transportation) (Hons)
- Bachelor of Civil Engineering (Water) (Hons)
- Bachelor of Civil Engineering (Structures) (Hons)
- Bachelor of Electrical and Electronics Engineering (Hons)
- Bachelor of Electronics and Computer Engineering (Hons)
- Bachelor of Electronics and Telecommunications Eng (Hons)
- Bachelor of Mechanical Engineering (Hons)
- Bachelor of Energy Engineering
- Bachelor of Biomedical Engineering
- Bachelor of Mining Engineering
- Bachelor of Geological Engineering
- Bachelor of Metallurgy and Mineral Processing Engineering
- Bachelor of Industrial Engineering (BIE)
- Bachelor of Mechanical Engineering-Automobile (BAE)

Postgraduate Programmes

- Master of Science in Infrastructure Development
- Master of Science in Sustainable Engineering Management (Mining, Faculties and Water)

FACULTY OF POSTGRADUATE STUDIES AND RESEARCH

Postgraduate Programmes

- Master of Science in Sustainable Engineering Management (MSEM)
- Master of Science in Infrastructure Development and Management (IDM)
- PhD and MPhil Engineering (Industrial Management)
- PhD and MPhil Engineering (Infrastructure Development & Management)
- PhD and MPhil Engineering (Power and Machines)
- PhD and MPhil Engineering (Telecommunications)
- PhD and MPhil Engineering (Sustainable Engineering Management)
- PhD and MPhil Engineering (Transport Systems)
- Details of programmes and modules offered by each faculty are as follows.

FACULTY OF APPLIED SCIENCES

Department of Physics and Biomedical Sciences

Diploma in Industrial Laboratory Technology

Year One

Module Code	Module Name and Descriptor
APS-BIO 111	**Biology I** This module equips students with a general understanding of the relationships between cells and their environment, the chemistry of life and the organisational set-up of animal and plant life. Topics of study include classification and structure of cells and microscopy.
APS-CHE – 111	**Chemistry I** This module provides students with an introduction to chemistry concepts and their applications. It provides students with knowledge on the nature of matter (mixtures, substances, compounds, elements, atoms and atomic structure and bonding).
EMS-EAP – 111	**English for Academic Purposes** The module introduces students to basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers effective time management skills, understanding of variety of texts, taking fair notes from oral and written texts, writing well researched and documented essays, effective oral presentations, and constructive participation in class and group discussions.
APS-LMG – 111	**Laboratory Management I** This module equips students with skills in the safety and management of science laboratories. Topics covered include general laboratory safety, including accident procedures and first aid applications; use, care, storage and management of chemicals, glassware and electrical and analytical appliances; calibration of analytical glassware and equipment.
APS-MAT - 111	**College Algebra** This module provides students with the necessary foundation mathematics required for courses in their fields of specialisation. Topics of study include sets, elementary algebra and functions.

APS-PHY - 111 **Physics I**

This module provides students with a basis for further study in applied physics as well as developing an awareness of the relationship of physics to the environment. Topics covered include mechanics and mechanical properties of materials.

APS-BIO - 121 **Biology II**

This module is designed to develop students' understanding of ecological interactions and genetics.

APS-CHE- 121 **Chemistry II**

The module provides students with basic knowledge of solutions, water chemistry and chemical kinetics.

EMS-BCO - 121 **Business Communication**

This module equips students with business writing and reading skills for effective business communication. It covers communication theory, barriers to effective communication, technical and business writing skills.

APS-LMG - 122 **Laboratory Management II**

This module provides students with skills in the safety and management of science laboratories. Topics covered include hazardous nature of chemicals and how to handle them, storage of chemicals and the design of science laboratories.

APS-MAT - 122 **Trigonometry and Introduction to Calculus**

This module provides students with the necessary mathematical skills required for courses in their fields of specialisation. Topics covered are trigonometry and calculus.

APS-PHY – 122 **Physics II**

This module equips students with the knowledge of thermal properties of materials, gases, thermodynamics and sound waves. Topics covered include temperature, heat and thermodynamics, waves and optics.

Year Two

APS-BCH - 211 **Biochemistry I**

This module introduces students to the fundamental concepts and principles of biochemistry such as structures and functions of food nutrients and nucleic acids, the composition and structure of enzymes and their properties.

APS-BTQ - 211 **Biological Techniques I**

This module provides students with an understanding of the techniques applied in hematology and immunology.

APS-CHE - 211 **Chemistry III**

This module introduces students to theoretical principles and application of chemical equilibria, thermodynamics, nuclear chemistry and organic chemistry. Topics covered include laws of thermodynamics, enthalpy, entropy, free energy, heat capacity, electrochemistry, nuclear reactions and their products, hydrocarbons and their derivatives.

APS-INF - 211 **Information Technology Packages**

This module introduces students to computer application packages that are necessary in industrial and environmental applications. Students should be able to understand and differentiate different elements contained in different applications within the package as well as effectively determine and use appropriate application software within the package for the intended work.

APS-LMG – 211 **Laboratory Management III**

This module equips students with skills in purchasing, bookkeeping and budgeting. Topics covered include purchasing, storage and disposal of stocks and effective budgeting.

APS-MAT - 211 **Linear Algebra and Calculus**

This module covers concepts in linear algebra and calculus to equip students with sufficient mathematical knowledge to apply linear algebra and calculus techniques to daily problems, as well as to meet the mathematical needs of students in allied disciplines.

Year Two

APS-AST-221 **Applied Statistics**

This module provides students with the fundamental concepts and methods of statistics. Topics covered include sampling, estimations, hypothesis testing, significance tests, simple regression and correlation.

APS-BCH - 222 **Biochemistry II**

This module provides students with knowledge of the functions of nutrients and enzymes and their importance in the industry. It also provides knowledge on functions of nucleic acids in organisms and during protein synthesis.

APS-BTQ - 222 **Biological Techniques II**

This module provides students with an understanding and application of various separative and determinative techniques in biological studies. Topics covered include serology, histology, fluorimetry, electrophoresis, polarimetry, centrifugation, filtration and colourimetry.

APS-INM - 221 **Introductory Microbiology**

This module provides students with an understanding of microbial bioscience, culture and control techniques. Topics covered include microbiology, culture, preservation, sterilization and disinfection techniques.

APS-MAT - 222 **Linear Programming**

This module equips students with the knowledge of linear programming in carrying out various industrial processes to enable them come up with the optimal results.

APS-REM - 221 **Research Methods**

This module is designed to enable students use research as a problem-solving technique in the practice of industrial laboratory technology. It also prepares them to develop a research proposal. Topics of study include introduction to research methods, literature review, sampling, projects, study designs, validity of designs, data collection, report writing and dissemination of results.

Year Three

APS-ANC - 311 **Analytical Chemistry I**

This module introduces students to classical chemical analytical techniques and their applications. Topics covered include principles of environmental sampling and analysis, assessment and interpretation of analytical data, titrimetric and gravimetric analysis.

APS-BCH - 311 **Biochemistry III**

This module provides students with adequate knowledge of the chemical reactions that occur during processing and preservation of foods. It also gives insights into energy transfers during carbohydrate synthesis (photosynthesis) and energy changes that take place during metabolism.

APS-EES - 311 **Electrical and Electronics Services I**

This module provides students with basic knowledge and skills in analysing electrical circuits. Topics covered include laws in electronics and their calculations, resistors, current and voltage, transformers and diodes.

APS – EMA-311 **Environmental Monitoring and Assessment**

In this module, students acquire the intellectual and practical skills needed to undertake an environmental monitoring and assessment. Topics covered include spatial and temporal environmental monitoring, environmental sampling, data management systems, introduction to environmental impact assessment and legislation.

APS-IQM – 321 **Introduction to Quality Management**

This module provides students with working knowledge of the concepts and principles of quality management and their application in industry. Topics covered include fundamentals of quality, quality systems and implementation of ISO 9001, ISO 17025 and ISO 14000.

APS-PRO - 300 **Project**

This module focuses on the application and integration of knowledge and skills acquired from Research Methods (APS-REM-221). The module provides students the opportunity to demonstrate independence and originality in planning and organizing a research project in an area of their choice. Students are guided to conduct the research projects by supervisors.

APS-ANC - 322 **Analytical Chemistry II**

This module introduces students to instrumental analytical techniques and their applications. Topics covered include chromatography, mass spectrometry, spectroscopy and refractometry.

APS-IMB - 321 **Industrial Microbiology**

This module acquaints students with the application of food microbiology in the industry. Topics covered include application of microbial culture techniques in industry, microbial food products and microbial quality assurance.

APS-IIC – 321 **Introduction to Industrial Chemistry**

This module provides students with the fundamental principles of industrial chemistry. Students acquire basic knowledge on relationships between process variables in the processing industry and commodity chemical production.

APS-HSE-321 **Health, Safety and Environmental Issues in Industrial Processes**

This module provides students with an awareness of health, safety and environmental issues and some of the important legislation relating to them.

APS-EES - 322 **Electronics and Electrical Services II**

This module provides students with the fundamental skills in measurements and instrumentation. Topics covered include measurement systems, basic electronic measurement instruments, signal generators, data acquisition systems and fiber optic measurements.

APS-PRO - 300 **Project**

This module focuses on the application and integration of knowledge and skills acquired from Research Methods (APS-REM-221). The module provides students the opportunity to demonstrate independence and originality in planning and organizing a research project in an area of their choice. Students are guided to conduct the research projects by supervisors.

Calendar 2016-2018

BSc in Environmental Science and Technology

Year One

Module Code	Module Name and Descriptor
BIO 101	**Biology I**
	The course equips students with a general understanding of the relationships between cell and its environment, the chemistry of life, and the organizational set-up of animal and plant life. Topics of study include cellular structure, nutrition and function, animal bioscience, plant bioscience and biological chemicals (carbohydrates, lipids, amino acids, proteins, nucleic acids, enzymes and mineral salts). It also covers application of microbial products.
CHE 101	**Chemistry I**
	The course provides students with an introduction to the understanding and application of chemical concepts. It provides students with knowledge of the nature of matter (mixtures, substances, compounds, elements, atoms and atomic structure and bonding). It also covers composition and reaction stoichiometry, solutions, titrations and preparation of salts.
COS 101	**Communication Studies I**
	This module introduces students to basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers effective time management skills, understanding of variety of texts, fair notes from oral and written texts, well researched and documented essays, effective oral presentations, and constructive participation in class and group discussions.
LMG 111	**Laboratory Management**
	The module equips students with skills in the safety and management of science laboratories. Topics covered include general laboratory safety including accident procedures and first aid applications; use, care, storage and management of chemicals, glassware and electrical and analytical appliances; calibration of analytical glassware and equipment; and plans, designs and sites of science laboratories

MAT 101 **Mathematics I**

This course provides students with the necessary foundation mathematics required for courses in their fields of specialization. Topics of study include foundations (sets, systems, binomial theorem, combinations) and functions (linear, quadratic, cubic, power, piecewise - defined, polynomial and inverse).

PHY 101 **Physics I**

The course provides students with a basis for further study in applied physics as well as developing an awareness of the relationship of physics to the environment. Topics covered include mechanics, mechanical properties of materials, fluid mechanics.

BIO - 102 **Biology I**

The course develops students' understanding of anatomy and physiology and microbiology. Topics of study include haematological techniques in biology and food microbiology; origin and evolution of life; plant kingdom, animal kingdom, viruses, monera, protists and fungi.

CHE- 102 **Chemistry I**

The course provides students with basic knowledge and comprehension of water, solution and nuclear chemistry, chemical kinetics, application of gas laws and simple organic compounds (their structures, functional groups, naming, identification, reactions and synthesis).

COS - 102 **Communication Studies I**

The module equips students with writing and reading skills for effective communication. It includes writing effective sentences, composition of effective arguments, report writing, oral presentation of reports and arguments, and analysis of fiction work.

INF - 102 **Information Packages**

The module introduces computer application packages that are mainly used in business offices. Students should be able to understand and differentiate different elements contained in different applications within the package; effectively determine and use appropriate application software within the package for the intended work; and troubleshoot problems arising from the usage of IT packages. Topics include spreadsheets, databases, internet and E-mail and power point presentation.

MAT - 102 **Mathematics I**

This course provides students with the necessary foundation mathematics required for courses in their fields of specialisation. Topics of study include sets, basic algebra, functions and graphs, trigonometry and calculus.

PHY - 102 **Physics I**

This course equips students with a sound knowledge of thermal properties of materials, gases, thermodynamics and sound waves. Topics covered include temperature heat and thermodynamics, waves and sound and noise pollution.

Year Two

BIO - 201 **Biology II**

This module provides students with an understanding of the techniques applied in haematology, serology and immunology. Topics covered include haematological, immunological and serological techniques.

BCH - 201 **Biochemistry**

This module provides students with a thorough understanding of the principles of biochemistry. Students study principles of biochemistry in food technology. Topics of study include structural and functional properties of nutrients, nucleic acids, carbohydrates, lipids, amino acids and proteins; properties and functions of enzymes in food industry and food preservation.

CHE - 201 **Chemistry II**

This module introduces students to the study of the theory and application of thermodynamics and redox and transition element chemistry. Topics of study include laws of thermodynamics, enthalpy, entropy, free energy, heat capacity, electrochemistry, standard electrode potentials, galvanic cells, fuel cells, rechargeable cells, redox titrations and transition metal catalysis, colour, and complex formation.

COS - 201 **Communication Studies II**

This module equips students with skills required for effective business communication. It covers the elements of the communication theory, application of the principles of the communication theory, writing effective memos, letters, reports and research proposals and presentation of well documented project reports using appropriate visual aids.

MAT - 204 **Mathematics II**

This module further develops concepts in calculus to equip students with sufficient mathematics knowledge to apply calculus techniques to daily problems, as well as to meet the mathematical needs of students in allied disciplines. Topics covered include review of limits and continuity, differentiation, integration, numerical integration and vectors.

PHY - 201 **Physics II**

This module offers students a solid foundation in electricity, magnetism and optics to prepare them for more advanced courses in physics. Topics of study include electricity, magnetism and optics.

BIO - 202 **Biology II**

This module provides students with an understanding of plant and animal tissue and the application of various separative and determinative techniques in biological studies. Topics covered include histology, spectroscopy, chromatography, fluorimetry, electrophoresis, polarimetry, centrifugation, filtration, flame photometry and calorimetry.

BCH - 202 **Biochemistry II**

This module provides students with an understanding of metabolic processes of carbohydrates, proteins and nucleic acids; photosynthesis and application of lipid technology in biochemistry.

CHE - 201 **Chemistry II**

This module equips students with an understanding of the theory and application of industrial chemistry, reaction mechanisms in organic chemistry and gravimetric analysis.

COS – 202 **Communication Studies II**

This module equips students with skills required for professional communication. It covers the properties of technical writing, writing effective reports and research proposals, oral communication in business situations and presentation of well documented project reports using appropriate visual aids.

MAT – 207 **Mathematics**

This module helps students to master the fundamentals of abstract linear algebra by emphasising concepts and proofs. Topics of study include linear systems and matrices; linear equations and systems; matrices; echelon forms; solving linear systems; determinants; cofactor expansion and Cramer's rule; and vector spaces; othorgonality and linear transformations.

PHY – 202 **Physics II**

This module introduces the basic principles of quantum and nuclear physics to prepare students for more advanced courses. Topics covered include spectra, the photoelectric effect, the Rutherford atom, the Bohr atom, dual nature of light, nuclei structure, binding energy, radioactivity and nuclear reactions.

Year Three

PHY – 309 **Applied Nuclear Physics I**

This module helps students to develop a basic understanding of how the principles and methods of nuclear physics are put into practice to serve the needs of a modern society. Topics covered include interaction of radiation with matter; radiation detection and nuclear fission.

STT – 313 **Applied Statistics**

This module provides students with the fundamental concepts and methods of statistics. Students are expected to possess a basic understanding of descriptive and inferential statistics, and their practical use in making decisions in business and industry. Topics covered include sampling procedures and data collection; random variables and probability distribution; sampling distribution; estimations; hypothesis testing; significance tests; regression and correlation; time series and statistical quality control.

CHE 305 **Analytical Chemistry I**

This module introduces students to chemical analytical techniques and their applications. Topics covered include principles of environmental sampling and analysis, assessment and interpretation of analytical data and titrimetric analysis. The importance and practice of quality assurance and quality control are also discussed.

PHY - 308 **Atmospheric Physics I**

This module equips students with skills in understanding and interpreting physical processes governing atmospheric behavior. Topics covered include earth's atmosphere, atmospheric temperature variations, solar radiation, moisture and atmospheric stability, rising air, cloud formation and precipitation.

PHY – 311 **Electronics I**

This module provides students with the fundamental skills essential for analysing both analog and digital electronic circuits. Topics covered include semiconductor materials properties, diode circuits and application, characteristics and direct current biasing of bipolar junction and field effect transistors, systems approach, digital circuits and operational amplifiers.

PHY - 310 **Energy, Technology and Industry I**

This module helps students to develop an adequate understanding of energy and technology. Topics covered include definition of energy and its forms, energy related environmental problems, trends and projections in energy use, energy resources and review of first and second laws of thermodynamics.

CHE – 306 **Environmental Chemistry I**

This module equips students with knowledge of soil and air quality management. It introduces students to the study of the sources, reactions, transport, fate and effects of chemical species in the physical environment, with special emphasis on atmosphere and geosphere. The module also provides a brief overview of the management of contaminated air and soils. Topics covered include environmental segments, geochemistry, soil quality and land use, air pollution and control, air quality models and soil and air criteria.

CHE - 307 **Environmental Process Technology I**

This module equips students with an understanding of fundamental principles of process technology and industrial pollution control. Topics covered include flux of matter, mass balance analysis, sorption processes, colloidal systems and industrial air emissions control mechanisms.

FSC - 301 **Food Chemistry I**

This module equips students with an understanding of the physical, chemical and functional properties of water, proteins and lipids during processing and storage. Topics covered include effects of water activity and moisture content on food quality and shelf-life, introduction to food proteins and lipids and changes during processing and storage of protein based foods.

FSC – 302 **Food Processing**

This module equips students with adequate knowledge of unit operations in food processing technology. Topics covered include raw material preparation, heat processing of foods, food preservation methods, baking and roasting and packaging.

FSC – 303 **Food Toxicology**

This module helps students to develop an understanding of fundamental principles of food toxicology. Topics covered include terminologies and classification of toxicants, mechanism of action of toxicants and toxicity assessment, sources, mode of entry and the effects of heavy metals and pesticide residues on humans, medicinal chemicals, toxicological safety of food additives, mutagens, carcinogens and teratogens.

NRM – 312 **Natural Resource Management**

This module enables students to develop an understanding of the need for sustainable utilisation of natural resources. Topics of study include renewable and non-renewable natural resources, tragedy of the commons, public involvement in natural resource conservation and management, valuing natural resources, challenges and critical issues.

MAT - 312 **Mathematics**

This module enables students to master the techniques of solving differential equations, have basic knowledge of the underlying theory, and appreciate application of mathematics in other fields such as natural sciences, economics and demography. Topics covered include partial and first and higher order linear differential equations, series solutions of linear differential equations and systems of equations.

Year Three

PHY - 314 **Applied Nuclear Physics II**

This module develops further the basic understanding of how the principles and methods of nuclear physics are put into practice to serve the needs of a modern society. Topics of study include nuclear fusion, applications of nuclear techniques and biological effects of radiation.

CHE – 309 **Analytical Chemistry II**

This module introduces students to instrumental analytical chemistry techniques and their applications. Topics covered include chromatography, mass spectrometry, infra red and UV- visible spectrophotometry, refractometry, atomic absorption spectrophotometry and nuclear magnetic resonance.

PHY - 312 **Electronics II**

This module provides students with transistor modeling techniques for analysis and design of analog and digital electronic circuits. Topics of study include small signal analysis and frequency response of modeling of bipolar junction transistor and field effect transistors; compound configurations; linear - digital integrated circuits; modeling and designing electronic devices.

PHY - 313 **Energy, Technology and Industry II**

The aim of this module is to develop in students an adequate understanding of energy technology applications in relevant industries. Topics of study include internal combustion engines, external combustion engines, turbines, refrigeration and heat pumps, heat generation and management, waste heat management and energy applications.

ENT - 317 **Entrepreneurship**

This module aims to create and foster an entrepreneurial spirit in graduating students to become job creators and not job seekers so as to assist Malawi achieve economic growth and socio-economic development. Topics covered include entrepreneurship and creativity, managing creativity, and business opportunities and management.

CHE - 310 **Environmental Chemistry II**

This module equips students with knowledge on water quality management. It introduces students to the study of the sources, reactions, transport, fate and effects of chemical species in the physical environment,

with special emphasis on natural water resources. Topics covered include water quality characteristics and criteria; aquatic processes and their impact on water quality; major water quality problems in Malawi; water pollution control and integrated water resources management.

CHE - 308 **Environmental Process Technology II**

This module equips students with knowledge of industrial processes. Topics covered include reactors, mixing processes, role of enzymes or catalysts, microbial growth and inhibition and suspended growth systems

FSC- 305 **Food Chemistry II**

This module equips students with knowledge of micronutrients, cereal behaviour under different conditions, physiochemical properties of foods and the application of various techniques in nutrient analysis. Topics of study include functional properties of micronutrients; theory and practice of modern methods of protein, lipid and micronutrient analysis; dispersed systems and cereal rheology.

MAT – 308 **Mathematics**

This module aims to expand students' mathematical abilities in Real Analysis consistent with degree level expectations. Topics covered include revision of set theory; elementary Point-Set topology; metric spaces; real numbers; functions of a real variable; integration theory (Riemann or Lebesgue); and Lebesgue measure theory on real numbers

REM – 314 **Research Methods**

This course is designed to enable students to use research as a problem-solving technique in the practice of public health. It also prepares them to develop a research protocol for their dissertation in Year 4. Topics of study include introduction to research methods, literature review, variable's hypothesis, sampling, projects, study designs, validity of designs, data collection, budget, report writing and dissemination of results.

FSC – 304 **Sensory Evaluation of Food**

This module helps students to develop an understanding of human senses and their role in evaluation of food and product development. Topics covered include functions and applications of sensory evaluation; anatomy of the visual senses and olfactory region in relation to colour, odour, taste and flavour of foods; food quality attributes in the way they are perceived; sensory tests techniques; and use of sensory evaluation in product development and shelf life studies.

Year Four

PHY – 411 **Electronics III**

This module equips students with skills in the utilisation of integrated electronic devices in circuit applications with regards to their operations, characteristics and limitations. Topics of study include power amplifiers, active filters, feedback principles and oscillators, Schmitt trigger circuits and power supplies – voltage regulators.

PHY - 409 **Energy and the Environment I**

This module introduces students to the role of energy in the environment. Topics of study include review on energy fundamentals, electric energy and power, thermodynamic principles, global warming and waste heat.

CHE - 401 **Environmental Chemistry III**

The module enables students develop an understanding of the monitoring techniques and fate and impact of organic pollutants in the environment. Topics of study include translocation and transformation of organic chemicals in the environment, persistent organic compounds (POPs), experimental approaches to environmental monitoring of organic pollutants and case studies.

CHE - 403 **Environmental Process Technology III**

This module focuses on the application and integration of knowledge and skills acquired from environmental process technology I and II (CHE – 307 and CHE - 308). The module provides students with the opportunity to demonstrate independence and originality in planning and organising a process technology through case studies, putting into practice some of the techniques they have been taught in CHE – 307 and CHE - 308.

ENL - 411 **Environmental Law**

The module is designed to equip students with the knowledge of basic legal concepts and principles to enable them interpret and enforce environmental laws within defined parameters. Topics of study include introduction to law, general principles of law, international (transboundary) laws, environmental law in Malawi and its enforcement.

FSC - 401 **Food Chemistry III**

This module provides students with working knowledge of the chemical and biochemical properties of carbohydrate foods, fruits and vegetables and effects of additives on nutritional and organoleptic properties of

food. Topics of study include introduction to carbohydrates, chemical processes in carbohydrate, browning reactions, post-harvest changes in fruits and vegetables, food additives and fortificants, and theory and practice of carbohydrate analysis.

FSC - 405 **Food Policy**

This module equips students with knowledge of legislative, environmental, social and technical factors that influence food production. Topics of study include food security, ecosystems and factors affecting world food production, trends in food production and marketing, animal and fish production, use of biotechnology in food production and novel proteins, food consumption and its effects on nutrition, and government policies on agricultural production.

FSC - 402 **Introduction to Nutrition**

This module equips students with knowledge of the role of nutrients in promoting and maintaining human health and methods of nutritional assessment. Topics of study include nutrition and human health, over-processed foods and human nutrition, methods of nutritional assessment, tools for designing a healthy diet, food fortification and enrichment, and food security and nutritional security concepts.

PHY - 410 **Optics and Laser Technology**

The module introduces students to basic concepts and principles of optics and laser technology. Topics of study include wave optics, introduction to lasers, laser radiation hazard classification, safety standards and precautionary and protective measures.

MAT - 414 **Mathematics**

The aim of the module is to develop students' mathematical abilities in abstract algebra as the main tool underlying discrete mathematics and the digital world. Topics of study include properties of integers, groups, rings and fields.

PRO – 418 **Project**

This module focuses on the application and integration of knowledge and skills acquired from Research Methods (REM-313). The module provides students with the opportunity to demonstrate independence and originality in planning and organising a research project in an identified area of their choice and to put into practice some of the techniques learnt in the programme. Students are guided to conduct the research projects by supervisors.

QMG - 408 **Quality Management**

This module provides students with working knowledge of the concepts and principles of quality management and their application in industry. Topics of study include fundamentals of quality, quality systems and implementation if ISO 9001 and ISO 14000.

SWM – 414 **Solid Waste Management**

The module is designed to equip students with in-depth knowledge and skills necessary to protect human health and the environment through collection and proper disposal of solid waste. The module also helps students to understand the chemical principles in treatment and management of solid wastes. Topics of study include introduction to municipal solid waste management, waste generation aspects, waste collection, storage and transport, waste disposal and waste processing techniques.

WAT – 417 **Water Treatment**

The aim of this course is to equip students with knowledge on the importance of sources and management of water supply, and sanitation problems associated with mismanagement of water facilities. Topics of study include water as a resource, municipal water abstraction, treatment processes (physical, chemical) and distribution, guidelines for drinking water standards, performance of urban water supply utilities and water demand and supply.

Year Four

PHY – 412 **Energy and the Environment II**

This module equips students with advanced knowledge of various types of energy resources and the implication stemming from consumption of energy. Topics of study include review of principles of nuclear physics, solar energy as a renewable source, alternative renewable energy sources (hydropower, wind power, geothermal energy, biomass, wave and tidal); energy conservation; future energy research priorities and energy policy.

ENE - 422 **Environmental Economics**

This course introduces students to basic economic theories and their application to environmental issues. Topics of study include definition of economics, demand and supply analysis, factors of production, concept of externality, structural adjustment policy, and economic analysis of pollution, population growth and environmental degradation.

EIA – 402 **Environmental Impact Assessment and Auditing**

The course equips students with skills necessary for conducting and reviewing environmental impact assessment (EIA) and auditing. Topics of study include principles of EIA, EIA process and techniques, EIA attributes and analysis, importance of environmental audit and agenda 21 of the United Nations.

FSC – 403 **Food Microbiology**

The module helps students to develop an understanding of the relationship between microorganisms and food with respect to food safety, quality and shelf life. Topics of study include sources and characteristics of food microbes; factors influencing microbial growth in food microbial food spoilage and control in specific food groups; food borne illnesses; hazard analysis critical Control point (HACCP) and detection of microorganisms in food and food environment.

FSC - 406 **Food Legislation and Safety**

The module equips students with basic knowledge of food law, a framework for legal systems required for the production of safe and wholesome foods. Topics of study include food law and the Food and Drug Administration Act; general food standards and the Codex Alimentarius Commission; stages in the formulation of national and international food standards, consumer education and Consumers International (CI); product liability and warranties; and food safety and enforcement of food laws including bio-safety regulations affecting genetically modified organisms (GMOs)

GIS – 414 **GIS and Remote Sensing**

The module introduces a basic theoretical understanding of GIS concepts and technical issues. It focuses on working independently with various types of geographical data in GIS, analysing different data using GIS, and integrating spatial and non-spatial databases. Topics of study include geographical information systems, data quality and remote sensing.

MAT - 415 **Mathematics**

This module develops students' mathematical abilities in complex analysis consistent with degree level expectations. Topics of study include complex numbers, analytic functions, complex integration and residue theory.

Postgraduate Prodgrammes

Master of Science in Water Resources and Supply Management

Module Code	Module Name and Descriptor
APS-IWM-5 -1:	**Principles of Integrated Water Resources Management** The module presents the latest insights, context and concepts in integrated water and environmental resources management. It equips students with knowledge on water and sustainable development; concepts, tools and principles of IWRM; economics of water; water governance; mathematical models for IWRM and water science communication.
APS-WRS-5 -1:	**Water Resources** This module focuses on understanding the physical systems and the interactions between water quality and quantity, and between atmosphere, surface, rocks, soil and groundwater. It covers climate change and water resources management; wastewater, storm water and river systems; the porosity and permeability of porous materials; fluid, energy and mass transport in porous media; Boreholes, village level operation and maintenance (VLOM) and Community based management of boreholes.
APS-RMS-5 -1:	**Research Methodology** The module aims to develop the intellectual skills and knowledge required to understand and undertake research in the area of water resources and supply management and to present and interpret findings in a suitable manner. It covers qualitative, quantitative and mixed methods research approaches and considers the contexts within which different methods are useful and how they should be applied in practice.
APS-WMA-5 -2:	**Water Quality Monitoring and Assessment** The module addresses common and critical water pollution factors, including indicators, sources, causes and effects of pollutants. This topic demonstrates and applies appropriate monitoring, water quality data analysis, modelling, role of wetlands in the catchment and risk assessment in case studies and simulated settings.
APS-WPO-5 -2:	**Water Pollution** This module enables students know water pollutants, pollutant sources, effects, translocation, transformation, bioaccumulation and biomagnifications, toxicology and risk assessment and pollution control strategies.

APS-WEL-5 -2: **Water and Environmental Law**

The module helps students to understand the need for water related national and international environmental legislation including dispute resolution, and to become familiar with the most appropriate institutional and management arrangements for integrated water resources management.

APS-CAM-5 -2: **Catchment Management**

This module provides a theoretical background and develops practical skills of students for the management of watersheds taking into account developmental, food, environmental and institutional aspects and placing this in the context of integral river basin management.

APS-MWO-5 -2: **Managing Water Organisations**

The module provides students with insights into what makes a water organisation and its managers effective in addressing changing demand for services, and demonstrates how this effectiveness can be sustained.

APS-WSS-5 -2: **Water Supply and Sanitation**

This module covers technical and engineering options, standards and developments. Students match water supply and sanitation technology to a wide range of local conditions in order to ensure sustainable performance and technical reliability.

APS-WSU-5 -2: **Water Sector and UtilityManagement**

The module provides a general introduction to the subject of water services management and policy. Specifically, students analyse and discuss different institutional arrangements and management options for providing water services.

APS-FMW-5 -2: **Financial Management in theWater Sector**

The module enables students tackle finance issues at utility level. It suggests different ways of financing water companies and undertaking cost-recovery for sanitation and wastewater treatment. It dispels current myths about finance mechanism by clarifying concepts, objectives and tasks.

APS-GIS-5 -1: **Geographical Information Systems (GIS) and Remote Sensing**

This module enables students to understand geographic information, how it is collected and how it is analysed using field survey, remote sensing, geographic information systems, cartography and global positioning systems.

APS-DIS-6-1/2: **Thesis**

This module provides students with an opportunity to engage in scholarly research work in an appropriate area of their choice under suitable supervisory guidance. The module, therefore, covers selection of an appropriate research topic, preparing research proposal, critical literature review, methodology, data analysis techniques, analysing and presentation of qualitative and quantitative data, and dissemination of research findings through papers, thesis and oral presentations.

Master of Science in Environmental Protection and Management

Module Code	Module Name and Descriptor
APS-RMS-511:	Research Methodology

This module aims to develop the intellectual skills and knowledge required to understand and undertake research in the area of environmental management and to present and interpret findings in a suitable manner. It covers qualitative, quantitative and mixed research approaches, strategies, and methods and considers the contexts within which different methods are useful and how they should be applied in practice.

APS-GIS-511: **Geographical Information Systems and Remote Sensing**

This module enables students to understand geographic information, how it is collected and how it is analysed using field survey, remote sensing, geographic information systems, cartography and global positioning systems.

APS-DIS-612: **Thesis**

This module provides students with an opportunity to engage in a substantial piece of scholarly research work in an appropriate area of specialisation under suitable supervisory guidance. The module, therefore, covers selection of an appropriate research topic, preparing research proposal, critical literature review, methodologies, analysis and presentation of qualitative and quantitative data, and dissemination of research finding through papers, theses and oral presentations.

APS-CTE-521: **Cleaner Technology**

This module brings together new scientific understanding of environmental processes with relevant management skills to develop new integrated environmental management solutions at relevant scales including field, city, catchment, industry, national and global. It provides a holistic approach, ensuring the environment is managed to deliver a full range of ecosystem services, including agriculture, forestry, biodiversity conservation, environmental protection, air and water management and economic consequences.

APS-EMM-521: **Environmental Monitoring and Modelling**

This module enables students to acquire necessary intellectual and practical skills needed to undertake environmental monitoring and modelling. Topics of study include spatial and temporal environmental monitoring, environmental sampling and analysis, data management systems and environmental modelling.

APS-EPI-511: **Environmental Policy and Implementation**

The module is designed to equip students with knowledge of basic legal concepts and principles to enable them interpret and enforce environmental laws within defined parameters. Topics of study include introduction to law; general principles of law; international (Transboundary) laws; environmental law in Malawi and its enforcement.

APA-WMT-511: **Environmental Waste Management and Treatment**

The module is designed to equip students with in-depth knowledge and skills necessary to protect human health and the environment through collection and proper disposal of waste. This module also helps students to understand the chemical, physical and biological principles in the treatment and management of solid wastes.

APS-GEI-521: **Global Contemporary Environmental Issues.**

The module is designed to equip students with in-depth knowledge and practical skills on emerging environmental issues. Topics of study include environmental economics and valuation, climate change, loss of biological diversity, land degradation and desertification, deforestation and forest degradation, aquatic ecosystem degradation and depletion of stratospheric ozone.

APS-EAM-521: **Environmental Assessment**

The module equips students with skills necessary for conducting and reviewing environmental assessment and auditing. Topics of study include principles of Environmental Risk Assessment (ERA), Health Impact Assessment (HIA), Strategic Environmental Assessment (SEA), Social Impact Assessment (SIA) and Environmental Justice Assessment (EJA) and Integrated Impact Assessment.

Department of Environmental Health

Bachelor of Science in Environmental Health

This is a four-year programme which aims at producing a generalist graduate environmental health officer. The following modules are offered under this programme:

Year One

Module Code	Module Name and Descriptor
BIO 100:	**Biology**
	The aim of this module is to equip students with a general understanding of the relationships between living organisms and their environment. Topics of study include cellular structure and function, animal bioscience, plant bioscience and general ecology.
MAT 101:	**Mathematics**
	This course aims at providing students with the necessary foundation mathematics required for modules in year two of study. Topics of study include sets, basic algebra, functions and graphs, trigonometry and calculus.
PHY 102:	**General Physics**
	The aim of this course is to provide students with a basis for further study in applied physics as well as developing an awareness of the relationship of physics to the environment. Topics covered include mechanics, properties of materials, electricity and magnetism, waves and optics, sound and noise pollution, heat and thermodynamics, and fluid mechanics.
CH 103:	**Chemistry**
	The course aims at providing students with an introduction to the understanding and application of chemical concepts. Topics of study include atomic theory, periodic table, matter, gas laws, solution chemistry,

chemistry of water, organic chemistry, reaction mechanisms and radio chemistry.

EH 105: **Medical Entomology**

The course aims at acquainting students with arthropods which are of public health concern. Topics of study include phylum, arthropoda classes, insecta, arachnida, pentastomida, and general control of arthropods.

EH 106: **Communicable Disease Control**

The aim of this course is to enable students diagnose, prevent and control the common communicable diseases in Malawi. Topics covered include faecal-oral route diseases, contact diseases, air-borne diseases, zoonoses and disease control.

COS 107: **Communication Studies**

The course aims at equipping students with effective communication skills required for an environmental health worker. Topics of study include introduction to the communication process, technical writing, comprehension and vocabulary extension, problem-solving and decision making.

Second Year

EH 201: **Construction Technology**

The aim of this course is to introduce students to building structures and the strength of construction materials. Topics of study include load on structures, bending moments and shear forces, structural design, stress, strain and construction materials.

EH 202: **Construction Drawing**

The course aims at introducing students to the principles and applications of technical drawing in building construction and services. Topics of study include general drawing principles, projections and basic geometry, three dimensional drawing and free hand sketching, lettering and dimensions, graphic and pictorial methods of design and presentation, and drawing applications.

MAT 203: **Mathematics**

The course aims at providing students in environmental health with the mathematics and statistics they need for analysing environmental impact

assessment and epidemiological data. Topics of study include calculus, series, first order differential equations, vector, matrices, probability, descriptive statistics, probability and distributions.

BIO 200: **Biology II**

The course aims at enabling students develop an understanding at a more advanced level of specialised topics in applied biology. Topics of study include haematological techniques, histological techniques, immunological techniques, serological techniques, separative and determinative techniques in biology, and food microbiology.

BIO 201: **Biochemistry**

The aim of this course is to provide students with thorough grounding in principles of biochemistry for them to be able to apply the principles of biochemistry in food technology. Topics of study include food nutrients, enzymes and coenzymes, carbohydrates metabolism, lipids, protein metabolism, nucleic acid metabolism and protein biosynthesis, intermediary metabolism, and food preservation.

EH 205: **Meat Inspection Theory**

The aim of this course is to introduce students to the theory and practice of meat inspection. Topics of study include cells and tissues, vascular system, urogenital system, food animals and meat inspection.

EH 206: **Parasitology**

The course aims at acquainting students with helminths and protozoa of medical and veterinary importance as they affect the health of the public. The course includes the study of methods of control and eradication. Topics of study include helminths classes, public health importance of parasites, and methods of their control.

ER 207: **Communicable Diseases Epidemiology**

The aim of this course is to enable students identify, prevent and control parasitic diseases. The course also enables students to understand the distribution of diseases among people and how to develop control strategies. Topics of study include vector-borne diseases, helminthic diseases, rodent control, epidemiological concepts, descriptive epidemiology, epidemiological aspects of control of infectious diseases, screening in detection of disease, and maintenance of health and sources of data on community health.

EH 208: **Hydrology and Hydraulics**

The course aims at orienting students to the various hydraulics and hydrology principles which can be applied in water resources management systems. Topics of study include fluids, liquid pressures and head, fluid mechanics, hydraulic structures, hydrology concepts, precipitation, evaporation, groundwater, surface runoff, and water resources.

EH 209a: **Health Psychology: General Psychology**

The course aims at enabling students acquire knowledge of psychology for them to understand human behaviour relating to health and healthy living. Topics of study include learning theories, perception and attention, human motivation, child development, and personality.

EH 209b: **Health Psychology; Social Psychology**

The course aims at introducing students to how people behave in groups and examine how such behaviour influences social interaction and the decision-making process. Topics of study include theories of social psychology, group process, attitude development and deviance.

EH 209: **Sociology**

The aim of this course is to make students understand sociological inquiry, basic sociological concepts and the functioning of social structure. Students should also be able to explain government structure and process as they relate to administration of public health services with emphasis on the delivery of health services. Topics of study include sociology concepts, stratification, social institutions, social demography, constitution of Malawi, the legislature, the judiciary, the executive, the civil service, and local government.

Third Year

EH 301: **Water Treatment**

The course aims to equip students with in-depth knowledge of water supply systems for both urban and rural communities. Topics of study include the water cycle, water quality criteria, unit operations and processes in water treatment, coagulation and flocculation, the filtration process, the disinfection process, rural water supplies, and rural water demand.

EH 302: **Construction Technology 2**

The aim of this course is to make students understand the principles of construction of buildings and cost estimation of single buildings. Topics of study include preliminary site works, substructure construction, superstructure construction, mortar, roof, doors and windows, building estimates, and substructure estimation.

EH 303: **Building Services**

The course aims at equipping students with knowledge and techniques of heating, ventilation and lighting in order to enable them to professionally investigate and report on the status of habitable buildings and factories as stipulated by relevant laws and bye-laws. Topics of study include warmth, thermal comfort, space heating, heat generation, ventilation, air conditioning, humidification, measurement of heat comfort levels and air flow, lighting, cold water supply, hot water supply, fire protection services, sanitary fittings, materials and construction of flushing cisterns.

CH 300: **Environmental Chemistry**

The aim of this course is to enable students develop practical skills in the analysis of single chemical compounds and mixtures and apply the knowledge of chemical concepts in solving environmental issues. Topics of study include instrumental analysis, laboratory methods in environmental chemistry, air quality management, monitoring and modelling in air quality management, chemical methods of water and wastewater treatment as well as environmental organic chemistry.

EH 304: **Meat Inspection (Theory and Practical)**

The aim of this course is to introduce students to the theory and practice of meat inspection. Topics of study include conditions, disturbances of circulation, injuries, physiological conditions, specific diseases and parasitic diseases. Students are also exposed to practical meat inspection.

Bio 300: **Food Chemistry 1**

The course aims at broadening students' general understanding of the physical, chemical and functional properties of food proteins and their products during processing and storage. Topics of study include characteristics of food proteins, proteins of milk, proteins of meat, proteins of eggs, proteins of foods of plant origin, novel proteins, and determination of food proteins.

Bio 302: **Food Processing**

The aim of this course is to enable students develop an understanding of the fundamental principles of food processing and preservation. Topics of study include water, preparation of raw materials, food packaging and labelling, exhaust and vacuum of metal containers, thermal processing, food irradiation, dehydration and drying, cold temperature preservation, and food plant sanitation.

EH 305: **Health Management**

The course aims at enabling students to develop a solid understanding of management principles so that they are able to engage in critical assessment of the principles as they apply to management of health delivery services. Topics of study include management theories, planning, organizing, leading, controlling, communication, job design, analysis and description, stores control, and the budgetary process.

EH 306: **Research Methods**

The aim of this course is to enable students to use research as a problem-solving technique in the practice of public health. Topics of study include introduction to research methods, literature review, variables, hypotheses, sampling, projects, study designs, validity of designs, data collection, budget, report writing, and dissemination of results.

MAT 307: **Statistics and Computing**

The aim of this course is to provide students in environmental health with fundamental concepts and methods of statistics, to help them develop critical judgment and decision-making abilities through the use of quantitative methods in examining environmental and epidemiological data. Topics of study include sampling distributions, estimation, hypothesis testing, chi-square and analysis of variance, multiple regressions and correlations, time series, hardware, software, and file management.

Fourth Year

EH 401: **Waste Water Treatment**

The aim of this course is to make students understand wastewater treatment processes, management and design of conventional and low cost treatment plants. Topics of study include sources of wastewater, wastewater collection, wastewater treatment, low cost wastewater treatment, and wastewater reclamation and reuse.

EH 402: **Solid Waste Management**

The aim of this course is to enable students study in-depth solid and hazardous wastes collection, and disposal. Topics of study include solid wastes, refuse storage, refuse collection, transportation of refuse, controlled tipping, composting, pulverization, incineration, separation, trade refuse, hazardous wastes, street cleansing, and law.

ER 403: **Occupational Health**

The course aims at helping students to develop an understanding of the impact that chemicals, radiation, noise, dusts, gases and heavy metals have on human health. Topics of study include physical hazards, radiation and health, dust, chemical hazards, vapours, gases, and asbestos metals.

CH 400: **Environmental Impact Assessment and Audits**

The course aims at helping students to develop skills in conducting an environmental impact assessment and audit in the management of the environment. Topics of study include principles of environmental assessment, environmental impact assessment (EIA) process, EIA attributes and analysis, importance of environmental audit, and geographical information systems.

EHE 409a: **Health Education Methods: Curriculum**

The course aims at equipping students with principles of curriculum development to apply in teaching health promotion and health education in general. Topics of study include models for curriculum, objectives in curriculum planning, selection of learning experiences, selection of content, curriculum designs, evaluation in curriculum development, types of evaluation, teaching methods, and use of learning resources.

EH 405a: **Environmental Economics**

The course aims to enable students understand basic economic theories and their application to health and environmental issues. Topics of study include definition of economics, demand and supply analysis, factors of production, concept of externality, structural adjustment policy, and economic analysis of environmental issues.

EH 405b: **Environmental Law**

The course aims at making students acquire knowledge of the nature and framework of the law so that they understand the principles of the law of tort and environmental law in general. Topics of study include the nature

of law and its sources, the law of evidence, and Malawi environmental policy and management.

EH 406: **Communicable Diseases Epidemiology**

The aim of this course is to provide students with epidemiological knowledge and analytical techniques needed to design and interpret epidemiological studies. Topics of study include review of descriptive epidemiological studies, case control studies, cohort studies, intervention studies, and screening.

EHE 409b: **Health Education Methods**

The aim of this course is to enable students integrate, evaluate and apply theory learnt in years 1, 2 and 3 to plan and implement health education activities, programmes and campaigns. Topics of study include an introduction to and models of health education, health education and communication, communication and adoption of innovations, health education methods, audio-visual aids in health education, school health programme, community diagnosis, and community mobilisation.

Bio 400: **Food Chemistry II**

The aim of this course is to help students understand the chemical and biochemical changes that occur during food processing and storage, which influence quality and acceptability. Topics of study include polysaccharides, cellulose, pectin, browning reactions, post-harvest changes in fruit and vegetables, and colours and food colorants.

EH 408: **Food Commodities and Nutrition**

The course aims at making students acquire theoretical knowledge and practical skills in the inspection of fish and other foods. Students also acquire knowledge on the role of such foods in human nutrition. Topics of study include fish, other foodstuffs, eggs, legislation, malnutrition, assessment of nutritional status and deficiency diseases.

EH 410: **Research project**

The aim of the research project is to make students acquire skills to undertake research work and write a research project.

Postgraduate Programmes

Master of Science in Environmental Health

Module Code	Module Name and Descriptor
APS-EBS-611:	**Epidemiology and Biostatistics**
	This module aims to equip students with the knowledge and skills to make valuable contributions to both epidemiological research and public health. Epidemiological methods underpin clinical medical research, public health practice and health care evaluation to investigate the causes of disease, and to evaluate interventions to prevent or control disease. Epidemiology is a key discipline for understanding and improving global health. This course covers both communicable and non-communicable disease epidemiology.
APS-ESD-611:	**Environmental Health and Sustainable Development**
	This module aims to provide an understanding of how environmental factors affect human health and the measures taken to reduce these risks. It addresses the links between health, environment and sustainable development as well as international and local policy contexts. It outlines the key principles, concepts and theories of sustainable development and environment management in the context of environmental health.
APS-EPC-611:	**Environmental Pollution Control**
	This module introduces fundamental principles of environmental pollution and control and familiarise students with human activities that negatively impact the environment. It further explores how these problems can be mitigated.
APS-FSH-611:	**Food Safety and Hygiene**
	This module aims to raise understanding and achieve good standards of food safety and hygiene. Upon completion, students should have an understanding of a wide range of key food safety issues, including the three main types of food safety hazard, their sources and methods of control.
APS-HCB-611:	**Health Communication and Behaviour Change**
	This module aims to equip students with knowledge of how health information is generated and disseminated and how the information affects individuals, community groups, institutions and public policy. It recognises the need for formal and systematised training of students

in health communication and provides a systematic, rigorous and conceptually grounded training for public health leaders, practitioners and researchers. Health communication is seen to have relevance for virtually every aspect of health and well-being, including disease prevention, health promotion and quality of life.

APS-HIA-612: **Health Impact Assessment**

This module aims to enable students predict potential positive and negative effects of project, programme or policy proposals on health and health inequalities prior to implementation. Health impact assessment is a structured process by which the impacts of policies, plans programs or projects on health can be assessed.

APS-OHS-612: **Occupational Health & Safety**

This module aims to provide students with an understanding of the role of legislation, occupational hygiene controls and safety principles in the management programmes for health and safety. It also enables students identify occupational hazards and associated toxicology to workers.

APS-PMG-612: **Project Management**

This module aims to provide an understanding of the important aspects of project management: project evaluation, project planning, project implementation, and the project review. Also, the management of single projects and multiple projects are considered, utilising both local and distributed resources. Project scheduling, project costs and risk strategies are developed in depth.

APS-RSM-612: **Research Methodology**

The aim of this module is to develop the intellectual skills and knowledge required to understand and undertake research in the area of physical infrastructure development and management and to present and interpret findings in a suitable manner. It covers qualitative, quantitative and mixed methods research approaches and strategies. The module also considers the contexts within which different methods are useful and how they should be applied in practice.

APS-WTS-612: **Water and Sanitation**

The aim of this module is to enable students develop an understanding of the concepts and principles used in integrated planning and management of water resources and appropriate technical alternatives of water supply and sanitation infrastructure and services. The module covers

water resources, integrated water resources management (IWRM); water supply: principles, technologies, processes for water collection, delivery and storage, quality measurement and parameters, operation and maintenance of water supply infrastructure and sanitation in developing countries.

APS-TES-621/622: **Thesis**

This module provides students with an opportunity to engage in research work in an appropriate area of specialisation under suitable supervisory guidance. The module covers critical literature review, selection of an appropriate research topic, methodologies, methods and data analysis techniques, analysing and presentation of qualitative and quantitative data, preparing research proposal and dissemination of research finding through papers, dissertation and oral presentations.

Department of Computing and Information Technology

Bachelor of Science in Information Technology

The BSc in Information Technology is four-year programme. The modules offered are as follows:

Year One

Module Code	Module Name and Descriptor
INF-101	**Information Systems**

The module introduces the role of information systems in organisations and how they relate to organisational policies, procedures, goals, objectives and structure. The main emphasis is on analysing an individual information system (IS) as a combination of the technology, people, organisation and data that support business processes; how IS and ICTs add value to organisations; basic assembly computer system for the office operations; and upgrade and troubleshoot basic technical computer system problems.

PRG-101 **Programming I**

The module covers concepts of computer programme development in problem solving. Students learn how to analyse computer programme requirements, design algorithms using various techniques, and code and test simple computer programs. Preferably, C++ or any other related programming language can be used to demonstrate the mentioned concepts.

NET-101 **Networking I (Network Fundamentals)**

The module introduces fundamental networking concepts and technologies which help in developing in students the skills necessary to plan and implement small networks across a range of applications. It involves planning, cabling, configuring and testing the local area (LAN) with understanding of OSI/TCP models and network address schemes.

MAT-101 **Algebra and Analytical Geometry**

The module introduces the basics of elementary algebra and analytical geometry necessary for the study of information technology. It also includes solving of algebra and analytical geometry problems and application of these two in solving IT and technical problems.

COS-101 **Communication Studies I**

The module develops students' language proficiency and interpersonal skills necessary for communication. It covers effective time management skills, understanding of variety of texts, fair notes from oral and written texts, well researched and documented essays, effective oral presentations, and constructive participation in class and group discussions.

ELE-101 **Introduction to Electricity**

This module provides the essential background in selected topics in electricity for further studies in the information technology. It covers the understanding of basic concepts of electricity and application to information technology.

INF-102 **Information Technology Packages**

The module introduces computer application packages that are mainly used in business offices. Students are expected to be able to understand and differentiate different elements contained in different applications within the package; effectively determine and use appropriate application software within the package for the intended work; and troubleshoot problems arising from the usage of IT Packages.

PRG-102 **Programming II**

The module involves concepts of computer programme partitioning and data management for easy maintainability and re-usability. Students are expected to acquire the skills to partition computer programmes, analyse data requirements of the computer programmes, debug the given programme code and document the computer programme.

NET-102 **Networking II (Switching and LAN Administration)**

The module introduces interconnection and configuration of switches in order to provide network access to LAN users and integration of wireless devices into a LAN. It involves designing switched LAN architecture; configuring LAN switches; creating and configuring Virtual LAN; configuring wireless LAN; and testing and troubleshooting switched LAN.

MAT-102 **Trigonometry & Calculus**

The module strengthens the basics of elementary trigonometry and introduces the fundamentals of calculus. It covers solving trigonometry and elementary calculus problems; and applications of trigonometry and calculus in technical and IT problems.

COS-102 **Communication Studies II**

The module equips students with writing and reading skills for effective communication. It includes writing effective sentences, composition of effective arguments, report writing, oral presentation of reports and arguments, and analysis of fiction work.

ELE-102 **Basic Electronics**

The module introduces the basic electronics behind the Personal Computer (PC). It involves the understanding of the operations of semiconductor devices in a PC; understanding and designing of simple circuits for interface with a PC; use of Integrated Circuits (IC) and cards that interface with a PC; and understanding of how the computer memory work.

Year Two

SAD-201 **Systems Analysis**

The module introduces a practical approach to systems analysis using traditional and modern systems development approaches with emphasis on planning a small computerised information system project; gathering information from different sources using various techniques and analysing user and business needs or requirements; and applying critical thinking skills in analysis of realistic business cases.

PRG-203 **Programming III**

The module introduces general principles underlying the practice of object-oriented (OO) programming and to examine its benefits. It covers

explanation of OO approach to programming; identification of potential benefits of OO programming over other approaches; description of aspects of OO programming; features of an OO programming language for coding efficient programmes from different application areas.

NET-203 **Networking III (Routers and Protocols)**

The module introduces routers, routed and routing protocols, including both static routing and dynamic routing protocols. It covers router and switch functionalities; static and dynamic routing protocols; configuration, testing and troubleshoot of routers; and analysis of routing tables.

MAT-201 **Numerical Analysis**

The module introduces students to solving problems using the computer. It includes recognising problems for which a numerical approach is appropriate, approximating solutions of linear and nonlinear equations, interpolating data points with polynomials, and estimating the numerical values of derivatives and integrals, numerically solving ordinary differential equations, and analysing how and why the algorithms work.

COS-201 **Business Communications I**

This module equips students with skills required for effective business communication. It covers the elements of the communication theory, application of the principles of the communication theory, writing effective memos, letters, reports and research proposals and presentation of well documented project reports using appropriate visual aids.

ELE-203 **Analogue Electronics**

The module introduces the use of a variety of analog electronic components that help to develop skills and knowledge required to understand microprocessor based systems and microcomputers. It focuses on the diodes for a range of applications; unipolar and bipolar transistors in electronic switching circuits; amplifier topologies; and series voltage regulator.

SAD-202 **Systems Design**

The module introduces a practical approach to systems design and implementation using traditional and modern systems development approaches. It focuses on the use of various tools and techniques in systems design and implementation; designing solutions from given user and business requirements; planning systems implementation; analysing

various ways of acquiring software and hardware for a particular business case; and documenting the systems design and implementation.

NET-204 **Networking IV (WAN Technologies)**

The module introduces various WAN technologies for connecting small-sized to medium-sized business networks with emphasis on WAN connection design; planning and documentation of network security measures; and configuration and troubleshooting of protocols for WAN connections and network security.

HWS-201 **Computer Hardware I**

This module presents an in-depth exposure to the computer hardware, peripherals and operating systems. Students learn the functionality of hardware and peripherals as well as best practices in maintenance and safety issues. They also learn to install operating systems, and troubleshoot hardware and software problems.

STA-202 **Applied Statistics**

The module aims at providing students with the ability and skills to display and describe data sets using appropriate statistical techniques and software, enabling students understand elementary probability theory and providing them with the ability to use the logic of statistical inference. The module equips students with knowledge and skills for data presentation and generation using simple probability models, and conducting simple statistical hypothesis tests.

COS-202 **Business Communications II**

This module equips students with skills required for professional communication. It covers the properties of technical writing, writing effective reports and research proposals, oral communication in business situations and presentation of well documented project reports using appropriate visual aids.

ELE-204 **Digital Electronics**

The module develops skills and knowledge required to understand microprocessor based systems and microcomputers. It focuses on the understanding digital systems; distinguishing between the combinational logic and sequential logic systems; building basic logic circuits; and understanding the memory and interfacing.

Calendar 2016-2018

Year Three

OPS-301 **Operating Systems I**

The module provides sufficient understanding of operating system design and how it impacts application systems design and performance. It focuses on the role of operating systems; how an operating system functions; hardware requirements for operating systems; and which application systems can be supported by specific operating systems.

WEB-301 **Web Technologies**

This module introduces modern technologies for website development and customisation of the content management systems to meet customer needs. It focuses on the implementation of high quality websites that serve dynamic content from a database to meet customer needs; application of major technologies and design approach for implementing web sites; and customisation of some free and open source content management systems based on given requirements.

DMS-301 **Database Management Systems**

The module introduces the basic principles of data management in a database environment. It involves understanding the functionality provided by typical database management systems; analysing the data requirements of a database application and developing a proper database schema to support the storage of those data; and integrating a database management system with a general purpose programming environment to create an effective database application.

DSA-301 **Data Structures and Algorithms**

The module provides a comprehensive introduction of common data structures and algorithm design. It includes development of algorithms to solve practical problems and management of data in applications through data structures.

HWS-302 **Computer Hardware II**

The module introduces the assembly of a personal computer and specifications of required computer parts. It involves identifying the most suitable computer parts for building a PC; installing and testing computer devices and peripherals; and troubleshooting problems concerning computer devices and peripherals.

TEL-301 **Telecommunications I**

The module introduces the properties of various transmission media available to digital network systems. It focuses on understanding the major properties of various transmission media available to digital network systems and making the best choice of an appropriate transmission media for a particular application.

OPS-302 **Operating Systems II**

The module introduces the client operating systems and network operating systems with emphasis on Microsoft Windows and Linux Operating Systems. It focuses mainly on distinguishing client and network operating systems; installation and configuration of client Microsoft Windows operating system (Windows XP or later); network Microsoft Windows operating system (Windows Server); and Linux as client and network server.

PRG-306 **Script Programming**

The module introduces script programming and development of simple desktop and web applications. Its emphasis is on use of scripting languages to develop simple windows and web applications and application of object-oriented programming concepts in the script programming. Preferably, PHP or any other related script programming language can be used to demonstrate the mentioned concepts.

HWS-303 **Computer Hardware III**

This module equips students with advanced knowledge and skills in computer troubleshooting and maintenance. It involves customer support, service level agreements, troubleshooting documentation and call centre management, PC troubleshooting process, software and hardware diagnostic tools, peripheral troubleshooting and maintenance, troubleshooting network devices, upgrading and adding extra functionality, error codes and data recovery tools.

RES-301 **Research Methods**

The module introduces knowledge and skills for initiating and designing research projects, collecting and analysing data and disseminating research findings. It includes qualitative and quantitative research methods, research ethics, data collection and analysis techniques, proposal writing, and writing of systematic and scientific research report.

ELE-305 **Micro-Electronics Systems**

The module develops further skills and knowledge required to understand microelectronic systems. It emphasises understanding a microprocessor-based system, its component parts and their interrelated functions; understanding how a machine code programme controls the operation of the overall system; identifying the function and constraints of ICs used in micro-based systems; applying an appropriate methodology to write and test assembly language programme; and developing assembly language programmes to effect serial and parallel interfaces.

TEL-302 **Telecommunications II**

The module is a continuation of Telecommunications I which advances knowledge of the properties of various transmission media available to digital network systems. It focuses on understanding the major properties of specific transmission media available to digital network systems and making the best choice of an appropriate transmission media for a particular application.

Year Four

SAM-405 **Server Administration I**

This module introduces the key concepts in server administration. These include the Command Line Interface for both Windows and UNIX, proper system start up and shutdown, Multi-booting, the Graphical User Interface (GUI), File System permissions, mounting and unmounting file systems, Partioning hard disks, software installations and compilations from source.

IMG-401 **Computer Graphics**

The module introduces theoretical methods for two-dimensional and three-dimensional graphics with applications to visualization techniques. It also offers an opportunity to formulate and implement applications of computer graphics. It includes raster graphics, geometric transformations, viewing models, projections, parametric curves and surfaces, colour theory, visible surface/line determination, illumination and shading.

PRJ-400 **Project**

The module provides students with the opportunity to demonstrate independence and originality in planning and organising a large project over a long period and to put into practice some of the techniques they have learnt throughout the programme. This demonstrates the individuality and inspiration of the student. It is a review and application of knowledge-

building methods and techniques commonly used in executing research designs drawing heavily on qualitative data and information.

SAM-404 **Database Administration**

The module aims at equipping students with skills to administer a database. While a specific database could be used to illustrate the concepts, the overall objective is to give rounded knowledge on issues pertaining to administering a database. These include installation and configuration of a database system, database creation, file system layout, user and role management, granting and revoking database privileges, ODBC, backup and recovery and database security.

PRG-407 **Java Programming I**

The module introduces the basics of Java programming language. It involves the development of applications in Java, working with applets and applications to perform event handling functionality in response to GUI events; and understanding the concepts and practices of multi-threaded applications.

INT-401 **Artificial Intelligence**

The module introduces Artificial Intelligence (AI) with emphasis on the search algorithms and machine learning. Emphasis is on the necessity and application of standard AI techniques to solve problems and evaluation of new techniques encountered.

SAM-406 **Server Administration II**

The module provides students with the skills required to administer a server in an industrial setting. These skills are introduced both from a Windows and UNIX perspective, where relative strengths and weaknesses are emphasised. These skills include installation of operating systems, software installation, user and group management, scripting and network services.

CSS-401 **Computing Security**

The module develops in students an understanding and competence in implementing computing security methods by providing both theoretical and practical experience. It involves understanding and differentiating different methods of computing security; giving advice on different ways of securing computer systems; applying different methods of securing computer systems; and formulating and providing a minimum security policy document for an organisation.

PRG-408 **Java Programming II**

This module introduces many topics in Java related to creating rich desktop applications. The emphasis is on developing GUI desktop applications; working with many classes of the Java library; and developing applications with database connectivity along with client/server architecture.

GIS-401 **Geographic Information Systems**

The module introduces a basic theoretical and practical understanding of GIS concepts and technical issues. It focuses on working independently with various types of geographical data in GIS; analysing different data using GIS; and integrating spatial and non-spatial databases. Any free/open source GIS software can be used to demonstrate the mentioned concepts.

Bachelor of Science in Management Information Systems

Year One

Module Code	Module Name and Descriptor
INF-101	**Information Systems**

The module introduces the role of information systems in organisations and how they relate to organisational policies, procedures, goals, objectives and structure. The main emphasis is on analysing an individual information system (IS) as a combination of the technology, people, organisation and data that support business processes; how IS and ICTs add value to organisations; basic assembly computer system for the office operations; and upgrade and troubleshoot basic technical computer system problems.

PRG-101 **Programming I**

The module covers concepts of computer program development in problem solving. Students learn how to analyse computer programme requirements; design algorithms using various techniques; and code and test simple computer programmes.

NET-101 **Networking I (Network Fundamentals)**

The module introduces fundamental networking concepts and technologies which help students in developing the skills necessary to plan and implement small networks across a range of applications. It involves planning, cabling, configuring and testing the local area (LAN) with understanding of OSI/TCP models and network address schemes.

MAT-101 **Algebra and Analytical Geometry**

The module introduces the basics of elementary algebra and analytical geometry necessary for the study of information technology. It also includes solving of algebra and analytical geometry problems and, application in solving IT and technical problems.

COS-101 **Communication Studies I**

The module develops in students language proficiency and interpersonal skills necessary for communication. It covers effective time management skills, understanding of variety of texts, fair notes from oral and written texts, well researched and documented essays, effective oral presentations, and constructive participation in class and group discussions.

ECN-101 **Microeconomics**

This module introduces basic microeconomic principles, concepts and techniques. It covers the concepts, principles, theories, models and tools that economists use to address microeconomic issues; the ways in which the overall production performance of the economy is measured; economic issues in government policies; contemporary economic problems.

INF-102 **Information Technology Packages**

The module introduces computer application packages that are mainly used in business offices. Students should be able to understand and differentiate different elements contained in different applications within the package; effectively determine and use appropriate application software within the package for the intended work; and troubleshoot problems arising from the usage of IT Packages.

PRG-102 **Programming II**

The module involves concepts of computer programme partitioning and data management for easy maintainability and re-usability. Students are expected to be able to partition computer programmes; analyse data requirements of the computer programmes; debug the given programme code; and document the computer programme.

NET-102 **Networking II (Routers and Protocols)**

The module introduces routers, routed and routing protocols, including both static routing and dynamic routing protocols. It covers router and switch functionalities; static and dynamic routing protocols; configuration, testing and troubleshoot of routers; and analysis of routing tables.

MAT-102 **Trigonometry and Calculus**

The module strengthens the basics of elementary trigonometry and introduces the fundamentals of calculus. It covers solving trigonometry and elementary calculus problems, and applications of trigonometry and calculus in technical and IT problems.

COS-102 **Communication Studies II**

The module equips students with writing and reading skills for effective communication. It includes writing effective sentences, composition of effective arguments, report writing, oral presentation of reports and arguments, and analysis of fiction work.

ECN-102 **Macroeconomics**

This module introduces basic macroeconomic principles, concepts and techniques. It covers the concepts, principles, theories, models and tools that economists use to address macroeconomic issues; the ways in which the overall production performance of the economy is measured; economic issues in government policies and contemporary economic problems.

Year Two

SAD-201 **Systems Analysis**

The module introduces a practical approach to systems analysis using traditional and modern systems development approaches with emphasis on planning a small computerised information system project; gathering information from different sources using various techniques and analysing user and business needs or requirements; and applying critical thinking skills on analysis of realistic business cases.

PRG-203 **Programming III**

The module introduces general principles underlying the practice of object-oriented (OO) programming and to examine its benefits. It covers explanation of OO approach to programming; identification of potential benefits of OO programming over other approaches; description of aspects of OO programming; features of an OO programming language for coding efficient programs from different application areas.

NET-203 **Networking III (Switching and LAN Administration)**

The module introduces interconnection and configuration of switches in order to provide network access to LAN users and integration of wireless

devices into a LAN. It involves designing switched LAN architecture; configuring LAN switches; creating and configuring Virtual LAN; configuring wireless LAN; and testing and troubleshooting switched LAN.

MAT-201 **Numerical Analysis**

The module introduces students to solving problems using the computer. It includes recognising problems for which a numerical approach is appropriate, approximating solutions of linear and nonlinear equations, interpolating data points with polynomials, and estimating the numerical values of derivatives and integrals, numerically solving ordinary differential equations, and analysinganalysing how and why the algorithms work.

COS-201 **Business Communications I**

This module equips students with skills required for effective business communication. It covers the elements of the communication theory, application of the principles of the communication theory, writing effective memos, letters, reports and research proposals and presentation of well documented project reports using appropriate visual aids.

FIN-201 **Financial Accounting I**

This module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting concepts and bookkeeping techniques. Students are expected to be able to prepare financial statements for sole trader businesses.

SAD-202 **Systems Design**

The module introduces a practical approach to the systems design and implementation using traditional and modern systems development approaches. It focuses on the use of various tools and techniques in systems design and implementation; designing solutions from given user and business requirements; planning systems implementation; analysing various ways of acquiring software and hardware for a particular business case; and documenting the systems design and implementation.

NET-204 **Networking IV (WAN Technologies)**

The module introduces various WAN technologies for connecting small-sized to medium-sized business networks with emphasis on WAN connection design; planning and documentation of network security

measures; and configuration and troubleshooting of protocols for WAN connections and network security.

HWS-201 **Computer Hardware I**

This module presents an in-depth exposure to the computer hardware, peripherals and operating systems. Students learn the use of hardware and peripherals as well as best practices in maintenance and safety issues. They also learn to install operating systems and troubleshoot hardware and software problems.

MAT-202 **Applied Statistics**

The module aims at providing students with the ability and skills to display and describe data sets using appropriate statistical techniques and software, enabling students understand elementary probability theory and providing them with the ability to use the logic of statistical inference. The module, therefore, equips students with knowledge and skills for data presentation and generation using simple probability models, and conducting simple statistical hypothesis tests.

COS-202 **Business Communications II**

This module equips students with skills required for professional communication. It covers the properties of technical writing, writing effective reports and research proposals, oral communication in business situations and presentation of well documented project reports using appropriate visual aids

FIN-202 **Financial Accounting II**

This module provides students with the opportunity to apply financial accounting techniques and concepts. The module covers bank, payables and receivables reconciliation, accounting for non-current assets and inventories and incomplete records. It also focuses on year-end adjustments and preparation of statement of cash flows.

Year Three

OPS-301 **Operating Systems I**

The module provides sufficient understanding of operating system design and how it impacts application systems design and performance. It focuses on the role of operating systems, how an operating system functions, hardware requirements for operating systems and which application systems can be supported by specific operating systems.

WEB-301 **Web Technologies**

This module introduces modern technologies for website development and customisation of the content management systems to meet customer needs. It focuses on the implementation of high-quality web sites that serve dynamic content from a database to meet customer needs; application of major technologies and design approach for implementing web sites; and customisation of some free and open source content management systems based on given requirements.

DMS-301 **Database Management Systems**

The module introduces the basic principles of data management in a database environment. It involves understanding the functionality provided by typical database management systems; analysing the data requirements of a database application and develops a proper database schema to support the storage of those data; and integrating a database management system with a general purpose programming environment to create an effective database application. Preferably, MySQL or any other related database management systems can be used to demonstrate the mentioned concepts.

DSA-301 **Data Structures and Algorithms**

The module provides a comprehensive introduction of common data structures and algorithm design. It includes development of algorithms to solve practical problems and management of data in applications through data structures. Preferably, C++ or any other related programming language can be used to demonstrate the mentioned concepts.

FIN-301 **Computerised Accounting**

This module introduces operations and procedures of computerised accounting systems and their importance over the manual systems. It is offered with focus on the creation and management of various accounts and reports; the importance of computerised accounting systems; and understanding the unique internal control challenges presented by computerised accounting systems. Preferably, SAGE or any other related accounting packages can be used to demonstrate the mentioned concepts.

COA-301 **Cost Accounting I**

The aim of this module is to enable students develop skills through study of cost accounting principles and techniques. Students are expected to apply costing techniques to produce information for decision making.

OPS-302 **Operating Systems II**

The module introduces client operating systems and network operating systems with emphasis on Microsoft Windows and Linux Operating Systems. It focuses on distinguishing between client and network operating systems; installation and configuration of client Microsoft Windows operating system (Windows XP or later); network Microsoft Windows operating system (Windows Server); and Linux as client and network server.

PRG-306 **Script Programming**

The module introduces script programming and development of simple desktop and web applications. Its emphasis is on use of scripting languages to develop simple windows and web applications and application of object oriented programming concepts in the script programming. Preferably, PHP or any other related script programming language can be used to demonstrate the mentioned concepts.

SYS-301 **Information Systems Audits**

This module introduces the skills required to examine a company's hardware, software, and data organisation and processing methods to ensure quality control and security and survey the tools necessary to implement an effective IS audit. It focuses on the role of the IS auditor and the IS audit function; the purpose of controls in an information systems environment; assessment of the design, placement and quality of controls; the basic theory underlying computer security policies, models, and problems; application of models for dealing with risk; and the basic issues in auditing computer security policies and mechanisms.

RES-301 **Research Methods**

The module introduces knowledge and skills for initiating and designing research projects, collecting and analysing data, and disseminating research findings. It includes qualitative and quantitative research approaches, research ethics, data collection and analysis techniques, proposal writing, and writing of systematic and scientific research report.

COA-302 **Cost Accounting II**

In this module, students continue to develop skills gained in the cost accounting module. Students apply cost accounting techniques when producing information for decision making. Students are expected to be in a position to make decisions using the information they have produced.

FIN-302 **Financial Accounting III**

In this module, students are expected to apply the knowledge acquired in the previous financial accounting modules to prepare financial statements for partnerships and all aspects of partnerships. Students are introduced to the financial statements of limited liability companies. Students are also expected to interpret financial statements.

Year Four

SAM-405 **Server Administration I**

This module introduces students to server administration concepts. These include the Command Line Interface for both Windows and UNIX, proper system start-up and shutdown, multi-booting, the Graphical User Interface (GUI), File System permissions, mounting and unmounting file systems, partitioning hard disks, software installations and compilations from source. Issues of server software licensing are covered in detail.

IMG-401 **Computer Graphics**

The module introduces theoretical methods for two-dimensional and three-dimensional graphics with applications to visualisation techniques. It also offers students an opportunity to formulate and implement applications of computer graphics. It includes raster graphics, geometric transformations, viewing models, projections, parametric curves and surfaces, colour theory, visible surface / line determination, illumination and shading.

HCI-401 **Human-Computer Interaction**

The module introduces the HCI/Usability, presenting a corpus of knowledge and a practical set of well known, tested and necessary skills. It includes the impact of technology on society and culture; the usability of digital environments, tools and interfaces; and user needs analysis and prototyping.

PRJ-400 **Project**

The module provides the opportunity for students to demonstrate independence and originality in planning and organising a large projects over a long period and to put into practice some of the techniques they have learnt throughout the programme. This demonstrates the individuality and inspiration of students.

MAA-401 **Managerial Accounting I**

In this module, students acquire skills to enable them appraise capital investments, apply standard costing concepts, calculate and interpret variances. Students are also expected to prepare and reconcile integrated and non-integrated accounts.

FIN-401 **Financial Accounting IV**

This module provides students with the skills needed to prepare financial statements in line with the International Financial Reporting Standards (IFRSs). Students should be in a position to account for non-current assets, inventories, intangible assets, provisions, contingent assets and contingent liabilities. Students will also impair assets and recognise revenues in accordance with laid down accounting standards.

SAM-406 **Server Administration II**

This module gives students skills required to administer a server in an industrial setting. These skills are introduced both from a Windows and UNIX perspective, where the relative strengths and weaknesses of each are emphasised. These skills include installation of operating systems, software installation, user and group management, scripting, network services (which includes TCP/IP settings, DHCP, FTP, Email servers, DNS, Proxy Servers, Web Servers, SSH, Name servers, news servers), backup and recovery, server security, Printing, Kernel Compilation, Samba and Active Directories.

MAA-402 **Managerial Accounting II**

In this module, students acquire skills to enable them prepare budgets. The module focuses on the importance of budgets, the budget process, and preparation of budgets, types of budgets and the behavioural aspects of budgeting. Students are also introduced to the concept of Beyond Budgeting.

FIN-402 **Financial Accounting IV**

This module focuses on basic consolidation techniques. Students are expected to be able to consolidate the statement of financial position, statement of comprehensive income and the statement of cash flows. It is also expected that students will account for interests in associates and joint ventures.

GIS-401 **Geographic Information Systems**

The module introduces a basic theoretical and practical understanding of GIS concepts and technical issues. It focuses on working independently with various types of geographical data in GIS; analysing different data using GIS; and integrating spatial and non-spatial databases. Any free/open source GIS software can be used to demonstrate the mentioned concepts.

Department of Mathematics and Statistics

Bachelor of Science Degree in Mathematical Sciences Education (MSE)

Year One

Module Code	Module Name and Descriptor
COM-101:	**Introduction to Computer Systems and Application Packages**

This module is designed to introduce students to a modern computer system and associated application software that can be used to accomplish some specific tasks on a computer.

COM-102: **Procedural Programming I**

This module is designed to introduce students to the craft of computer programming using an appropriate and modern procedural programming language such as C. The module gives students an understanding of basic syntax, structures, programming conventions and concepts essential for any skilled programmer.

MAT-101: **College Algebra**

The module is aimed at giving students the background needed for further study of mathematics and to meet the mathematical needs of students who will subsequently specialise in disciplines other than mathematics.

EDU-101: **Education Foundation Studies**

The aim of this module is to introduce students to the main areas of education theory in order for them to appreciate and get acquainted with the types, purposes and functions of education from a historical perspective.

COS-101: **Communication Studies I**

The module is designed to develop in students' basic cognitive academic language proficiency and interpersonal skills necessary for communication.

COM-103: **Introduction to Computer Architecture**

This module is designed to introduce students to the components of hardware architecture of a modern computer system.

COM-104: **Procedural Programming II**

This module is intended to give an in-depth introduction to the craft of computer programming by introducing students to more advanced concepts in computer programming using an appropriate and modern language.

MAT-102: **Trigonometry and Introductory Calculus**

This module provides the background needed for the further study of mathematics and to meet the mathematical needs of students who will subsequently specialise in disciplines other than mathematics.

STT-101: **Fundamentals of Statistics**

The aim of this module is to provide the background needed for the development of skills and knowledge in further statistical courses and to meet the statistical needs of students for basic data analysis and interpretation.

EDU-102: **Educational Psychology**

The module introduces students to principles and theories of psychology of human development relevant to teaching and learning and to promote understanding of how these principles and theories can be applied to enhancing teaching and learning.

COS-102: **Communication Studies II**

This module equips students with writing and reading skills for effective communication.

Year Two

COM-205: **Introduction to Software Engineering I**

This module is designed to introduce students to the formal process of software development using basic software engineering principles.

COM-207: **Object Oriented Programming**

This module is intended to give students an introduction to the basic concepts of the object-oriented programming paradigm.

MAT-204: **Intermediate Calculus I**

The aim of the module is to further develop concepts in calculus to equip students with sufficient mathematics knowledge to apply calculus techniques to everyday problems, as well as to meet the mathematical needs of students in allied disciplines.

MAT-206: **Discrete Mathematics**

The module provides students with basic knowledge of discrete and combinatorial mathematics.

STT-202: **Probability and Statistics I**

This module provides students with knowledge and skills for quantifying the chances or likelihood associated with various outcomes in a sample space and the ability to mathematically prove probabilities associated with different scientific situations.

EDU-203: **Educational Sociology**

The module introduces students to the theories of sociology and their relationship to education and how to apply them in enhancing the teaching and learning of mathematical sciences.

EDU-204: **Philosophy of Education**

This module introduces students to the field of philosophy and acquaints them with the links between philosophy and education.

COM-206: **Introduction to Software Engineering II**

This module is designed to introduce students to more advanced concepts in the formal process of software development using advanced software engineering principles.

COM-208: **Computer Graphics and Applications**

This module is intended to give students an introduction to basic concepts of computer graphics and its applications.

MAT-205: **Intermediate Calculus II**

This module further develops concepts in calculus and geometry to equip students with sufficient mathematics knowledge to do further mathematics at university level as well as to meet the mathematical needs of students in allied disciplines.

MAT-207: **Linear Algebra**

The aim of this module is to help students master the fundamentals of abstract linear algebra by emphasising concepts and proofs. The module supports many applications in engineering, science, statistics, and operations research, and is a core area in numerical mathematics.

STT-203: **Probability and Statistics II**

This module introduces students to basic concepts in inferential statistics.

EDU-205: **Mathematical Science Education**

The module introduces students to a broad view of mathematical science education (teaching and learning) and the issues associated with it.

Year Three

COM-309: **Operating Systems**

This module is intended to provide students with an introduction to basic concepts in the structure and functions of modern operating systems.

COM-310: **Programming Visual Interfaces**

This module is intended to give students an introduction to the concepts in the building of interactive graphical user interfaces using an appropriate object oriented programming language such as Java.

MAT-308: **Real Analysis**

The module expands students' mathematical abilities in Real Analysis consistent with degree level expectations.

MAT-309: **Multivariable Calculus**

The module is designed to introduce students to multivariable and vector calculus.

MAT-310: **Numerical Methods**

The aim of this module is to enable students understand numerical methods for solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods.

STT-304: **Mathematical Statistics I**

This module is designed to extend students' statistical knowledge and skills in inference.

STT-306: **Data Analysis I**

The aim of this module is to provide a gentle introduction to the classical statistical analysis techniques which will eventually equip students with the necessary tools to carry out a sound statistical research.

EDU-305: **Mathematical Sciences Methodologies**

The aim of this module is to provide students with knowledge and skills necessary for effective teaching and learning of mathematics at secondary school level.

COM-311: **Algorithms and Data Structures**

This module is intended to give students an introduction to concepts in algorithms and data structures.

COM-312: **Computer Networks**

This module is intended to give students an introduction to computer networks.

MAT-311: **Optimisation**

The module aims to equip students with the tools to formulate real-life problems into mathematical models and the ability to solve the models and interpret the solution to enable meaningful decision making.

MAT-312: **Differential Equations I**

This module aims to enable students to master the techniques of solving differential equations, have a basic knowledge of the underlying theory, and to appreciate application of mathematics in other fields such as natural sciences, economics and demography.

STT-305: **Mathematical Statistics II**

The module extends students' knowledge and skills in mathematical statistics and theoretical inference.

STT-307: **Data Analysis II**

The aim of this module is to provide a gentle introduction to the classical statistical analysis techniques which will eventually equip students with necessary tools to carry out a sound statistical research.

EDU-306: **Introduction to Curriculum Theory**

This module introduces students to the theory and practice of curriculum development processes and to help them appreciate the need to organise school life in a way that enhances effective learning.

EDU-307: **Introductory Research Methods**

The module is designed to help students understand the research process, and in particular develop their competences in working independently in conceptualising an investigation, thinking about and conducting their own undergraduate dissertation/research project.

EDU-305: **Mathematical Sciences Methodologies II**

The aim of this module is to provide students with knowledge and skills necessary for effective teaching and learning of mathematics at secondary school level.

COM-413: **Web Programming**

This module is intended to give students an introduction to concepts in website creation and engineering.

COM-414: **Database Management Systems**

This module is intended to give an introduction to concepts in database creation and management techniques.

MAT-413: **Differential Equations II**

This module aims to enable students to extend the techniques of solving differential equations from differential equations I to non-linear systems and partial differential equations.

MAT-414: **Abstract Algebra**

This module is designed to develop students' mathematical abilities in abstract algebra as the main tool underlying discrete mathematics and the digital world.

MAT-415: **Complex Analysis**

The aim of this module is to develop students' mathematical abilities in complex analysis consistent with degree level expectations.

STT-408: **Mathematical Statistics III**

This module equips students with advanced knowledge and skills in mathematical statistics.

STT – 409: **Data Analysis III**

The module provides students with a practical introduction to modern computer-based methods of data analysis.

EDU-410: **Educational Administration and Management**

This module introduces students to theories and practices of educational administration and management.

PhD and MPhil programmes in Applied Sciences

The PhD and MPhil degree programmes in Applied Sciences at The Polytechnic were approved by senate in July 2013. These are based on the PhD and MPhil. Generic Postgraduate Regulations Handbook approved by senate in March 2013. All PhD and MPhil degree programmes are in Applied Sciences with specialisations in the following areas:

- PhD Applied Sciences (Environmental Sanitation)
- PhD Applied Sciences (Public Health Engineering)
- PhD Applied Sciences (Information Technology)
- PhD Applied Sciences (Renewable Energy)

- PhD Applied Sciences (Applied Mathematics)
- PhD Applied Sciences (Applied Statistics)
- PhD Applied Sciences (Industrial Process Technology)
- Mphil Applied Sciences (Environmental Sanitation)
- MPhil Applied Sciences (Industrial Process Technology)
- MPhil Applied Sciences (Environmental Protection and Management)
- MPhil Applied Sciences (Environmental Health)
- MPhil Applied Sciences (Renewable Energy)
- MPhil Applied Sciences (Applied Mathematics)
- MPhil Applied Sciences (Applied Statistics)

The aim of the research degrees is to develop the candidates' scientific competencies and research skills to enable them identify critical issues in public and private sectors requiring science research-based solutions. The programmes are also designed to enhance candidates' ability to carry out complex scientific research to completion that effectively informs policy and develop solutions for emerging challenges.

PhD Programme

The Faculty offers a PhD degree programme in Applied Sciences in which research is carried out in the disciplines of available expertise in the Faculty. These include the following;

- Applied physics and biochemical sciences,
- Environmental and public health sciences,
- Applied computing and information technology,
- Applied mathematics and statistics.

Eligibility, selection procedure, supervision and the research process follow the guidelines outlined in the General Postgraduate Handbook for Polytechnic. PhD candidates are required to take the research methods taught module in the existing MSc programmes. PhD candidates may take other taught modules as deemed fit by the supervisors to strengthen their functional knowledge in their respective research area. However, they will not be examined in such modules.

MPhil Programme

Master of Philosophy is Masters by research in which the entry requirement is an honours degree in the First or Upper Second Division in a relevant discipline. Provision is, however, made in the Postgraduate Handbook for candidates with a Bachelor's degree with at least credit or a strong pass with 2 years experience in relevant disciplines. When such candidates are enrolled into the MPhil programme, they are required to obtain 60 credits of taught modules relevant to the student's research area before embarking on research. The 60 credits include the compulsory module of research methods.

The additional modules are selected from the existing Master's programmes that are:

- MSc. Environmental Protection and Management,
- MSc. Environmental Health,

- MSc. Water Resource and Supply Management,
- MSc Sustainable Engineering
- MSc in Infrastructure Development Management
- Masters of Business Administration

These modules are identified by the Faculty, upon registration of each student, based on their relevance to the candidate's research area. Candidates enrolled based on their honours degree are required to take the taught research methods module but are exempted from the 60 credit requirement. The candidates may, however, take some taught modules on the advice from their supervisors to strengthen their working knowledge on a discipline relevant to their research.

Publication Requirement for PhD and MPhil Candidates

PhD candidates are required to publish a minimum of three (3) peer-reviewed papers in peer-reviewed recognised journals and/or provide evidence of 3 prepared manuscripts 'awaiting submission/in press' during the time of their PhD research programme in order to be awarded the doctoral degree. MPhil candidates are required to publish a minimum of one (1) peer-reviewed paper in a peer-reviewed journal and/or provide evidence of 1 prepared manuscript 'awaiting submission/in submission/in press' during the time of their MPhil research programme in order to be awarded the masters' degree.

FACULTY OF BUILT ENVIRONMENT

Bachelor of Science in Architectural Studies

This curriculum is offered to candidates wishing to pursue a career in architecture, to provide them with the knowledge and skills in the art and science of architecture. Graduates from the course are eligible to register as graduate architects with the Malawi Institute of Architects and the Board of Architects and Quantity Surveyors of Malawi.

Year One

Module Code	Module Name and Descriptor
BARC1/ART:	**Art** The aim of this course is to develop students' basic drawing and artistic skills. These include freehand drawing from life to a reasonable degree of competency.
BARC1/ENG:	**English** The aim of this course is to introduce students to the usage of English to a level appropriate for good business and technical communication in the modern world.
BARC1/HIS:	**History** History of architecture provides an introduction to the aspects of the history of culture, by examining major periods and cultures through artistic, cultural, religious and social phenomena.
BARC1/MAT:	**Mathematics** The aim of the course is to introduce students to post 'O' level mathematics as a precursor to mathematical subjects in the degree programme.
BARC1/PHY:	**Physics** The aim of this course is to introduce students to some aspects of physics sufficient for comprehension of structures and environmental science modules.
BARC1/WPR	**Workshop Practice** The course is designed to introduce students to the practical aspects of construction of building elements.

Year Two

BARC2/ARD: **Architectural Design**

The course aims to introduce students to techniques of graphic communication and design.

BARC2/TOS: **Theory of Structures**

The module seeks to provide students with knowledge in the aims of structural design and principles of strength of materials.

BARC2/ESD: **Environmental Science & Design**

The aim of the course is to provide knowledge in design principles for comfort in buildings in the tropical environment, introduce students to principles of water supply and drainage to buildings and orient them to the concepts of physical forces as applied to buildings.

BARC2/COM: **Communication Skills**

The course seeks to develop in students technical and professional communication skills to enable them manage the communication component of architecture effectively.

BARC2/HIS: **History of Architecture**

The aim of the course is to enable students develop an understanding of the development of architecture around the world from early times to the present.

BARC2/SUR: **Surveying**

The module is intended to provide students with the skills needed in handling the equipment used in surveying and give them experience in land and building surveying.

Year Three

BARC3/VAC: **Vacation Survey**

The aim of the course is to enable students to observe and record features of the built environment of a community and produce drawings and analytical papers from the survey.

BARC3/ARD: **Architectural Design**

The course seeks to provide students with knowledge and skills in the steps required to execute designs of small buildings of a variety of types in the context of a community.

BARC3/BMC **Building Construction & Materials**

The aim of the course is to provide students with a thorough grounding in the characteristics and uses of concrete, masonry and steel, as used in large scale construction in Malawi; help them to carry out materials evaluation exercises in the laboratory and in the field; introduce students to the processes of site inspection and help them to be grounded in the requirements and procedures needed to satisfy building regulations at all stages of design and construction.

BARC3/STD: **Structural Design**

The course is designed to provide students with knowledge and skills in structural calculations to satisfy building codes for buildings up to two stories in height and of simple design.

BARC3/ESD: **Environmental Science & Design**

The aim of the module is to give students the knowledge of the background to sciences and apply the principles in building design.

BARC3/BSE: **Building Services**

The aim of the course is to enable students to demonstrate competence in the installation of water supply and its discharge, the preparation of electrical installation drawings and the correct design for natural and artificial lighting.

BARC3/CCC: **Communication, Computers & CAD**

The aim of the course is to help students acquire knowledge in technical and business writing skills relevant to academic and professional fields; appreciate different styles of leadership and enable them gain competences in computer usage of Word processing, database, spreadsheet and computer aided design.

BARC3/TOA: **Theory of Architecture**

The course seeks to develop students' ability to trace the development of construction, structure and use of materials from ancient times to the present.

BARC3/ESD: **Workshop Practice & Skills**

The course aims to provide students with the platform to demonstrate competence in workshop processes in the production of building items in metal and wood; identification of timber and metal parts by name; methods and materials used in the production of architectural models; practicalities of manufacture by the use of woodworking, and metalworking tools.

Year Four

BARC4/MDA: **Vacation Measured Drawing**

The aim of the course is to develop in students knowledge and skills in the physical requirements in the recording of a building for archival, historical or development purposes.

BARC4/ARD **Architectural Design**

The aim of the course is to enable students study the lifestyles and the built environment of a small suburban or rural community. It also seeks to develop analytical techniques for the production of designs of buildings to suit this environment. Students are also expected to produce designs which satisfy the criteria arrived at as a result of the study.

BARC4/BCR: **Building Construction & Regulations**

The aim of the course is to provide students with knowledge and skills in advanced construction methods with emphasis on the construction of large buildings.

BARC4/STD: **Structural Design**

The course aim to introduce students to advanced structural forms.

BARC4/BSE: **Building Services**

The aim of the course is to provide students with knowledge and skills in the provision of building services.

BARC4/UDP **Urban Studies, Planning & Regulations**

The aim of the course is to enable students examine the context of the building process in the physical and social environment.

BARC4/HEP: **Housing Economics & Policies**

The aim of the course is to provide students with knowledge of the aspects of housing policies in Malawi. The course also examines the economic factors which affect any housing proposals.

BARC4/LAD: **Landscape Design**

The aim of the course is to provide students with grounding in ecology and Environmental Impact Assessment, consideration of landscape factors in the sitting of buildings and the uses of hard and soft landscape around buildings.

Department of Land Economy and Quantity Surveying

Bachelor of Science (Honours) Degree in Land Economy

Year One

Module Code	Module Name and Descriptor
LAN-EAP 111	**English for Academic Purposes**

This module seeks to develop students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

ARC-CDR-111 **Construction Drawing**

The aim of this module is to introduce students to the basic principles of engineering drawing and equip them with drafting skills for the production of working drawings. Topics covered include: Introduction to mechanical drawing standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements (bolts, threads, gears, etc.) and assembly drawing.

MTS-ALG- 111 **College Algebra Analysis**

This module introduces students to the basics of elementary algebra. It covers areas such as set theory, intervals on the number line, inequalities and absolute value, rules of exponents, roots and logarithms, polynomials, multiplication and division of polynomials, the binomial theorem, factoring, completing the square and the quadratic formula.

LQS - CMM-111 **Construction Materials and Methods I**

This module provides students with an understanding of construction materials and methods through developing knowledge and understanding of (Preliminary) site works, builders plant and the construction of light structures.

CIT-ITC-111 **Introduction to Information and Communication Technology**

The module introduces students to the use of computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel, spreadsheets Microsoft PowerPoint, Microsoft access, methods of data protection and the internet.

BUS-ECO-121 **Macroeconomics**

This module introduces students to the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes in the market using macroeconomic policies.

LAN-EAP 122 **English for Academic Purposes II**

This module develops students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

SUR- ILS-121 **Introduction to Land Surveying**

This module introduces history and fundamental concepts of land surveying. Basic concepts of plane surveying are introduced, including use of tapes, ranging rods, compass, plane table and detail surveying.

MAT-TEC-121 **Trigonometry and Elementary Calculus**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LQS - CMM-122 **Construction Materials and Methods II**

This module reinforces students' understanding of construction materials and methods through developing knowledge and understanding of

(Preliminary) site works, builders plant and the construction of light structures.

LQS-RES -121 **Introduction to Real Estate**

This module aims at introducing students to the concept of real property and improvements on land. At the end of this module, students are expected to know property in the context of the built environment, urban planning, the investment environment, design and construction; describe real estate markets and sub-markets, explain the legal and economic aspects of real estate, evaluate the basic concepts of investment, yield and the time value of money including the essentials of basic financial mathematics and the six functions; analyse the role of planning and the planning process in real estate development and explain the stages of property development, life cycle and ownership of buildings.

Year Two

LQS-PPV- 211 **Principles of Property Valuation**

The module enables students to explain, among other things, the nature and role of the valuation profession, the property market and valuation methods; examine and discuss the definitions of value and the different concepts of value contained in mandatory practice statement; access a comprehensive range of information sources, relevant to the valuation of property; analyse and critique relevant material in an appropriate manner, supported by reasoned argument.

LQS – CMM-213 **Construction Materials and Methods III**

This module provides students with further knowledge of construction materials and methods by examining the characteristics of building materials, building regulations and the construction of buildings and structures of moderate complexity.

BUS-BCO-211 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

LQS-LUP-211 **Land Use Planning**

This module is designed to provide essential underpinning knowledge for planners. It offers a broad history of and introduction to physical planning and planning process.

ACC-AFB -211 **Accounting and Finance for Business**

This module introduces to students the skills necessary to interpret and use accounting and financial information in a business context and accounting systems. Students should be able to use standard techniques in accounting, prepare, arrange and present accounting reports at an appropriate standard for academic and professional purposes, interpret financial statements and describe the various accounting and financial instruments and their relevance to land economy.

BUS-ILF- 222 **Introduction to Legal Framework**

In this module, students are introduced to the laws of Malawi and Malawi's legal environment. Students also learn how to apply legal principles in various situations.

LQS-PPV-222 **Principles of Property Valuation II**

The module enables students to explain the nature and role of the valuation profession, the property market and valuation methods; examine and discuss the definitions of value and the different concepts of value contained in mandatory practice statements; access a comprehensive range of information sources relevant to the valuation of property, analyse and critique relevant material in an appropriate manner, supported by reasoned argument.

BUS-PMG-221 **Principles of Management**

This module provides students with an understanding of the theory and practice of management in organisations. It covers the management functions, practices and philosophies that would assist students in identifying, analysing and solving management related problems.

ACC-AFB -222 **Accounting and Finance for Business**

This module introduces to students the skills necessary to interpret and use accounting and financial information in a business context and accounting systems. Students should be able to use standard techniques in accounting, prepare, arrange and present accounting reports at an appropriate standard for academic and professional purposes, interpret financial statements and describe the various accounting and financial instruments and their relevance to land economy.

BUS-PMK-221 **Principles of Marketing**

This module provides students with the basic knowledge for understanding the nature of marketing, the guiding marketing management philosophies, the marketing setting/environment, marketing planning and the marketing mix.

LQS-IPD -221 **Introduction to Property Development**

The module introduces students to the property development cycle and the nature and role of the valuation profession in the development process. It enables students examine and discuss the definitions of different stages of the development process and the different development concepts relevant to the built environment; analyse and critique relevant material in an appropriate manner supported by reasoned argument and generate independent opinions of a choice of a development.

LQS-MPR -221 **Measurement Practice**

The aim of this module is to familiarise students with the origin of measurement in the construction profession and develop their knowledge of the processes involved in the production of inspection and valuation report, measure a range of domestic construction in accordance with the Standard Method of Measurement; examine the processes involved in the production of a bill of quantities; describe through example, the purpose and value of convention and discipline in measurement techniques.

Year Three

LQS-LAD-311 **Land Administration**

The module identifies the factors affecting the scope and flow of work of the land administration operations, the range of local approaches and the needs of Malawi; describes the functions and procedures of land allocations; discusses the functions and procedures of land leases; the functions and procedures of conveyance and leases revenue and forfeiture of leases; and examines the factors affecting land use and the consequences of human use of land

LQS-PFI-311 **Property Finance**

This module provides students with a conceptual framework and practical tools to better understand and evaluate the processes of property finance.

LQS-RMT-311 **Research Methodology**

This module enables students to apply the scientific, numerical, analytical, technical and communication skills acquired in the three-year university education to solve a property/real estate related problem. Students are assigned supervisors in their projects. Students are expected to know the following: Problem synthesis, data gathering, preliminary investigation, master planning, conceptual designs and layouts, support studies, cost estimates, report writing and defence of the project.

LQS-PVA -311 **Property Valuation I**

The module equips students with the knowledge to explain ideas such the nature and role of the valuation profession, the property market and valuation methods; examine and discuss the definitions of value and the different concepts of value contained in mandatory practice statements; access a comprehensive range of information sources relevant to the valuation of property; analyse and criticise relevant material in an appropriate manner, supported by reasoned argument and generate independent opinions of value.

LQS-PTA-311 **Property Taxation**

The module introduces students to elements of taxation, its functions, types and principles. It covers tools government uses to collect tax, how to compute tax for an individual, business (sole trader), partnership, and company, as well as, computation of various rates and levies that are applicable in Malawi and specifically on the various bases upon which real property tax is assessed.

LQS-LAP-311 **Law of Property**

This module provides students with a critical understanding of how the law in Malawi caters for the ownership of land and its transfer, while at the same time permitting the creation of rights in favour of third parties over that land.

LQS-STA-311 **Statistics**

This module offers students statistical tools to use in data collection, data presentation and summary, data analysis and interpretation to facilitate effective decision making in organisations.

LQS-IND-321 **Industrial Attachment**

This module assists students to gain practical experience from the industry in order to enhance their knowledge and skills, preferably in the built environment in Malawi or elsewhere as may be approved.

Year Four

LQS-RSV– 411 **Rating & Statutory Valuation I**

This module provides students with an opportunity to demonstrate the ability to use the acquired knowledge to solve a particular Land Economy law and statutes relating to property valuation.

LQS-EAM– 411 **Estate Agency and Marketing**

This module provides students with an opportunity to understand the role of the real estate agency in the Malawian/ SADC property market context.

LQS- PIF – 411 **Property Investment Appraisal and Finance**

This module provides an overview of the principles and practices of financial markets and investment decision making generally and property investment particularly. The module also gives students broad and comprehensive knowledge of investment principles, together with a critical understanding of property as an investment through development of a working knowledge of contemporary property valuation models.

LQS -LEC– 411 **Land Economics I**

This course is designed to provide the necessary fundamental knowledge for students of built environment and land economy on the general economics of urban land use.

LQS-PPR– 411 **Professional Practice I**

This course is designed to provide the necessary fundamental knowledge for students of Built Environment to realise that they are part of a profession that has responsibilities to their clients, the community and their peers, and to realise these professional responsibilities as members of multi-disciplinary teams or as sole consultants.

LQS- DIS – 411 **Dissertation I**

This course is designed to provide the necessary fundamental knowledge for students of Built Environment. This module enables students to independently carry out research activity within their discipline of specialisation using skills and knowledge gained in the Research Methodology module.

LQS-RSV– 422 **Rating & Statutory Valuation II**

This course is designed to provide the necessary fundamental knowledge of the law and statutes relating to property valuation for students of Built Environment and Land Economy in particular.

LQS-BDD – 421 **Building Defects Diagnosis**

This course is designed to provide the necessary fundamental knowledge and understanding of the nature of building defects, together with the applicable investigation and diagnosis procedures for students of Built Environment.

LQS-PPR– 422 **Professional Practice**

This module is designed to provide the necessary fundamental knowledge for students of Built Environment to enable them appreciate general standard professional practice required locally and international.

LQS- LEC– 422 **Land Economics II**

This course is designed to provide the necessary fundamental knowledge for students of Built Environment and Land Economy on the general economics of urban land use.

LQS - DST – 422 **Dissertation II**

This module forms an integral part of the degree programme and is largely undertaken in the fourth year. It provides the skills in the process of topic selection, literature review, methodology, data collection and analysis. Students are expected to submit a dissertation proposal form for formal approval. The dissertation may utilise data/information collected in any area appropriate to the discipline of Land Economy. This is a supervised research project into a subject having academic or professional relevance to the degree.

Year Five

LQS-LTL – 511 **Landlord and Tenant Law**

This module imparts in students a sound understanding of the substantive law of landlord and tenant to foster an appreciation of how the law operates to regulate the residential and commercial sectors of the leasehold property market.

LQS- AVL – 511 **Applied Valuation**

The module enables students explain the nature and role of the valuation profession, the property market and valuation methods; examine and discuss the definitions of value and the different concepts of value contained in mandatory practice statements; access a comprehensive range of information sources relevant to the valuation of property; analyse and critique relevant material in an appropriate manner, supported by reasoned argument.

LQS- PDE– 511 **Property Development**

The module equips students with skills in property development, explain issues which affect the supply and demand of properties on the market as well as examine and discuss the definitions of development process and formulation of feasibility studies.

LQS- PMG –511 **Property Management**

This module describes aspects of property development; identifies and explains the statutory requirements, the various property development stakeholders; explains the principles of the negotiation process and the techniques that can be used in the property management process; discusses the role of the property manager; and outlines the budgeting and forecasting process.

LQS - PMG-511 **Project Management**

This module is designed to provide students with the knowledge, skills and understanding required to operate effectively as a project manager.

LQS-DST – 511 **Project Dissertation**

This module forms an integral part of the degree programme and is largely undertaken in the fourth year. It provides the skills in the process of topic selection, literature review, methodology, data collection and analysis. Students are expected to submit a dissertation proposal form for formal approval. The dissertation may utilise data/information collected in any area appropriate to the discipline of Land Economy. This is a supervised research project into a subject having academic or professional relevance to the degree.

LQS-HEC – 521 **Housing Economics**

This course offers students the opportunity to study the microeconomics of housing markets.

LQS-PMK – 521 **Property Marketing**

This module offers students the knowledge of the property market within the context of land and property markets.

LQS - FAN – 521 **Property Financial Analysis**

This module equips students with property financial appraisal techniques and real estate financial modelling.

LQS-AVL – 522 **Applied Valuation II**

The module enables students explain the nature and role of the valuation profession, the property market and valuation methods; examine and discuss the definitions of value and the different concepts of value contained in mandatory practice statements; access a comprehensive range of information sources relevant to the valuation of property; analyse and critique relevant material in an appropriate manner supported by reasoned argument.

LQS-PMG – 522 **Property Management**

This module introduces students to the roles and responsibilities of being a facilities manager practitioner in the Built Environment sector. The module teaches students the impact of the decisions that are made every day while operating a Land Economy related business. The module also gives students the opportunity to gain knowledge and skills to enable them identify and evaluate challenges in facilities management and propose solutions to them.

LQS- DST – 542 **Dissertation IV**

This module forms an integral part of the degree programme and is largely undertaken in the fourth year. It provides the skills in the process of topic selection, literature review, methodology, data collection and analysis. Students are expected to submit a dissertation proposal form for formal approval. The dissertation may utilise data/information collected in any area appropriate to the discipline of Land Economy. This is a supervised research project into a subject having academic or professional relevance to the degree. The dissertation is an extended piece of written work that presents a detailed and in-depth examination of a specified topic of c.10, 000 - 15,000 words.

Calendar 2016-2018

BSc (Hons) Degree in Quantity Surveying

Year One

Module Code	Module Name and Descriptor
COM - ECON 111	**Micro-Economics**
	This module introduces students to basic microeconomic principles, concepts and theories. It covers techniques, models and tools that economists use to address microeconomic issues and contemporary economic problems.
LAN – EAP 111	**English for Academic Purposes**
	This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.
ARC - CDR 111	**Construction Drawing**
	The aim of this module is to introduce students to the basic principles of engineering drawing and equip them with drafting skills for the production of working drawings. Some of the topics covered include: Introduction to mechanical drawing standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements (bolts, threads, gears, etc.), assembly drawing, exploded view, drawing symbols. In addition to classroom instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer aided drawing.
MTS - MAT - 111	**College Algebra**
	This module introduces students to the basics of elementary algebra. Among other topics, it covers set theory, intervals on the number line, inequalities and absolute value, rules of exponents, roots and logarithms, polynomials, multiplication and division of polynomials, the binomial theorem, factoring, completing the square and the quadratic formula.
LQS - CMM 111	**Construction Materials and Methods I**
	This module provides students with an understanding of construction materials and methods through developing knowledge and understanding of (preliminary) site works, builders plant and the construction of light structures.

CIT - ICT 111 **Introduction to Information Communications Technology**

This course introduces students to the use of computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel, spreadsheets Microsoft PowerPoint, Microsoft access, methods of data protection and the internet.

COM - ECO 122 **Macro-Economics**

This module introduces students to the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes in the market using macroeconomic policies.

LAN – BUC 121 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

LAS - SUR 121 **Surveying**

This module introduces history and fundamental concepts of land surveying. Basic concepts of plane surveying are introduced, including use of tapes, ranging rods, compass, plane table and detail surveying.

MTS -MAT- 122 **Trigonometry and Introductory Calculus**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LQS - CMM 122 **Construction Materials and Methods II**

This module reinforces students' understanding of construction materials and methods through developing knowledge and understanding of (preliminary) site works, builders plant and the construction of light structures.

LQS - MBW 121 **Measurement of Building Works I**

This module enables students to understand and apply the basic principles and procedures of measurement of building works using the New Rules of Measurement 2.

Year Two

LQS - ILF 211 **Introduction to Legal Framework**

The module equips students with basic legal principles to apply in various situations. It also deals with the general legal environment that provides students with a firm grounding of business law.

LQS - EST 211 **Estimating and Tendering I**

This module equips students with general tendering procedures and basic principles of building up rates.

LQS - MBW 212 **Measurement of Building Works II**

This module enables students to acquire in-depth knowledge of taking-off various building elements from drawings.

LQS - CMM 213 **Construction Methods and Materials III**

This module enables students understand the attributes of various construction materials and equips them with basic design principles for underground structures.

LQS - ESS 211 **Environmental Science and Services I**

This module enables students to identify and propose different types of services required in a building for thermal comfort.

LAN - OMC 211 **Organisational and Managerial Communication**

The module introduces students to various modes of organisational communication as well as various types of interpersonal communication within and outside organisations.

LQS - COC 221 **Construction Contracts**

This module equips students with skills for contract agreements, their application and dispute resolution.

LQS - EST 222 **Estimating and Tendering II**

This module equips students with pricing skills for construction works and the ability to formulate a programme of works.

LQS - MBW 223 **Measurement of Building Works III**

This module equips students with skills to measure multi-storey buildings and drainage works.

LQS - CMM 224 **Construction Materials and Methods IV**

This module increases students' understanding of the characteristics of materials used in large scale construction in Malawi. It covers the study of concrete and steel framed structures.

LQS - ESS 222 **Environmental Science and Services II**

This module enables students to identify and understand the various types of services required in a building and recognise their interaction within the building structure.

MTS - STA 221 **Statistics**

This module offers students statistical tools to use in data collection, data presentation and summary, data analysis and interpretation to facilitate effective decision making in organisations.

LQS - STR 221 **Structures**

This module equips students with the basic knowledge of the theory of structural analysis by studying both the simple beam/truss and the complex truss with its loadings.

Year Three

LQS - MBW 311 **Measurement of Building Works IV**

This module equips students with skills to measure steel framed industrial buildings and substructure in sloping sites.

LQS ACM 311 **Advanced Construction Methods**

This module increases students understanding of construction materials and methods on site works and advanced techniques for construction methods.

LQS - QIT 311 **Quantity Surveying Information Technology**

This module enables students to use various quantity surveying software. It covers use of software for production of bills of quantities.

LQS - CEC 311 **Construction Economics I**

This module introduces students to economics in the context of construction and focuses on the relationship of the construction industry to the macroeconomic environment.

LQS - QSP 311 **Quantity Surveying Practice I**

This module equips students with skills in providing advice in development of feasibility, procurement routes, cost planning and control and contractual management.

LQS - RMT 311 **Research Methodology**

The module equips students with the key elements of a research process. It covers all the aspects of proposal writing and research report writing.

Year Four

LQS - MBW 411 **Measurement of Building Works V**

This module equips students with skills to measure framed structures, external works, prepare bills of quantities and gain an in-depth understanding of preliminary and preamble clauses.

LQS - COM 411 **Construction Methods II**

This module equips students with in-depth knowledge of complex industrial buildings and the multi-faceted characteristics of building rehabilitation.

LQS - CEC 411 **Construction Economics II**

This module reinforces students' understanding of microeconomic and macroeconomic principles and their impact on the construction industry.

LQS - QSP 411 **Quantity Surveying Practice II**

This module equips students with skills to prepare interim valuations, construction financial statements and cost plans.

LQS - QIT 411 **Quantity Surveying Information Technology II**

This module reinforces students' knowledge of modern IT and quantity surveying software.

LQS - FCM 411 **Financial Corporate Management**

This module covers the study of company structures in the construction industry, marketing and strategic planning, acquiring capital, financial planning, accounting systems and methods and the financial health of organisations.

Year Four

LQS - DIS 421 **Dissertation**

This module gives students the opportunity to systematically conduct research, evaluate a wide range of sources and prepare a manuscript that will be of a standard admissible for publication.

LQS - MEW 421 **Measurement of Engineering works I**

This module introduces students to the standard method of measurement of engineering works using CESMM4.

LQS - PRP 421 **Professional Practice**

This module equips students with skills to evaluate multi-faceted issues on professional ethics and its role in the built environment. It further advances their knowledge on how their profession collaborates with other professions in the built environment.

LQS - COM 421 **Construction Management I**

This module enables students to demonstrate competence in effective management of a construction site and interface with the stakeholders in the construction industry.

LQS - COA 421 **Construction Administration and Law I**

This module enables students to critically examine the different elements of the construction process from a legal stand point.

Year Five

LQS - DIS 521 **Dissertation**

This module enables students to demonstrate competencies in research design and a coherent approach in the manuscript write-up.

LQS - QSP 522 **Quantity Surveying Practice III**

This module enables students to prepare various claims on a construction contract, including final accounts.

LQS - MEW 522 **Measurement of Engineering Works II**

This module equips students with skills in the measurement of complex steel structures using CESMM4.

LQS -FCM 522 **Financial Corporate Management II**

This module introduces students to basic financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.

LQS - COM 512 **Construction Management II**

This module equips students with skills for construction project planning and project management.

LQS - COA 512 **Construction Administration and Law II**

This module enables students to thoroughly understand the vulnerability of those engaged in construction contracts to tortious liability.

LQS - EST 513 **Estimating and Tendering III**

This module equips students with competences to prepare estimates for civil engineering works.

LQS - DIS 522 **Dissertation**

This module enables students to demonstrate competencies in research design and a coherent approach in the manuscript write-up.

LQS - MEW 523 **Measurement of Engineering Works III**

This module enables students to take-off measurements and produce bills of quantities for complex structures and mechanical and electrical work.

LQS - PMG 521 **Project Management**

This module introduces students to concepts and framework of project management. It covers project planning, implementation and monitoring tools and control techniques. The students acquire skills in the management of project time, cost and quality and project team structuring.

LQS - PPR 522 **Professional Practice II**

This module equips students with the knowledge required to begin their careers responsibly and effectively by understanding the processes whereby continuing learning can take place.

LQS - PEC 521 **Property Economics**

This module introduces students to the dynamics governing the economics of the property market.

LQS - SMG 521 **Strategic Management**

In this module, students are introduced to the principles and techniques used to analyse strategic theories, problems and practices and apply these principles and techniques in real-life situations through case analysis.

LQS - PRMG 521 **Property Management**

This module introduces students to the basic concepts of property management and its application in the real estate industry.

Bachelor of Science (honours) in Land Surveying

Year One

Module Code	Module Name and Descriptor
LAS-SUR-111	**Surveying 1**

This module introduces students to the history and fundamental concepts of land surveying, including use of tapes, ranging rods, compass, plane table and detail surveying.

LAN-EAP-111 **English for Academic Purposes 1 (10 Credits)**

This module equips students with reading and writing skills necessary to meet the demands of undergraduate courses taught in an English-speaking academic environment. The focus is also on raising students' awareness of different learning styles and strategies.

BUS-ECO-111 **Principles of Economics**

The module provides students with basic principles of economics in sufficient depth relevant to the land surveying profession.

MTS-MAT-111 **College Algebra**

This module gives students a comprehensive coverage of basic algebra at an introductory level relevant to subsequent land surveying courses.

PBS-PHY-111 **Physics I**

This module provides a firm grounding in the concepts, facts and techniques of physics. The module covers Newton's Laws of motion, the concepts of work and energy, the conservation of momentum, rotational motion and planetary motion and gravitation.

CIT-ICT-111 **Introduction to Information Communication Technology**

This module provides fundamental introductory knowledge, skills and values in communication and computing which are applied throughout the students' studies.

LAS-SUR-122 **Surveying II**

This module reinforces the knowledge gained by students in the concepts of plane surveying taught in LAS-SUR-111 Surveying 1 and introduces students to more advanced field and computation techniques associated with spirit levelling, Electromagnetic Distance Measurement (EDM), EDM traversing and heighting, intersection and resection.

LAN-EAP-121 **English for Academic Purposes II**

The module builds on the knowledge in English language skills students gained in Module LAN-EAP-111. It improves students' communicative English ability in an academic setting by practice and developing listening, speaking, reading and writing skills as well as improving grammar, vocabulary knowledge and pronunciation.

BUS-LLW-121 **Land Law**

This module equips students with a sound knowledge and understanding of the foundation concepts relating to estates and interests in land, and the fundamental principles relating to the acquisition and creation of rights in land and analyse those principles in the context of a specified property transaction.

MTS-MAT-121 **Trigonometry and Elementary Calculus**

This module provides students with knowledge on the application of trigonometric functions and calculus methods to problems that may come up in other modules and, eventually, in geomatics.

LAS-CAD-121 **Computer Aided Drawing**

This module provides students with fundamental skills in computer-aided drafting (CAD) using industry standard software focusing on two-dimensional geometric construction, dimensioning and drawing output.

PBS-PHY-122 **Physics II (10 Credits)**

This module provides knowledge and understanding in geometrical optics, theories of waves and vibration that are applied in the mechanism of land surveying optical instruments.

Year Two

LAS-SUR-213 **Surveying III**

This module provides students with the basic theoretical principles in land surveying, the standard techniques and practical skills in the use of surveying equipment.

LAN-OMC-211 **Organisational and Managerial Communication**

The module introduces students to various modes of organisational communication as well as various types of interpersonal communication within and outside organisations.

CIT-PDB-211 **Principles of Database Systems**

The module gives students background knowledge in the principles of databases and skills in design of relational and object-oriented database systems, data organisation and data integrity relevant to geographic information systems modules.

MTS-MAT-211 **Mathematic I**

This module provides students with basic calculus and algebra skills necessary for land surveying computations and analysis.

PBS-PHY-213 **Physics III**

The module provides students with the knowledge and understanding in theories and concepts of electric and magnetic fields relevant to studies in measurement sciences in Land Surveying.

LAS-CAR-211 **Cartography I**

This module gives students the background knowledge in the basic theory of cartographic data visualisation processes, strategies and practices in map presentation and geospatial information dissemination.

LAS-SUR-224 **Surveying IV**

The module gives students skills in undertaking land surveying measurements and the basic principles of care and operation of instruments.

LAS-GIS-221 **Geographic Information System I**

This module provides students with knowledge on the theories and practices of GIS as well as introducing them to a range of methods for collection, management and interpretation of spatial data.

MTS-MAT-222 **Mathematic II**

The module provides students with knowledge and skills that would enable them to carry out computations in a three-dimensional world.

MTS-STS-221 **Statistics**

This module provides students with skills and methods of statistical applications relevant to land surveying.

EHS-EAS-221 **Environment and Society**

This module introduces students to the relationship between environmental and social processes in different geographical contexts and at different spatial scales.

BUS-PMP-221 **Principles of Management and Practice**

This module provides students with conceptual framework and skills to effectively manage individuals, groups and human resources in general within organisational contexts.

Year Three

LAS-GDS-311 **Fundamentals of Geodesy**

The module provides students with an introduction to the three pillars of geodesy; that is, the shape of the earth (including ocean and ice surfaces), the gravity field of the earth and the rotation of the earth, as well as the fundamentals of geodetic reference systems and their realisation through geodetic reference frames.

PBS-HSP-311 **Health and Safety Practices**

This module provides basic information on the concept of health and safety practices, relevant laws and regulations.

LAS-GIS-312 **Geographic Information Systems 2**

This module builds on the knowledge gained by students in module LAS-GIS-221 and equips them with more advanced concepts of geographic information systems analytical functionalities, database creation, manipulation of spatial data and presentation.

LAS-RES-311 **Remote Sensing**

This module gives students the knowledge of fundamental concepts of remote sensing, types of sensors and platforms used in space based image acquisition, characteristics of images in terms of spatial, spectral and radiometric resolutions and remote sensing applications.

LAS-PHO-311 **Photogrammetry I**

This module introduces students to photogrammetry as a data acquisition tool, and provides a general overview of its theory and working principles.

LAS-REM-311 **Research Methods**

This module provides basic research training and grounding in research methods and techniques. It enables students to begin research and carry out basic research projects which can be developed in the future.

WPT-322 **Industrial Training**

In this module, students consolidate their knowledge and skills by engaging in a short placement in an organisation.

Year Four

LAS-SMP-411 **Surveying & Mapping Project**

This module gives students an opportunity to choose their own topics for investigation. A project has to be approved by the lecturer and in which one or more of the studied techniques of data acquisition and processing are used to produce an output of spatially referenced information.

LAS-CDS-411 **Cadastral Surveying**

This module provides students with knowledge of the theory and process of Cadastral surveying, including the laws relating to the ownership of land, cadastral surveys for the re-establishment (definition) of property boundaries and skills in preparing plans and reports and other cadastral documentation.

LAS-CAR-412 **Cartography II**

This module builds on the knowledge students acquired in LAS-CAR-221 by providing the cartographic principles that underlie the effective design of thematic, topographic and choropleth maps.

LAS-PHO-413 **Photogrammetry II**

This module builds on the knowledge students acquired in LAS-PHO-311 and exposes them to hands-on practical application of photogrammetric concepts using digital photogrammetric workstations to produce geospatial data for GIS database.

LAS-GDS-411 **Geodetic Surveying**

This module builds on knowledge students acquired in module LAS-GDS-311: Fundamentals of Geodesy, by providing practical applications of the knowledge gained on theoretical issues that result from computations on a variety of reference surfaces and in a variety of coordinate reference systems and coordinate types.

LAS-LSM-411 **Land Surveying Measurement Techniques**

This module equips students with knowledge in core basic concepts in land surveying measurement techniques and skills in basics of geodetic observations and calculations.

LAS-DLS-421 **Data Analysis by Least Squares**

The module provides students with the necessary theories and principles of least squares adjustment to compute optimised solutions to problems involving redundant data and the theory of error propagation.

BUS-INE-421 **Innovation and Entrepreneurship**

The module engages students in the theory and practice of innovation and entrepreneurship.

LAS-CDS-422 **Cadastral Surveying II**

This module extends students' knowledge and skills gained in LAS-CDS-411. Students carry out a cadastral project which involves title search, property descriptions and managing cadastral survey systems.

LAS-SGE-421 **Space Geodesy**

This module provides students with knowledge of observational and computational techniques that offer solutions to geodetic problems by the use of precise measurement.

LAS-SPS-421 **Spatial Statistics**

This module introduces students to the theoretical foundation for, and practical application of principle possibilities to include spatial information in statistical models.

LAS-ENS-421 **Engineering Surveying (Optional Module)**

The module provides students with the practical skills in engineering surveying used in route and construction surveying.

LAS-MNS-421 **Mining Surveying (Optional Module)**

This module gives students knowledge in the surveying requirements for the mining industry, both open cut and underground (coal and metalliferous) by providing them with skills in transferring surveying measurements from the surface to the underground environment, processing the observations and presenting the data in desired formats.

HYS-421 **Hydrographic Surveying (Optional Module)**

This module provides students with an understanding of the concepts of hydrographic surveying and bathymetric chart production.

Year Five

LAS-DIS-511 **Dissertation I (Credits5)**

This module introduces students to the research processes that include philosophical fundamentals of both quantitative and qualitative traditions and a range of research methodologies.

LAS-PRM-511 **Project Management**

The module provides students with the necessary skills in project management, including basic financial interpretation, project monitoring and appraisal.

LAS-DPD-511 **Data Analysis and Network Design**

This module provides students with an in-depth understanding of survey network design with emphasis on the importance of accuracy in survey measurements and how inaccuracies are detected by processes of pre-analysis estimation and post-analysis.

LAS-CDS-511 **Cadastral Studies**

The module provides students with skills and knowledge in advanced principles and theories of cadastral surveying as practiced in Malawi. Students are also exposed to advanced case studies of cadastral surveys, limited title surveys, surveyor's responsibilities, digital cadastres, licensing issues.

LAS-SPA-511 **Spatial Analysis**

This module introduces students to techniques for the statistical analysis of spatial data covering issues in characterising spatial data, methods and problems in spatial data sampling, techniques for visualising, exploring and modelling spatial data including techniques for point patterns, continuous data, areal data, and spatial interaction data.

Options for Specialisation in the First Semester

LAS-SGE-511 **Space Geodesy**

This module provides students with an understanding of the techniques and skills of space-based positioning systems.

LAS-ENS-511 **Advanced Engineering Surveying I**

The module provides students with more advanced knowledge and techniques of engineering surveying covering selected areas of management for major structures, tunnels, mining, deformation, and industrial measurement applications.

LAS-MIN-512 **Mining Surveying II**

This module provides students with an understanding of applications of surveying to mining engineering and considers the part a mine surveyor plays in the industry.

LAS-HYS-512 **Hydrographic Surveying II**

This module equips students with knowledge and skills to apply physical principles, instrumentation, data analysis methods, and visualisation techniques associated with hydrographic surveying, chart preparation, and related marine measurement practices.

LAS-DIS-522 **Dissertation II**

This module enables students to undertake a substantive piece of surveying related research leading to the production of a final year dissertation where students apply the knowledge and skills acquired in the taught components of the BSc. Programme.

LAS-EPC-521 **Ethics and Professional Practice**

This module provides knowledge to students on the duties of professionals to their clients and society, and examines the dilemmas using case studies in various professions in the built environment sectors that are created when these duties come into conflict with one another and with the duties of general morality.

LAS-CDS-521 **Cadastral Surveying Project**

This module provides students with hands-on practical skills that will enable them tackle complex cadastral surveying projects. Students carry out a cadastral project requiring field work and a full dataset for Malawi lodgment.

LAS- **Spatial Statistics and Modelling**

This module builds on LAS-SSM-511 Spatial Analysis to advance students' knowledge and skills in developing and implementing spatial models and evaluating their results.

OPTIONS FOR SPECIALISATION IN THE SECOND SEMESTER

LAS-ENS-521 **Advanced Engineering Surveying II**

This module equips students with skills and techniques in the management of precise surveying for engineering, scientific or industrial purposes, including major structures, tunnels, mining, deformation, and industrial measurement applications.

LAS-PGE-521 **Physical Geodesy**

This module provides students with the theories on how gravity affects the size and shape of the earth and surveying observations.

LAS-MIN-523 **Mining Surveying III**

This module builds on the knowledge and skills students acquired in mine surveying techniques in module LAS-MIN-512: Mining Surveying II, for collection of ground and underground data for the design and layout of surface and underground mineral workings, as well as practical use and care of surveying equipment.

LAS-HYS-523 **Hydrographic Surveying III**

This module consolidates the knowledge students gained in LAS-HYS-511 by providing the fundamentals of acoustics, multi-beam sonar systems, motion compensation, side scan sonar methods, acoustical positioning, marine cartography, and electronic navigation charts (ENCs).

Department of Land Surveying and Physical Planning

Bachelor of Science (Honours) in Physical Planning

Year One

Module Code	Module Name and Descriptor
BPP-IPP 111	**Introduction to Physical Planning** The module introduces the origin of urban and regional planning and human settlements. It also enables students to relate the ideas of the pioneers of the urban and regional planning profession to developments in modern and post-modern urban and regional planning.
LAN-EAP 111	**English for Academic Purposes 1** The module is aimed at enabling students to gain a background in English grammar and usage to develop the ability to read texts critically with comprehension and insight and to acquire skills in reading and writing at tertiary level. The module enables students to develop skills and language for understanding reading materials and make own notes.
COM-ECO 111	**Microeconomics** The module covers a number of topics which give students a broad appreciation of economic principles, including the basic economic issue of resource allocation and scarcity. Alternative economic systems, supply, demand and elasticity concepts and market structures such as perfect competition, monopoly, monopolistic competition and oligopoly are considered. The module also examines the key issues of economic growth, inflation and unemployment and general macroeconomic policy.
MAT-MAT 111	**College Algebra and Analysis** This module provides a comprehensive coverage of basic algebra at an introductory level to give students an adequate mathematical grounding. The module covers those concepts of mathematics that are most useful to physical planning students. Emphasis throughout the semester is placed on developing skills to solve applied mathematical problems.
BLS-SUR 111	**Plane Surveying** This module introduces students to the history, fundamentals and basic concepts of plane surveying, including use of tapes, ranging rods, compass and detail surveying.

CIT-ICT 111 **Information and Communication Technology**

The module provides foundation skills in computing to consolidate students' knowledge and understanding of basic core skills of ICT. It also introduces students to the role of information systems in organisations. This module is designed to provide foundation skills in learning, communication and computing. It also serves as a foundation upon which to base the introduction of applied software packages being used in planning practice.

BPP-PST 121 **Physical Planning Survey Techniques**

The module is designed to enable students conduct basic physical planning surveys and present results in a prescribed and acceptable format. It covers methods of designing appropriate data collection tools, conducting basic social, economic and physical planning surveys, presentation of data and analysis of collected data to formulate recommendations for physical planning proposals.

LAN-EAP 122 **English for Academic Purposes II**

The module focuses on speaking, listening, reading and writing skills in a university environment. The module aims to develop communication skills students need for successful academic study in English. Throughout the course, students work with a wide range of texts from different subject areas.

COM-ECO 121 **Macroeconomics**

The module introduces basic economic principles, especially macroeconomic concepts, and how they can be used to analyse the factors for the functioning or failure of individual markets function.

MAT-TEC 121 **Trigonometry and Elementary Calculus**

The module is designed to equip students with mathematical concepts that are useful in solving physical planning related problems. Emphasis throughout the semester is placed on developing skills to solve applied problems in physical space.

BPP-PPP 121 **Physical Planning Process**

The module provides students with the necessary skills and knowledge about the physical planning process, relevant procedures and their application in practice. Students are enabled to understand normative, prescriptive and empirical planning theories.

ARC-DMM 121 **Drawing and Model Making**

This module provides students with comprehensive knowledge of model making and architectural drawing. Students learn how to effectively communicate conceptual ideas with the use of models and architectural drafting skills.

BPP-ISO 121 **Introduction to Sociology**

The module introduces students to the theoretical background of sociology and culture. It enables students to understand concepts and examine theoretical perspectives in sociology related to planning. The module provides the distinction between rural and urban societies and the impact of technological changes on society, the interaction between culture and urbanisation and how society deals with deviance.

Year Two

BPP-PCD 211 **Participation and Community Development**

The module is designed to equip students with skills and knowledge in community development and participatory approaches to planning and development. Students acquire skills to enable them facilitate community development using participatory approaches to planning and development. Students also acquire skills to help them identify strategies for community development and methods for community participation.

BLE-LAD 211 **Land Administration**

The module deals with a general understanding of the key concepts and processes related to land administration. This knowledge is essential to students pursuing courses in the built environment, especially physical planners. The module provides students with introductory skills and knowledge in land registration, cadastral systems, land inventory, land reform and land administration systems in Malawi and the SADC region.

BPP-PDC 211 **Physical Planning Practice and Development Control**

The module exposes students to necessary skills of practising development and enforcing physical planning regulations. Students learn how to differentiate between legal and illegal development, enforcing planning standards and regulations and provide advice to the public on land development procedures.

BPP-DRM 211 **Disaster Risk Management**

The objective of this module is to familiarise students with contemporary concepts and practices in disaster risk management. It also aims to establish a common language and understanding among planning students in order to improve collaboration among various disciplines and integrate risk reduction considerations in urban and regional development planning and decision making.

BPP-HPM 211 **History of Physical Planning in Malawi**

The module enables students to explain the origin and development of physical planning in Malawi and its development in various parts of the country. Students also learn about the administrative set-up of physical planning dating back to the colonial period and explain the role of local regional and national physical development plans as part of the history of Malawi.

BLS-CTG 211 **Cartography I**

The analysis and interpretation of spatial data is a critical skill for students who are taking programmes in Land Surveying, Environmental Management and Physical Planning. A capacity to collate, construct, visualise, interpret and manage spatial data is necessary for professionals in these areas.

BPP-UDP 221 **Urbanization and Urban Development Policy**

The module introduces urban development policy and perspectives of urbanisation in developing and developed countries. It discusses the history and trend of urbanisation using various theoretical perspectives.

BPP-PPL 221 **Physical Planning Law**

The module aims at making students understand the legal and institutional frameworks within which planning operates in Malawi. It explains the elements of the Town and Country Planning Act and other planning related legislation. It also examines the process of monitoring and controlling developments to comply with the approved physical development plans.

BPP-RDP 221 **Regional Development Planning**

The module introduces the concept of regional planning and various economic development models and strategies of development planning and management. It provides knowledge and skills for planning practitioners to initiate, plan, programme and implement balanced and sustainable socioeconomic development.

BPP-RHC 221 **Recreation and Heritage Conservation**

The module equips students with skills to plan and maintain recreation and leisure facilities in both rural and urban areas. Students learn the importance of recreation, leisure and demonstrate skills for planning and designing facilities for leisure and recreation. The module explains the history and theory of conservation and how to identify heritage items for conservation and listing process.

MAT-STT 221 **Statistics**

This module provides methods of statistical applications relevant to physical planning. It introduces the principles and methods concerned with collecting, compiling and analysing data, which is used to help planners in decision making.

ARC-CAD 221 **Computer Aided Drawing**

The module introduces Computer Aided Design (CAD) as a tool to construct and visualise ideas, drawings of maps and plans. It explains the basics of CAD systems, shapes and construction methods, basics of digital file formats, plan making in regional and city scale, possibilities and limitations of drawing and presentations, visualization of spatial concepts, 2D and 3D data, data import and export.

Year Three

BPP-PMS 311 **Population and Migration Studies**

The aim of the module is to analyse population and migration trends, causes and effects. It discusses the causes and effects of population growth, types and impacts of migration. Students also examine the policy interventions aimed at managing population and migration.

BPP-SPD 311 **Site Planning and Design**

The module introduces students to principles of design and site planning and how to generate space standards, apply ecological approaches to planning and describe the visual elements and forms of urban areas.

BPP-REM 311 **Research Methodology**

The module provides students with basic research training and grounding in research methods and techniques. It enables students to begin research and carry out a basic research project which can be developed in the future.

BPP-TRP 311 **Transport Planning**

The aim of the module is to explain transportation planning, modes of transport and incorporate the needs of users in transportation and land use planning. It also considers transportation policy and systems drawing on cases from Malawi and other countries.

BPP-HHS 311 **Housing and Human Settlements I**

The module provides an opportunity for students to understand the concept and policy of housing in the current urban development practice drawing from local and international experiences. While discussing the various elements of the integrated approach, the course also focuses on the dynamics of informal settlements and the mechanisms of housing transformation. It also highlights the importance of a well planned, integrated and balanced system of human settlements of varying sizes and functions distributed along specific spatial systems.

BLS-CAR 311 **Cartography II**

The module considers fundamental ideas about maps and map making designed to equip students with the skills required to interpret and create maps. This is achieved via a consideration of important cartographic techniques such as map projections, map symbols and the purpose of maps; the examination and extraction of information from published maps and by introducing the basic theory and practice of drawing different types of maps and enable students to design basic maps that communicate information effectively.

BPP-PFU 321 **Planning for Utilities**

The module develops students' skills in planning for community utilities. It focuses on infrastructure system theory, water supply and wastewater discharge, electricity supply and distribution. It enables students to understand the principles of planning for utilities and cost implications. It also deals with issues of adequate and reliable provision of utilities and services and discusses the legal basis for utility planning.

BPP-PTN 321 **Public Transport and Network Analysis**

The module equips students with fundamental skills of public transport provision, network analysis and planning. Students gain knowledge and skills to analyse factors that affect travel demand, public transport systems and networks, elements of the public transport policies and financing, organisation structure of public transport, application of modern transport systems to public transport planning and relationship between public transport and the environment.

BPP-URS 321 **Urban and Regional Sociology**

The module enables students to understand the relationships between urban development and the social structures of urban societies. It also looks at trends in the growth of cities and their relationship to urban social development. The role of social movements in urban development, the relationships between the social structure of urban neighbourhoods and urban poverty are also analysed.

BPP-HHS 322 **Housing and Human Settlements II**

The module provides an opportunity for students to understand the impact of housing development on the eco-systems. Additionally, student planners learn how to economise the provision of infrastructure and social services in relation to housing development so that they benefit many people in the light of high urbanisation rate, poverty and climate change. The module also focuses on the importance of recognising the societal needs in housing and human settlement development, with a special focus on how to meet the housing needs of the vulnerable groups of the society.

BLS-RMS 321 **Remote Sensing**

Remote sensing involves receiving, understanding and interpreting information about the earth from a distance, usually by analysing satellite images. The module provides an introduction to the basic concepts and principles of remote sensing. It will include three components: i) geometric principles of remote sensing, ii) radiometric principles remote sensing and iii) time-resolved remote sensing.

BLS-GIS 321 **Geographical Information Systems I**

This is the first module in a one-year study of the fundamentals of Geographic Information Systems (GIS). Topics of study are digital mapping, data capture, data conversion, data structures, and spatial data concepts.

Year Four

BPP-WEM 411 **Waste Management**

The module equips students with theoretical and practical knowledge necessary in waste management for a better and safe living environment. It describes the principles and methods of waste management and the major elements of waste related legislation and framework. The module builds capacities for students to assess the environment in terms of safety and cleanliness and apply integrated and participatory approaches in the management of liquid and solid waste.

BPP-TLU 411 **Transportation and Land Use**

The module introduces students to the linkages between transportation and land use and their interaction. It explains the relationship between transportation and network layout, land use development and traffic generation, public transport and land price appreciation and urban transport as a factor for increasing urban sprawl among other topics.

BPP-EDP 411 **Economic Development and Public Finance**

The module equips students with theoretical knowledge and practical skills to consider in designing and implementing development projects, programmes and management of public finance. Students study the dichotomies and dilemmas in development, theories of economic development and public finance, economic structures of developing countries and the role of central and local governments in public finance planning among other topics.

BPP-IDP 411 **Industrial Development Planning**

The module introduces students to planning for industrial development. The concept of industrialisation and classification of industries are discussed. In addition, industrial theories and models, factors for location of industries, laying out of industrial and export processing zones, the impact of industrialisation on development, and environmental and economic impacts of industrial development are analysed.

BPP-PDM 411 **Planning and Decision-Making Theories**

The module focuses on selected classic and current planning theories such as synoptic planning, disjointed incrementalism, mixed scanning, advocacy planning, communicative planning, planning as cooperative action and radical planning. The course comprises analysis of the original texts, case simulations and class discussions. Students are expected to gain a comprehensive and critical understanding of past and present planning theories as a basis for further academic reflection of planning procedures and as guidance for their own professional work.

BLS-GIS 411 **Geographical Information Systems II**

This module consists of the following components: data entry and preparation (sources of input data, and preparation), spatial data analysis (analytical GIS capabilities), data quality (positional, attribute and temporal accuracy and their assessment on maps). The laboratory provides students the opportunity to learn Arc View GIS software in order to produce GIS products using existing databases.

BPP-DIS 411 **Dissertation**

The module prepares students for dissertations in the second semester of year 4. The module provides students with an in-depth understanding of how to develop the components of a research project.

BPP-ECE 421 **Ecology and Environment**

The module is designed to orient students to the problems and potentials related to the use, conservation and management of natural resources. A profound knowledge about the interdependencies between environmental factors and human activities is a basic requirement for a physical planner. Some topics of study are the basics of landscape ecology; ecosystems, the interaction between man and nature; international environmental conventions; ecological profile analysis; land use zoning, classification and evaluation as well as environmental economics.

BPP-PLG 421 **Planning and Local Governance**

This module examines local governance from the legal, political, social and economic perspectives as it applies to planning at the local level. The module is built on the principle that physical planning must engage a wide range of actors at different levels of decision making to produce sustainable urban environments and settlements.

BPP-CCA 421 **Climate Change Adaptation Planning**

This module recognises the increasing impacts of climate change on vulnerable groups in both rural and urban environments. Students are equipped with adaptation planning skills which will enable them plan for climate change resilient rural and urban settlements. The module encompasses both adjustments to changing conditions and planning for uncertain projections of future climatic conditions.

BPP-PPE 421 **Professional Practice and Ethics**

This module introduces students to the roles and responsibilities of being a professional planner in the built environment sector. Ethics for a practicing planner is about the decisions that are made every day while delivering planning services. The module also gives students the opportunity to gain knowledge and skills to enable them identify and evaluate a range of challenges in the planning profession and to propose solutions.

BPP-USP 421 **Urban Structure Planning**

The course equips students with knowledge and skills for developing urban structure plans. The importance of planning, principles and standards in planning, provisions of District Urban Structure Plans and Site Plans are discussed. The course also provides students with an opportunity to practice using projection techniques for estimating land requirements.

BPP-DIS 421 **Dissertation**

This module is a supervised research project in a subject with academic or professional relevance to the programme. The dissertation is an extended piece of written work that presents a detailed and in-depth examination of a specified topic. It forms an integral part of the degree programme and is largely undertaken in Year 4 for a general Bachelors of Science Degree in Physical Planning/or Year 5 for a Bachelor of Science (Honours) in Physical Planning.

Year Five

Students take five compulsory modules and one option from a selected optional module which has a total of three courses. The other two optional modules are taken in the second semester.

BPP-MUG 511 **Management of Urban Growth**

The module enables students to understand planning issues related to management of growth and change in cities. The relationship between urbanisation, poverty, social and environmental degradation is discussed. Students also assess urban development policies, projects and programmes.

BPP-LED 511 **Local Economic Development**

The purpose of Local Economic Development (LED) is to create an enabling environment in which local people and institutions can make realistic and practical decisions to strengthen the local economy, create more jobs, promote new enterprises, including self employment, and to improve the quality and prospects of life for all. Within this context, the module promotes socio-economic development and creates opportunities for sustainable and inclusive employment and increased economic activity.

BPP-PPD 511 **Public Programmes in Planning and Development**

The module introduces students to the aims and objectives of various public development programmes and projects that have a bearing on planning and development of settlements planning in Malawi. Students are enabled to describe the design, successes and shortfalls of various development programmes. They are also equipped with knowledge and skills for development of programmes and projects for implementation in various development sectors.

BLS-SSM 511 **Spatial Statistics and Modelling**

The module introduces the use of GIS as a means of solving spatial problems and the potential of GIS and remote sensing techniques for planning related fields to equip students with marketable skills relevant to research and commercial needs. Spatial analysis forms a critical component of GIS and is a rapidly evolving area. Particular attention is paid to the development of students' analytical skills through the use of remote sensing techniques and GIS.

BPP-PEP 511 **Political Economy and Global Perspectives**

The module enables students to understand the political economy of Malawi and its relation to the global economy. The concepts of political economy and global economy and factors that contribute to income inequality are explained. The course further enables students to analyse public sector policies and programmes and attempt to encourage planning in a pro-poor policy orientation aiming at reducing or eliminating poverty and inequality.

BPP-PPM 521 **Project Planning & Management**

The module aims to familiarise students with the most important planning and management techniques currently in use in development organisations. Besides lectures, the course puts emphasis on group exercises in which the newly learnt methods are practised. This enables students to critically reflect on and assess the usefulness as well as the shortcomings of these methods.

BPP-UGA 521 **Urban Geography and Economic Analysis**

The module is designed to enable students acquire knowledge about urban geography and economics. Upon completion of the module, students should be able to analyse the factors leading to transformation of the urban economy by applying advanced and appropriate urban economic models and theories; hence, help them plan and design economically functional and efficient urban environments.

BPP-PFB 521 **Project Finance and Budgeting**

The module examines the key issues in planning and sourcing of financing for development planning. This is one of the crucial issues in development as financial resources usually have to be mobilised and properly managed to make them available for development projects.

BPP-DIS 521 **Dissertation**

This module is a supervised research project in a subject with academic or professional relevance to the programme. The dissertation is an extended piece of written work that presents a detailed and in-depth examination of a specified topic. It forms an integral part of the degree programme and is largely undertaken in Year 4 for a general Bachelors of Science Degree in Physical Planning/or Year 5 for a Bachelor of Science (Honours) in Physical Planning.

Optional Module 1: Physical Planning Practice and Design

ARC-AAT 511 **Architecture and Townscape**

The module is designed to introduce students to the basic principles and history of architecture for application in the development of physical development plans. It also enables students to understand and appreciate the design of different building and aesthetical effects on city form.

BPP-PCA 521 **Planning for Commercial Activities**

The module is designed to develop students' skills in urban planning and design of shopping and retail facilities and centres. Students also learn methods and approaches for urban renewal in rundown commercial areas and how planning and design affect trading and liveability of cities.

BPP-UMM 521 **Urban Marketing and Management**

The module is designed to demonstrate that urban marketing and management is an indispensable element within the strategies for economic development of cities and contributes to the overall vision of city development strategies. The module enables students understand how urban marketing and management helps cities to accomplish many objectives, including attracting new national or international companies, consolidating industrial infrastructure, developing tourism, diversifying and improving transport and health services.

Optional Module 2: **Planning and Society**

BPP-PLP 511 **Poverty, Livelihoods and Public Policy**

The module is designed to introduce students to public policies that are formulated to address poverty. It is intended to enable students classify the types of poverty and relate poverty to the concepts of livelihoods, accessibility and vulnerability to appreciate the importance of targeted programmes in development planning. Students examine the public policy formulation process, critique those policies that aim at reducing poverty and suggest new ways of tackling poverty.

BPP-WHG 521 **Welfare, Human Rights and Gender**

The module is designed to enable students understand the relationship between welfare, human rights and gender in development planning. Students examine welfare programmes in Malawi and learn the importance of mainstreaming gender and human rights in development so that the needs and demands of all affected vulnerable groups are taken on board in physical development planning processes.

BPP-CLS 521 **Corruption, Law and Society**

The aim of this module is introduce students to effects of corruption on development and development planning processes. Students learn to explain the sources of power and how power is exercised in society, consequences and methods of fighting corruption and analyse public policy and law on corruption.

Optional Module 3: **Planning and the Environment**

BPP-LPM 511 **Landscape Planning and Management**

The module is designed to acquaint students with principles of landscape planning and management. Students learn the application of appropriate standards for national landscape planning and environmental conservation in urban areas.

BPP-EGL 521 **Environmental Geomorphology & Land Resources Management**

The module introduces students to major geomorphologic processes and principles of land resource management. Students learn the formation of major landforms, describe the major land resources that are available to man for existence and explain sustainable management processes for land resources.

BPP-SUE 521 **Sustainable Energy**

The module is is designed to introduce students to the principles and sources of sustainable energy. Students also learn the classification of energy sources and analyse the social and economic importance of energy and major elements of energy policies and legislations. Students explore energy efficient systems and discuss sustainable ways of energy conservation.

FACULTY OF COMMERCE

Department of Accountancy

Bachelor of Accountancy

FAC 111 **Fundamentals of Accounting**

In this module students are introduced to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.

LAW 112 **General Principles of Law**

The module equips students with basic legal principles which they should be able to apply in various situations. It also deals with the legal environment generally and as a firm grounding of business law.

MAT 113 **Business Numeracy**

The module provides the background to meet the mathematical needs of students who will subsequently specialise in business and accounting disciplines. It reviews basic mathematics concepts such as sets, functions, indices and logarithms which will be used. It also introduces calculus as a versatile tool to solving problems in finance. In addition, students also gain knowledge and skills of performing interest calculations and investment appraisal.

ECON 114 **Microeconomics**

This module introduces basic microeconomic principles, concepts and theories. It covers techniques, models and tools that economists use to address microeconomic issues and contemporary economic problems.

OBE 115 **Organizational Behaviour I**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and

understanding of the relationship between the individual and society. It helps students understand the meaning, history and organisation of work and working life challenges to the individual and society.

EEAP 116 **English for Academic Purposes I**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

CAL 123 **Introduction to Calculus**

This module introduces students to calculus based techniques that are extensively used in economics, operations management, marketing, financial management, etc. For instance, calculus plays a vital role in situations where a business wishes to know how the sales volume or sales are affected when the prices change or how the total cost, price, etc are affected when the volume of output changes.

ECON 124 **Macroeconomics**

This module introduces the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps

students understand the meaning, history and organisation of work; and working life challenges to the individual and society.

EAP 126 **English for Academic Purposes II**

This module is intended to equip students with effective writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composing various arguments and oral skills.

Year Two

ACC 211 **Business Accounting II**

The module focuses on complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. The module also covers the issue and redemption of shares and debentures.

CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also explains costing techniques that are used within industrial organisations.

LAW 213 **Commercial Law**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

STA 214 **Fundamentals of Statistics**

Today's businesses generate vast quantities of data that need to be converted into meaningful form to aid effective decision making. To do this, data must be collected and converted into useful information. This module offers statistical tools to use in data collection, data presentation and summary, data analysis and interpretation.

MIS 215 **Management Information Systems**

This module prepares students to make wise decisions about information technology and information systems for business organisations. It covers IT, development, management and security of information systems and exploring new businesses use information systems to improve performance.

COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

ACC 221 **Business Accounting III**

The module places emphasis on preparation of financial statements of clubs, societies, joint ventures, branches and departments. Other areas include valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

CAC 222 **Cost and Budgetary Control**

This module equips students with profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

TAX 223 **Taxation**

In this module, students are introduced to taxation, its functions, types and principles. In addition, the module covers the administration of taxes and the Malawi tax system. Students also learn how to compute tax for an individual, business (sole trader), partnership and company. Furthermore, students learn and compute the various rates and levies that are applicable in Malawi. They are also introduced to the tools government uses to collect tax.

STA 224 **Business Statistics**

Businesses operate in a climate of uncertainty, making decisions difficult. Inferences about populations of customers and competitors have to be made in a timely manner for planning purposes. This module unveils statistical tools useful for businesses to make inferences about a population in a climate of uncertainty. Business and management problems are modelled as probability distributions and inferences about populations are made using tests of significance, confidence intervals and sampling distributions.

CAP 225 **Computer Applications**

The module introduces computer systems and application packages that are mainly used in business offices. Students should be able to understand, comprehend and differentiate different elements contained in different applications within the package; effectively determine and use appropriate application software within the package for the intended

work to drive efficiency; and troubleshoot problems arising from the usage of IT Packages.

COM 226 **Organisational and Managerial Communication I**

The module introduces students to various nature of organisational communication as well as various types of interpersonal communication to enable them communicate effectively within and outside organisations.

Year Three

FIN 311 **Financial Reporting I**

The module introduces students to the Conceptual Framework of Accounting which underpins the preparation and presentation of general purpose financial statements. The module covers the standard setting process and various International Financial reporting Standards (IFRSs) required for proper preparation and presentation of financial statements.

LAW 312 **Corporate law I**

This module provides an overview of various business forms and introduces students to the basics of company law.

POM 313 **Principles of Management**

This module covers the management functions, practices and philosophies that would assist students in identifying, analysing and solving management related problems.

MQT 314 **Management Quantitative Techniques**

This module is intended to focus on understanding, formulating and solving management/business problems. It equips students with techniques for solving management problems by building simple models of various business systems. In particular, the techniques presented enable students solve maximum/minimisation problems, transportation and assignment problems, queuing and network models. In addition, students should also be able to make appropriate decisions under competitive situations against adversaries.

MAC 315 **Information for Decision Making**

This module focuses on areas designed to enable students produce management accounting information that is relevant for decision making. Specifically, the module examines relevant cost and revenues,

Cost-Profit- Volume analysis, advanced variance analysis and risk and uncertainty in decision making.

ICR 316 **Internal Controls and Review**

This module focuses on internal controls and how auditors can ensure that these controls are effective. It also looks at how the auditors can communicate their findings on the assessment of the internal control systems.

BRM 321 **Business Research Methods**

This module provides a clear guide on the key elements of the business research process. Essentially, the module prepares the student for the final year research project.

COM 322 **Organisational and Managerial Communication II**

The aim of the module is to equip students with recruitment, corporate, supervisory and managerial communication skills that will enable them communicate effectively

PRM 323 **Project Management**

In this module, students are introduced to project management concepts and framework. In addition, the module covers project planning and monitoring tools and techniques. Students are also expected to become skilled in the management of project cost and risk. Furthermore, students gain knowledge of not only project team structuring but also project control measures and techniques.

LAW 324 **Corporate law II**

The module equips students with skills and knowledge required to understand, influence and control responsible, meaningful and ethical decision-making in companies.

FIN 325 **Financial Reporting II**

The module is designed to enhance students' financial reporting skills by examining further International Financial Reporting Standards (IFRSs) and International Public Sector Accounting Standards (IPSAS) required in the proper preparation and presentation of general purpose financial statements. The module also covers the analysis of financial statements and emerging issues in the financial reporting landscape.

MAC 326 **Performance Management**

This module concentrates on areas pertaining to performance measurement and recent developments in management accounting.

Year Four

FIN 411 **Financial Management**

This module introduces students to concepts in the field of finance where its central focus is the relationship of risk to return and the maximisation of wealth of shareholders.

STM 412 **Strategic Management**

In this module, students are oriented to principles and techniques to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

FIN 413 **Advanced Financial Reporting**

This module focuses on the preparation and presentation of group financial statements. Topics covered include accounting standards on accounting for subsidiaries, associated entities and joint ventures, operating segments and related party transactions and other complex accounting standards.

CGE 414 **Corporate Governance and Ethics**

The module introduces students to principles of good corporate governance. Specifically, the module focuses on the role of shareholders and board of directors, codes of good corporate governance and corporate social responsibility. The module also introduces students to the concept of business ethics, an overview of major ethical issues that businesses face today, and a discussion of moral philosophy through an understanding of classical and contemporary ethical theories.

AAS 415 **Auditing and Assurance Services**

The module introduces students to the nature and objectives of audit in general as well as the current audit procedures and techniques. The module also covers the identification of risk and assessment of risks involved in various situations.

ACP 416 **Accounting Packages**

Today's businesses are ensuring that they are maximising the use of IT in all their processes and activities. This module focuses on the use of computerised accounting packages in order to prepare students to manage real life business transactions and produce and analyse financial reports.

HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations.

RES 422 **Research Project**

Through this module, students are required to systematically conduct small research projects and prepare project reports.

ESBM 423 **Entrepreneurship and Small Business Management**

The module introduces students to sustainable entrepreneurial concepts by emphasising the importance of innovation and innovation management in entrepreneurship. It covers opportunity identification; creativity, innovation and risk management; social entrepreneurship; entrepreneurial growth, harvesting and challenges and key aspects of managing small businesses.

SAP 424 **Security Analysis and Portfolio Management**

This module introduces students to the concepts and principles underlying the operations of capital and financial markets. It focuses on the workings of the security market, valuation of securities, portfolio management, Capital Asset Pricing Model, derivatives and listing rules and regulations.

TAX 425 **Advanced Taxation**

The module enables students compute taxable income and tax liability for foreign transactions, disposal of capital assets, special trades and cases and on demise of an individual. Students should be able to compute value added tax, excise duty and customs duty on goods and services that are taxable as well. Furthermore, the module enables students to complete tax returns and understand the assessment and appeals procedures. In addition, the module covers taxpayers' investigations and how taxpayers can minimise tax liability within the law.

RIM 426 **Risk Management**

The module introduces students to principles of risk management as a corporate decision-making process. Students develop an understanding of theories and frameworks associated with the management of all risks affecting a business setting.

Bachelor of Commerce (Internal Audit)

Year One

Module Code	Module Name and Descriptor
FAC 111	**Fundamentals of Accounting**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. Topics include bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.

LAW 112 **General Principles of Law**

The module equips students with basic legal principles which they should be able to apply in various situations. It also deals with the legal environment generally and as a firm grounding of business law.

MAT 113 **Business Numeracy**

The module provides the background to meet the mathematical needs of students who will subsequently specialise in business and accounting disciplines. It reviews basic mathematics concepts such as sets, functions, indices and logarithms which will be used. It also introduces calculus as a versatile tool to solving problems in finance. In addition, students also gain knowledge and skills of performing interest calculations and investment appraisal.

ECON 114 **Microeconomics**

This module introduces basic microeconomic principles, concepts and theories. It covers techniques, models and tools that economists use to address microeconomic issues and contemporary economic problems.

OBE 115 **Organizational Behaviour I**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of

others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work and working life challenges to the individual and society.

EAP 116 **English for Academic Purposes I**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

CAL 123 **Introduction to Calculus**

The module is aimed at developing concepts in calculus that equip students with sufficient mathematics knowledge to apply calculus techniques to problems in accounting, business and management.

ECON 124 **Macroeconomics**

This module introduces the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work and working life challenges to the individual and society.

EAP 126 **English for Academic Purposes II**

This module is intended to equip students with effective writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composing various arguments and oral skills.

Year Two

ACC 211 **Business Accounting II**

The module focuses on complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. The module also covers the issue and redemption of shares and debentures.

CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also explains costing techniques that are used within industrial organisations.

LAW 213 **Commercial Law**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

STA 214 **Fundamentals of Statistics**

Today's businesses generate vast quantities of data that need to be converted into meaningful form to aid effective decision making. To do this, data must be collected and converted into useful information. This module offers statistical tools to use in data collection, data presentation and summary, data analysis and interpretation.

MIS 215 **Management Information Systems**

This module prepares students to make wise decisions about information technology and information systems for business organisations. It covers IT, development, management and security of information systems and exploring new businesses use information systems to improve performance.

COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

ACC 221 **Business Accounting III**

The module places emphasis on preparation of financial statements of clubs, societies, joint ventures, branches and departments. Other areas include valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

CAC 222 **Cost and Budgetary Control**

This module equips students with profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

TAX 223 **Taxation**

The aim of this module is to introduce students to taxation, its functions, types and principles. In addition, the module covers the administration of taxes and the Malawi tax system. Students also learn how to compute tax for an individual, business (sole trader), partnership, and company. Furthermore, students learn and compute the various rates and levies that are applicable in Malawi. They are also introduced to tools government uses to collect tax.

STA 224 **Business Statistics**

Businesses operate in a climate of uncertainty, making decisions difficult. Inferences about populations of customers and competitors have to be made in a timely manner for planning purposes. This module unveils statistical tools useful for businesses to make inferences about a population in a climate of uncertainty. Business and management problems are modelled as probability distributions and inferences about populations are made using tests of significance, confidence intervals and sampling distributions.

CAP 225 **Computer Applications**

The module introduces computer systems and application packages that are mainly used in business environments. Students should be able to understand and differentiate different elements contained in different applications within the package; effectively determine and use appropriate application software within the package for the intended

work to drive efficiency; and troubleshoot problems arising from the usage of IT Packages.

COM 226 **Organisational and Managerial Communication I**

The module introduces students to various nature of organisational communication as well as various types of interpersonal communication to enable them communicate effectively within and outside organisations.

Year Three

FIN 311 **Financial Reporting I**

The module introduces students to the Conceptual Framework of Accounting which underpins the preparation and presentation of general purpose financial statements. The module covers the standard setting process and various International Financial reporting Standards (IFRSs) required for proper preparation and presentation of financial statements.

LAW 312 **Corporate law I**

This module provides an overview of various business forms and introduces students to the basics of company law. It is designed to equip students with legal skills and knowledge required in the establishment, management and financing of business entities.

POM 313 **Principles of Management**

This module covers the management functions, practices and philosophies that would assist students in identifying, analysing and solving management related problems.

MQT 314 **Management Quantitative Techniques**

The module is aimed at enabling students apply a range of quantitative techniques in formulating solutions in mathematical terms. In addition, students should also be able to weigh alternative courses of action and make intelligent and informed choices. This is very important in a business/financial world strewn with fierce competition.

MAC 315 **Information for Decision Making**

This module focuses on areas that will enable students to produce management accounting information that is relevant for decision making. Specifically, the module looks at relevant cost and revenues, Cost-Profit-Volume analysis, advanced variance analysis and risk and uncertainty in decision making.

ICR 316 **Internal Controls and Review**

This module focuses on internal controls and how auditors can ensure that these controls are effective. It also looks at how the auditors can communicate their findings on the assessment of the internal control systems.

BRM 321 **Business Research Methods**

This module provides a clear guide on the key elements of the business research process. Essentially, the module prepares students for the final year research project.

COM 322 **Organisational and Managerial Communication II**

This module equips students with recruitment, corporate, supervisory and managerial communication skills that will enable them communicate effectively.

PRM 323 **Project Management**

The module is designed to equip students with knowledge, skills and techniques of managing projects and also the ability to apply these in real project management contexts.

CON 324 **Management Consulting**

This course is designed to initially overview the consulting profession with a subsequent emphasis on organization consulting issues. Effort will be placed on developing proficiencies in a range of skills required to practice consulting.

SCM 325 **Supply Chain Management**

The module introduces students to the concepts, principles and techniques to enable them to design and manage supply chains effectively. The module covers components of Supply Chain Management (SCM), Customer and Supplier Relationship Management, Demand Management and the role of E- Business in the supply chain. The module also focuses on supply chain mapping and performance management.

IAU 326 **Internal Auditing I**

This module introduces students to the profession of internal auditing and the role of internal auditing in an organisation. It enables students to appreciate the existence of internal auditing as a distinct profession

and field of study. Students are also made aware of the role of internal auditing in corporate governance, risk management and internal controls.

Year Four

FAU 411 **Forensic Auditing**

This module focuses on deceptions in financial and accounting processes. The topics that are part of this module include financial fraud understanding, identification, prevention and auditing, its legal proceedings and required testimony by an expert witness, and the corresponding professional responsibilities of the auditor.

STM 412 **Strategic Management**

In this module, students are expected to develop principles and techniques to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

IAU 413 **Internal Auditing II**

This module presents a guide on best practices in conducting internal audit engagements and how an internal audit function can be managed. It also explains the characteristics and attributes of an internal auditor.

CGE 414 **Corporate Governance and Ethics**

The module introduces students to principles of good corporate governance. Specifically, the module focuses on the role of shareholders and board of directors, codes of good corporate governance and corporate social responsibility. The module also introduces students to the concept of business ethics, an overview of major ethical issues that businesses face today, and a discussion of moral philosophy through an understanding of classical and contemporary ethical theories.

AAS 415 **Auditing and Assurance Services**

In this module, students are introduced to the nature and objectives of audit in general as well as the current audit procedures and techniques. The module also covers the identification of risk and assessment of risks involved in various situations.

ACP 416 **Accounting Packages**

This module focuses on the use of computerised accounting packages in order to prepare students to manage real life business transactions and produce and analyse financial reports.

HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations. It enables students to develop knowledge and skills required to effectively manage an organisations key and unique resource – the people.

RES 422 **Research Project**

Through this module, students are required to systematically conduct small research projects and prepare project reports.

ESBM 423 **Entrepreneurship and Small Business Management**

The module introduces students to sustainable entrepreneurial concepts by emphasising the importance of innovation and innovation management in entrepreneurship. It covers opportunity identification; creativity, innovation and risk management; social entrepreneurship; entrepreneurial growth, harvesting and challenges and key aspects of managing small businesses.

PAU 424 **Performance Auditing**

This course provides students with in-depth understanding of the concepts associated with audits that go beyond the traditional financial audit. The initial focus is on the theory of performance auditing, followed by an approach to auditing management activities. This includes audit planning, selecting audit targets, preparing audit programmes, implementing the audit and communicating audit results. The secondary focus is the audit process of various management activities.

AUD 425 **Business Information Systems Auditing**

This module presents information systems audit and control concepts and management practices. As organisations continue towards a more substantial reliance on the capabilities of information systems, it becomes increasingly important for auditors to understand information systems and how they relate to financial and general organisational controls.

RIM 426 **Risk Management**

The module introduces students to principles of risk management as a corporate decision making process. Students develop an understanding of theories and frameworks associated with the management of all risks affecting a business setting.

Calendar 2016-2018

Department of Business Administration

Bachelor of Business Administration (BBA) – GENERIC

Year One

Module Code	Module Name and Descriptor
FIN 111	**Fundamentals of Accounting**
	This module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.
LAW 112	**General Principles of Law**
	The module equips students with basic legal principles which they should be able to apply in various situations. It also deals with the legal environment generally and as a firm grounding of business law.
MAT 113	**Business Numeracy**
	The module provides the background to meet the mathematical needs of business students. It covers basic mathematics concepts such as sets, functions, indices and logarithms. In addition, students gain the knowledge and skills of performing interest calculations and investment appraisal.
ECN 114	**Introduction to Microeconomics**
	This module introduces basic microeconomic principles, concepts and theories. It covers models, techniques and tools that economists use to address microeconomic issues and contemporary economic problems.
OBE 115	**Organizational Behaviour 1**
	The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work as well as perception, motivation and personality.

EAP 116 **English for Academic Purposes 1**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

CAL 123 **Introduction to Calculus**

This module introduces students to calculus-based techniques that are extensively used in the resolution of business problems. It covers two branches of calculus: differential calculus and integral calculus.

ECN 124 **Macroeconomics**

This module introduces the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the working life challenges to the individual and society. The module covers group dynamics, management and leadership as well as business culture.

EAP 126 **English for Academic Purposes II**

This module is intended to equip students with writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composition of various arguments, and oral skills.

Year Two

ACC 211 **Business Accounting II**

The module introduces students to complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. It also covers the issue and redemption of shares and debentures.

CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also covers costing techniques that are used within business organisations.

LAW 213 **Commercial Law**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

STA 214 **Fundamentals of Statistics**

This module offers statistical tools to use in data collection, presentation and summary, analysis and interpretation to facilitate effective decision making in organisations.

MIS 215 **Management Information Systems**

This module prepares students to make wise decisions about information technology and information systems for business organisations. It covers information technology, systems development life cycle, and management and security of information systems.

COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

ACC 221 **Business Accounting III**

The module introduces students to the preparation of financial statements of clubs, societies, joint ventures, branches and departments. It also covers valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

CAC 222 **Cost and Budgetary Control**

This module equips students with profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

TAX 223 **Taxation**

The module introduces students to taxation, its functions, types and principles. In addition, the module covers the administration of taxes and the Malawi tax system. It also covers tools government uses to collect tax, how to compute tax for an individual, business (sole trader), partnership, and company, as well as computation of various rates and levies that are applicable in Malawi.

STA 224 **Business Statistics**

This module deals with statistical tools useful for businesses to make inferences about a population in a climate of uncertainty. Business and management problems are modelled as probability distributions and inferences about populations are made using tests of significance, confidence intervals and sampling distributions.

CAP 225 **Computer Applications**

The module introduces computer systems and application packages that are mainly used in business environments. It covers the computer system and its components, word processing, spreadsheets, internet, databases and Powerpoint presentation.

COM 226 **Organizational and Managerial Communication 1**

The module introduces students to various aspects of organisational communication as well as various types of interpersonal communication to enable them communicate effectively within and outside organisations.

Year Three

FIN 311 **Financial Reporting 1**

The module introduces students to the conceptual framework of accounting which underpins the preparation and presentation of general purpose financial statements. It covers the standard setting process and various International Financial Reporting Standards (IFRSs) required for proper preparation and presentation of financial statements.

LAW 312 **Corporate Law 1**

This module provides students with an overview of various business forms and introduces the basics of company law.

POM 313 **Principles of Management**

This module provides students with an understanding of the theory and practice of management in organisations. It covers the management functions, practices and philosophies that would assist students in identifying, analysing and solving management related problems.

MQT 314 **Management Quantitative Techniques**

This module is intended to focus on understanding, formulating and solving management/business problems. It equips students with techniques for solving management problems by building simple models of various business systems. In particular, the techniques presented enable students solve maximum/minimisation problems, transportation and assignment problems, queuing and network models. In addition, students are also able to make appropriate decisions under competitive situations against adversaries.

ECN 315 **Managerial Economics**

This module introduces students to management problems from an economic point of view and focuses on application of economic theory to day-to-day managerial decision making.

MAF 316 **Marketing Fundamentals 1**

This module introduces students to the marketing concepts, the guiding marketing management philosophies, and the marketing environment and customer decisional behaviour.

BRM 321 **Business Research Methods**

This module provides a clear guide on the key elements of the business research process. Essentially, the module prepares students for the final year research project.

COM 322 **Organisational and Managerial Communication II**

This module introduces students to the key elements of recruitment, corporate, supervisory and managerial communication. It covers areas such as conducting effective meetings, recruitment and corporate communication.

PRM 323 **Project Management**

The module introduces students to project management concepts and framework. In addition, the module covers project planning and monitoring tools and techniques. Students should also become skilled in the management of project cost and risk. Furthermore, students gain knowledge of not only project team structuring but also project control measures and techniques.

LAW 324 **Corporate Law II**

In this module, students analyse the rights and responsibilities of auditors and directors and gain an understanding of how shareholder awareness matters in the enforcement and protection of their rights while a company is a going concern or during mergers and acquisition and during winding-up.

ECN 325 **Development Economics**

This module introduces students to the concepts, principles and theories of development economics focusing on the state of development in low income countries and policy interventions that can transform these economies, specifically on how they can stimulate industrialisation, exploit trade opportunities, reduce poverty and income inequality.

MAF 326 **Marketing Fundamentals II**

In this module, students analyse both consumer and industrial markets into segments based on sound segmentation criteria. The module covers marketing research, its role in marketing and marketing mix elements.

Year Four

FIN 411 **Financial Management**

This module introduces students to concepts in the field of finance where its central focus is the relationship of risk to return and the maximisation of wealth of shareholders.

STM 412 **Strategic Management**

In this module, students are introduced to the principles and techniques to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

ENT 413 **Entrepreneurship and Innovation Management**

The module introduces students to sustainable entrepreneurial concepts by emphasising the importance of innovation and innovation management in entrepreneurship. It covers opportunity identification; creativity, innovation and risk management; social entrepreneurship; entrepreneurial growth, harvesting and challenges.

0PM 414 **Operations Management**

The module introduces students to operations management by covering key concepts and issues relevant in managing most types of business operations.

MAM 415 **Marketing Management**

The module focuses on the use of marketing models to handle marketing and organisation-wide situations, managing customer relationships, international marketing and e-commerce.

EBS 416 **E-Business**

The module introduces students to e-business models and explores the range of business opportunities and challenges that come with internet and mobile technology.

HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations.

RES 422 **Research Project**

In this module, students are required to systematically conduct small research projects and prepare project reports.

CHM 423 **Change Management**

This module introduces the concept of change and the challenges and complexities associated with managing and leading change in organisations. It covers the types, processes, models and approaches to organisational change, as well as the leadership and managerial competencies required in managing different change phenomena.

BUV 424 **Business Values and Ethics**

This module covers theories and practices surrounding the way organisations are governed in terms of ethical issues and good corporate governance for better corporate performance.

MSB 425 **Managing Small Businesses**

The module addresses key aspects in managing small business enterprises. It covers the objectives and challenges of owning small businesses, staffing and succession planning, purchasing and marketing strategies for small businesses.

PSM 426 **Public Sector Management**

This module introduces students to the theory and practice of public sector management. It covers the environment and distinctiveness of public sector management, accountabilities and bureaucracy.

Bachelor of Business Administration—Marketing

Year one

Module Code	Module Name and Descriptor
FIN 111	**Fundamentals of Accounting**

This module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.

LAW 112 **General Principles of Law**

The module equips students with basic legal principles which they should be able to apply in various situations. It also deals with the legal environment generally and as a firm grounding of business law.

MAT 113 **Business Numeracy**

The module provides the background to meet the mathematical needs of business students. It covers basic mathematics concepts such as sets, functions, indices and logarithms. In addition, students also gain knowledge and skills of performing interest calculations and investment appraisal.

ECN 114 **Introduction to Microeconomics**

This module introduces basic microeconomic principles, concepts and theories. It covers models, techniques and tools that economists use to address microeconomic issues and contemporary economic problems.

OBE 115 **Organizational Behaviour 1**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work as well as perception, motivation and personality.

EAP 116 **English for Academic Purposes 1**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

CAL 123 **Introduction to Calculus**

This module introduces students to calculus-based techniques that are extensively used in the resolution of business problems. It covers two branches of calculus: differential calculus and integral calculus.

ECN 124 **Macroeconomics**

This module introduces the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the working life challenges to the individual and society. The module covers group dynamics, management and leadership as well as business culture.

EAP 126 **English for Academic Purposes II**

This module is intended to equip students with writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composition of various arguments, and oral skills.

Year Two

ACC 211 **Business Accounting II**

The module introduces students to complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. It also covers the issue and redemption of shares and debentures.

CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also covers costing techniques that are used within business organisations.

LAW 213 **Commercial Law**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

STA 214 **Fundamentals of Statistics**

This module offers statistical tools to use in data collection, presentation and summary as well analysis and interpretation to facilitate effective decision making in organisations.

MIS 215 **Management Information Systems**

This module prepares students to make wise decisions about information technology and information systems for business organisations. It covers information technology, systems development life cycle, and management and security of information systems.

COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

ACC 221 **Business Accounting III**

The module introduces students to the preparation of financial statements of clubs, societies, joint ventures, branches and departments. It also covers valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

CAC 222 **Cost and Budgetary Control**

This module equips students with profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

TAX 223 **Taxation**

The module introduces students to taxation, its functions, types and principles. In addition, the module covers the administration of taxes and the Malawi tax system. It also covers tools government uses to collect tax, how to compute tax for an individual, business (sole trader), partnership, and company, as well as computation of various rates and levies that are applicable in Malawi.

STA 224 **Business Statistics**

This module deals with statistical tools useful for businesses to make inferences about a population in a climate of uncertainty. Business and management problems are modelled as probability distributions and inferences about populations are made using tests of significance, confidence intervals and sampling distributions.

CAP 225 **Computer Applications**

The module introduces computer systems and application packages that are mainly used in business offices. It covers the computer system and its components, word processing, spreadsheets, internet, databases and Powerpoint presentation.

COM 226 **Organizational and Managerial Communication 1**

The module introduces students to various aspects of organisational communication as well as various types of interpersonal communication to enable them communicate effectively within and outside organisations.

Year three

FIN 311 **Financial Reporting 1**

The module introduces students to the conceptual framework of accounting which underpins the preparation and presentation of general purpose financial statements. It covers the standard setting process and various International Financial Reporting Standards (IFRSs) required for proper preparation and presentation of financial statements.

LAW 312 **Corporate Law 1**

This module provides students with an overview of various business forms and introduces the basics of company law.

POM 313 **Principles of Management**

This module provides students with an understanding of the theory and practice of management in organisations. It covers the management functions, practices and philosophies that would assist students in identifying, analysing and solving management related problems.

MQT 314 **Management Quantitative Techniques**

This module is intended to focus on understanding, formulating and solving management/business problems. It equips students with techniques for solving management problems by building simple models of various business systems. In particular, the techniques presented enable students to solve maximum/minimisation problems, transportation and assignment problems, queuing and network models. In addition, students should also be able to make appropriate decisions under competitive situations against adversaries.

ECN 315 **Managerial Economics**

This module introduces students to management problems from an economic point of view and focuses on application of economic theory to day-to-day managerial decision making.

MAR 316 **Introduction to Marketing**

This module provides students with the basic knowledge for understanding the nature of marketing, the guiding marketing management philosophies, the marketing setting/environment, marketing planning and the marketing mix.

MRI 321 **Marketing Research and Information**

This module provides students with the data that decision makers need to know if their marketing efforts are effective and to discover new opportunities, markets and segments that can be targeted. Marketing research shows what the market is really thinking.

COM 322 **Organisational and Managerial Communication II**

This module introduces students to the key elements of recruitment, corporate, supervisory and managerial communication. It covers areas such as conducting effective meetings, recruitment and corporate communication.

PRM 323 **Project Management**

The module introduces students to project management concepts and framework. In addition, the module covers project planning and monitoring tools and techniques. Students also become skilled in the management of project cost and risk. Furthermore, students gain knowledge of not only project team structuring but also project control measures and techniques.

LAW 324 **Corporate Law II**

In this module, students analyse the rights and responsibilities of auditors and directors and gain an understanding of how shareholder awareness matters in the enforcement and protection of their rights while a company is a going concern or during mergers and acquisition and during winding-up.

SCM 325 **Supply Chain Management**

In this module, students are introduced to the concepts, principles and techniques to enable them design and manage supply chains effectively. The module covers components of Supply Chain Management (SCM), Customer and Supplier Relationship Management, Demand Management and the role of E- Business in the supply chain. The module also focuses on supply chain mapping and performance management.

IMA 326 **International Marketing**

The module introduces international marketing concepts, challenges and strategies. It covers the general environmental implications of international marketing and necessary marketing mix adaptations.

Year four

FIN 411 **Financial Management**

This module introduces students to concepts in the field of finance where its central focus is the relationship of risk to return and the maximisation of wealth of shareholders.

STM 412 **Strategic Management**

In this module, students are introduced to the principles and techniques to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

SOM 413 **Sales Operations Management**

The module introduces students to selling and sales management concepts and activities. It covers selling fundamentals, salesmanship, sales promotion and accounts management, as well as sales team management.

0PM 414 **Operations Management**

The module introduces students to operations management by covering key concepts and issues relevant in managing most types of business operations.

MAM 415 **Marketing Management**

The module focuses on the use of marketing models to handle marketing and organisation-wide situations, managing customer relationships, international marketing and e-commerce.

EBS 416 **E-Business**

The module introduces students to e-business models and explores the range of business opportunities and challenges that come with internet and mobile technology.

HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations.

RES 422 **Research Project**

Through this module, students are required to systematically conduct small research projects and prepare project reports.

ESB 423 **Entrepreneurship and Small Business Management**

The module introduces students to sustainable entrepreneurial concepts by emphasising the importance of innovation and innovation management in entrepreneurship. It covers opportunity identification; creativity, innovation and risk management; social entrepreneurship; entrepreneurial growth, harvesting and challenges, and key aspects of managing small businesses.

CSM 424 **Customer Service Management**

This module addresses key aspects of managing customer service. It covers the importance of customer service, models of customer service as well as handling difficult customers.

COB 425 **Consumer Behaviour**

The module examines the differences between consumer and organisational buyer behaviours, explores the multiple influences on buyer behaviour and the implications of buyer behavioural processes on marketing strategy. It emphasises the need to align the marketing offer to buyer choice criteria.

IMC 426 **Integrated Marketing Communication**

This module explores the field of integrated marketing communications (IMC). It covers the overall marketing process, how companies organise for advertising and other promotional functions, customer behavior, communications theory, and how to set goals, objectives and budgets. The module also focuses on various IMC tools used in contemporary marketing.

Bachelor of Procurement and Logistics Management

Year One

Module Code	Module Name and Descriptor
PLM-100	**Principles of Purchasing**

The module is designed to introduce students to procurement and supply management and enable them to understand how effective procurement and supply management contributes to the success of a modern organisation.

PLM-105 **Business Mathematics**

The aim of the module is to equip students with knowledge and understanding of fundamental principles and concepts of business mathematics.

PLM-110 **Principles of Management**

The module provides students with knowledge for understanding the nature of management and its importance to the organisation.

PLM – 115 **Business Environment**

The module equips students with basic knowledge and understanding of fundamental principles and concepts of the business environment.

PLM-120 **Introduction to Communication I**

This module aims to equip students with the basic communication and language proficiency skills necessary for an academic environment.

PLM-120 **Introduction to Communication II**

The aim of this module is to enable students acquire organisational communication skills necessary at the workplace.

PLM-125 **Information and Communications Technology (ICT)**

The module is designed to enable students understand how hardware/ software is used.

PLM – 130 **Business Law 1**

This module equips students with basic knowledge and understanding of fundamental principles and concepts of business law.

PLM – 135 **Financial Accounting 1**

This module seeks to equip students with knowledge and understanding of fundamental principles and concepts of financial accounting.

PLM-140 **Principles of Economics**

The module equips students knowledge and understanding of principles, concepts, theories and techniques of microeconomics and their application in a practical context.

PLM-145 **Stores and Inventory Management**

This module introduces students to the concepts and principles of managing stores and inventory.

Year Two

PLM-220 **Financial Accounting II**

The module aims to equip students with knowledge and understanding of advanced financial accounting concepts, principles and interpretation of financial reports.

PLM-215 **Business Statistics**

This module introduces students to the principles and techniques that are required to handle statistics applied in procurement and logistics.

PLM-220 **Development Economics**

The module equips students with an understanding of theories and principles of economics and their application in local and international economic situations.

PLM-225 **Negotiations**

This module is designed to equip students with knowledge and skills for negotiations in business.

PLM-230 **Logistics and Distribution Management**

The module introduces students to the concepts, principles and practices of logistics and distribution management.

PLM-240 **Taxation**

This module equips students with knowledge to understand the principles and practical application of individual, company and other aspects of the Malawi tax regimes.

PLM-245 **Management Information Systems (MIS)**

This module aims to provide a basic framework for understanding the use of information technology in the context of business organizations.

PLM-250 **Business Law II**

The module equips students with advanced knowledge and understanding of business law that plays a pivotal role in procurement negotiation and contracts.

Year Three

PLM-300 **Quantitative Methods**

The module introduces students to a range of quantitative techniques in the analysis and interpretation of procurement problems and related data.

PLM-305 **Principles of Marketing**

This module equips students with knowledge for understanding marketing as a business function.

PLM-310 **International Purchasing**

The module equips students with an understanding of the principles and practices of international purchasing.

PLM-315 **Human Resource Management**

The aim of the module is to equip students with the basic knowledge of understanding and analysing issues involved in the management of people.

PLM-320 **Retail Merchandise Management**

This module imparts in students knowledge and understanding of the concepts in the practices and management of retail merchandising.

PLM-325 **Business Law III**

This module equips students with knowledge and understanding of the local and international legal framework for public procurement.

PLM-330 **Research Methods**

The module is designed to equip students with research techniques applied in procurement and logistics management.

PLM-355 **Financial Management**

This module equips students with knowledge and skills of financial strategies.

PLM-340 **Project and Contract Management**

This module aims to equip students with the knowledge for the management of projects in supply and logistics management.

PLM-345 **Entrepreneurship**

This module creates and fosters an entrepreneurial spirit in graduating students to become job creators and not job seekers to help Malawi achieve economic growth and socio-economic development.

Year Four

PLM-400 **Strategic Management**

The aim of this module is to acquaint students with the challenges of top management. This prepares students for the challenges top managers face in advancing organisational growth.

PLM-405 **E-Procurement**

This module equips students with knowledge of e-procurement and its strategic importance in creating quality purchasing systems.

PLM-410 **Public Procurement**

This module is designed to introduce students to the general principles, procedures and regulations governing public procurement in Malawi.

MGT-401 **Production & Operations Management**

The module equips students with an understanding of the nature, significance and problems of the operating systems and the nature and scope of operations management.

PLM-425 **Strategic Procurement**

The aim of this module is to orient students to the strategies that can be used to add value to procurement and purchasing activities in the organisation.

PLM-435 **Procurement Ethics**

This module equips students with ethical concepts and practices in procurement.

PLM-440 **Needs Specification and Supplier Management**

The aim of this module is to introduce students to concepts for specifying needs and supplier management.

PWM-422 **Project Work**

This module enables students to gain experience in dealing with an open-ended research based problem.

Department of Management Studies

Bachelor of Commerce in Banking and Finance

Year one

Module Code	Module Name and Descriptor
FAC 111	**Fundamentals of Accounting**
	This module introduces students to basic financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.
LAW 112	**General Principles of Law**
	The module equips students with basic legal principles to apply in various situations. It also deals with the general legal environment that provides students with a firm grounding of business law.
MAT 113	**Business Numeracy**
	The module provides students with the background to meet the mathematical needs of business. It covers basic mathematics concepts such as sets, functions, indices and logarithms. In addition, students also gain knowledge and skills of performing interest calculations and investment appraisal.
ECON 114	**Introduction to Microeconomics**
	This module introduces students to basic microeconomic principles, concepts and theories. It covers techniques, models and tools that economists use to address microeconomic issues and contemporary economic problems.
OBE 115	**Organizational Behaviour I**
	The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work as well as the concepts of perception, motivation and personality.

EAP 116 **English for Academic Purposes I**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

CAL 123 **Introduction to Calculus**

This module introduces students to calculus-based techniques that are extensively used in solving business problems. It covers two branches of calculus: differential calculus and integral calculus.

ECN 124 **Macroeconomics**

This module introduces students to the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the working life challenges to the individual and society. The module covers group dynamics, management and leadership as well as business culture.

EAP 126 **English for Academic Purposes II**

This module is intended to equip students with effective writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composing various arguments and oral skills.

Year two

ACC 211 **Business Accounting II**

The module introduces students to complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. It also covers the issue and redemption of shares and debentures.

CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also explains costing techniques that are used in the industry.

LAW 213 **Organisations.**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

STA 214 **Fundamentals of Statistics**

This module offers students statistical tools to use in data collection, presentation and summary as well as analysis and interpretation to facilitate effective decision making in organisations.

MIS 215 **Management Information Systems**

This module prepares students to make decisions about information technology and information systems for business organisations. It covers information technology, systems development life cycle and management and security of information systems.

COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

ACC 221 **Business Accounting III**

The module introduces students to the preparation of financial statements of clubs, societies, joint ventures, branches and departments. It also covers valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

CAC 222 **Cost and Budgetary Control**

This module introduces students to profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

TAX 223 **Taxation**

The module introduces students to elements of taxation, its functions, types and principles. It covers tools government uses to collect tax, how to compute tax for an individual, business (sole trader), partnership and company as well as computation of various rates and levies that are applicable in Malawi.

STA 224 **Business Statistics**

This module introduces students to statistical tools useful for making inferences about a population in a climate of uncertainty in business.

CAP 225 **Computer Applications**

The module introduces students to computer systems and application packages that are mainly used in business environments. It covers the computer system and its components, word processing, spreadsheets, internet, databases and power point presentation.

COM 226 **Organisational and Managerial Communication I**

The module introduces students to various modes of organisational communication as well as various types of interpersonal communication within and outside organisations.

Year three

FMI 311 **Financial Markets and Institutions**

The module introduces students to the fundamental principles that govern financial markets and institutions, specifically bringing the understanding of the workings of the banking industry, the central bank and the behaviour of financial intermediaries.

LAW 312 **Banking Law**

This module imparts in students knowledge and skills of banking law that is essential in the operations of banks and other financial institutions in their business operations.

POM 313 **Principles of Management**

This module provides students with an understanding of the theory and practice of management in organisations. It covers the management functions, practices and philosophies that would help students in identifying, analysing and solving management-related problems.

QFN 314 **Quantitative Finance**

The module introduces students to general principles of modelling the prices dynamics of financial assets, market risks, time series analysis and other types of financial risks.

PDM 315 **Public Debt Management**

The module introduces students to issuance and management of debt by the state and local governments, exploring topics from the perspective of the public officials who issue and manage state and local government debt.

MFS 316 **Marketing Financial Services**

This module introduces students to the marketing of banking and financial products and services. It highlights the challenges of marketing financial services and the strategies for successful marketing of products and services in the banking sector.

BRM 321 **Business Research Methods**

This module provides students with a clear guide on the key elements of the business research process. Essentially, the module prepares students for the final year research project.

INT 322 **International Trade**

The module introduces students to the law of comparative advantage, the gains from trade, the Ricardian model, the Heckscher-Ohlin theory, the standard and alternative trade theories, international factor movements, and trade policies such as tariff and nontariff barriers.

PRM 323 **Project Management**

This module introduces students to concepts and frameworks for managing projects. The module covers project planning and monitoring tools and techniques.

BPO 324 **Banking Products and Operations**

This module is designed to provide students with knowledge on the fundamental function and structure of financial markets and the financial system, banking operations in commercial and investment banks, bank products and use in financial and investment management of firms and bank products.

RAM 325 **Risk Analysis & Management**

The module introduces students to a risk management toolbox for quantifying, monitoring and controlling the spectrum of risks that challenge financial institutions.

ICF 326 **Introduction to Corporate Finance**

The module is designed to introduce students to the basics of corporate finance, covering the scope of financial management, sources of financing and the costs of finance.

Year four

TRM 411 **Treasury Management**

This course introduces students to foreign exchange markets, money markets, bond market operations and related financial products. It analyses the international finance environment within which banks, other intermediaries and companies operate and how it affects their operations in treasury.

STM 412 **Strategic Management**

In this module, students are introduced to the principles and techniques used to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

INB 413 **International Banking & Trade Finance**

This module introduces students to correspondent banking relations, international transfer and payment systems, principles and application of foreign exchanges, letter of credits and bankers' acceptances, global financing and global risk management.

CGE 414 **Corporate Governance and Ethics**

The module introduces students to principles of good corporate governance. Specifically, the module focuses on the role of shareholders and board of directors, codes of good corporate governance and corporate social responsibility. It also covers major ethical issues that businesses face today.

FRA 415 **Financial Reporting and Analysis**

In this module, students are introduced to the Conceptual Framework of Accounting which underpins the preparation and presentation of general purpose financial statements. The module covers the role of various international and local accountancy bodies in financial reporting, standard setting process and various International Financial Reporting Standards (IFRSs) required for proper preparation, presentation and analysis of financial statements.

EBS 416 **E-Business**

The module introduces students to e-business models and explores the range of business opportunities and challenges that come with internet and mobile technology.

HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations.

RES 422 **Research Project**

In this module, students are required to systematically conduct small research projects and prepare project reports.

FSA 423 **Finance and Security Analysis**

This module introduces students to the concepts and principles underlying the operations of capital and financial markets. It focuses on the workings of the security market, valuation of securities, portfolio management, Capital Asset Pricing Model, derivatives and listing rules and regulations.

PIN 424 **Principles of Investments**

The module introduces students to the principles and practice of investments. It covers background to making investments, capital markets theory and portfolio management.

SBM 425 **Small Business Management**

The module introduces students to key aspects in managing small business enterprises. It covers the objectives and challenges of owning

small businesses, staffing and succession planning, purchasing and marketing strategies for small businesses.

CRM 426 **Credit Risk Management**

The module introduces students to classic credit risk management assessment techniques, portfolio credit risk modelling, credit derivatives valuation and credit risk management organisation issues.

Bachelor of Commerce in Entrepreneurship

Year One

Module Code	Module Name and Descriptor
FAC 111	**Fundamentals of Accounting**
	This module introduces students to basic financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.
LAW 112	**General Principles of Law**
	The module equips students with basic legal principles to apply in various situations. It also deals with the general legal environment that provides students with a firm grounding of business law.
MAT 113	**Business Numeracy**
	The module provides students with the background to meet the mathematical needs of business. It covers basic mathematics concepts such as sets, functions, indices and logarithms. In addition, students also gain knowledge and skills of performing interest calculations and investment appraisal.
ECON 114	**Introduction to Microeconomics**
	This module introduces students to basic microeconomic principles, concepts and theories. It covers techniques, models and tools that economists use to address microeconomic issues and contemporary economic problems.
OBE 115	**Organizational Behaviour I**
	The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of

others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work as well as the concepts of perception, motivation and personality.

EAP 116 **English for Academic Purposes I**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

CAL 123 **Introduction to Calculus**

This module introduces students to calculus-based techniques that are extensively used in solving business problems. It covers two branches of calculus: differential calculus and integral calculus.

ECN 124 **Macroeconomics**

This module introduces students to the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the working life challenges to the individual and society. The module covers group dynamics, management and leadership as well as business culture.

EAP 126 **English for Academic Purposes II**

This module is intended to equip students with writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composing various arguments and oral skills.

ACC 211 **Business Accounting II**

The module introduces students to complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. It also covers the issue and redemption of shares and debentures.

CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also explains costing techniques that are used in industrial organisations.

LAW 213 **Commercial Law**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

STA 214 **Fundamentals of Statistics**

This module offers students statistical tools to use in data collection, presentation and summary as well as analysis and interpretation to facilitate effective decision making in organisations.

MIS 215 **Management Information Systems**

This module prepares students to make decisions about information technology and information systems for business organisations. It covers information technology, systems development life cycle and management and security of information systems.

COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

ACC 221 **Business Accounting III**

The module introduces students to the preparation of financial statements of clubs, societies, joint ventures, branches and departments. It also covers

valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

CAC 222 **Cost and Budgetary Control**

This module introduces students to profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

TAX 223 **Taxation**

The module introduces students to elements of taxation, its functions, types and principles. It covers tools government uses to collect tax, how to compute tax for an individual, business (sole trader), partnership and company, as well as computation of various rates and levies that are applicable in Malawi.

STA 224 **Business Statistics**

This module introduces students to statistical tools useful for making inferences about a population in a climate of uncertainty in business.

CAP 225 **Computer Applications**

The module introduces students to computer systems and application packages that are mainly used in business environments. It covers the computer system and its components, word processing, spreadsheets, internet, databases and Powerpoint presentation.

COM 226 **Organisational and Managerial Communication I**

The module introduces students to various modes of organisational communication as well as various types of interpersonal communication within and outside organisations.

Year Three

FOE 311 **Fundamentals of Entrepreneurship**

This module introduces students to general principles and practices of entrepreneurship. It covers concepts of entrepreneurship, entrepreneurial processes, opportunity spotting, analysis and exploitation.

LAW 312 **Business Law for Entrepreneurs**

This module introduces students to general and specific principles of business law that are essential and applicable in every field of entrepreneurship.

POM 313 **Principles of Management**

This module provides students with an understanding of the theory and practice of management in organisations. It covers the management functions, practices and philosophies that would assist students in identifying, analysing and solving management-related problems.

IBM 314 **International Business Management**

The module introduces students to basic skills and concepts required to engage in global business activities. The course covers basic foreign markets entry strategies, with emphasis on practical approaches.

ECN 315 **Managerial Economics**

This module introduces students to management problems from an economic point of view and focuses on application of economic theory to day-to-day managerial decision making.

MAR 316 **Introduction to Marketing**

This module provides students with the basic knowledge for understanding the nature of marketing, the guiding marketing management philosophies, the marketing setting/environment, marketing planning and the marketing mix.

BRM 321 **Business Research Methods**

This module provides students with a clear guide on the key elements of the business research process. Essentially, the module prepares students for the final year research project.

CIB 322 **Creativity and Innovation for Business**

The module introduces students to creative techniques for developing new products and services. It develops students' capabilities for creative problem solving and lateral thinking that helps bring about brilliant ideas for new products and services for new venture creation.

PRM 323 **Project Management**

In this module, students are introduced to concepts and frameworks for managing projects. The module covers project planning and monitoring tools and techniques.

BVC 324 **Business Venture Creation 1**

The module engages students' creative faculties to think; generate ideas, spot opportunities and exploit them through business venture creation. It covers opportunity spotting or idea generation and analysis to conducting feasibility studies.

ETH 325 **Entrepreneurship Theory**

The module introduces students to contemporary theories governing entrepreneurship practice. The course analyses theories that enable students understand entrepreneurial best practices.

MAC 326 **Performance Management**

This module introduces students to areas pertaining to performance measurement and recent developments in business management.

Year Four

FIN 411 **Financial Management**

This module introduces students to concepts in the field of finance and focuses on the relationship of risk to return and the maximisation of wealth of shareholders.

STM 412 **Strategic Management**

In this module, students are introduced to the principles and techniques used to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

COR 413 **Corporate Entrepreneurship**

The module introduces students to concepts for the practice of entrepreneurship in established organisations and corporations. It covers factors for effective implementation of entrepreneurship in organisations.

OPM 414 **Operations Management**

The module introduces students to concepts and practices of managing operations in most types of businesses.

MAM 415 **Marketing Management**

The module introduces students to the use of marketing models to handle marketing and organisation-wide situations, managing customer relationships, international marketing and e-commerce.

EBS 416 **E-Business**

The module introduces students to e-business models and explores the range of business opportunities and challenges that come with internet and mobile technology.

HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations.

BPD 422 **Business Planning and Development**

The module equips students with requisite skills in the designing and development of business plans.

BVC 423 **Business Venture Creation 2**

The module challenges students to develop business plans based on the feasibility studies on ideas or opportunities spotted in the previous module. The module involves conducting further market studies and developing business plans for new ventures or growing existing businesses.

HSW 424 **Health, Safety and Welfare Management**

This module introduces students to principles and management of health, safety and welfare in the work place.

SBM 425 **Small Business Management**

The module introduces students to key aspects in managing small business enterprises. It covers the objectives and challenges of owning small businesses, staffing and succession planning, purchasing and marketing strategies for small businesses.

RIM 426 **Risk Management**

The module introduces students to principles of risk management as a corporate decision-making process. Students develop an understanding of theories and frameworks associated with the management of all risks affecting a business setting.

Calendar 2016-2018

Bachelor of Commerce in Tourism Management

Bachelor of Commerce in Tourism Management (BTM) is a programme that has been structured to develop managers with thorough grounding in tourism management skills and a higher level qualification to engage with innovative development of the sector.

Year one

Module Code	Module Name and Descriptor
MSD-FAC- 111	**Fundamentals of Accounting** This module introduces students to basic financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities and preparation of basic financial statements.
MSD- LAW 112	**General Principles of Law** The module equips students with basic legal principles to apply in various situations. It also deals with the general legal environment that provides students with a firm grounding of business law.
MSD-MAT 113	**Business Numeracy** The module provides students with the background to meet the mathematical needs of business. It covers basic mathematics concepts such as sets, functions, indices and logarithms. In addition, students also gain knowledge and skills of performing interest calculations and investment appraisal.
MSD-ECN 114	**Introduction to Microeconomics** This module introduces students to basic microeconomic principles, concepts and theories. It covers techniques, models and tools that economists use to address microeconomic issues and contemporary economic problems.
MSD-OBE 115	**Organizational Behaviour 1** The module is designed to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work as well as the concepts of perception, motivation and personality.

MSD-EAP 116 **English for Academic Purposes 1**

This module introduces students to the basic cognitive academic language proficiency and interpersonal skills necessary for communication. It covers study skills and the writing process.

MSD-ACC 121 **Business Accounting 1**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers accounting for non-current assets, bank reconciliations, incomplete records and preparation of financial statements.

MSD-LAW 122 **Labour Law**

The module introduces students to concepts and principles governing different types of contracts of employment. It includes the body of laws, administrative rulings and precedents which address legal rights of, and restrictions on employees and their organisations.

MSD-CAL 123 **Introduction to Calculus**

This module introduces students to calculus-based techniques that are extensively used in solving business problems. It covers two branches of calculus: differential calculus and integral calculus.

MSD-ECN 124 **Macroeconomics**

This module introduces students to the concepts, principles and theories of macroeconomics and covers the major macroeconomic problems and how government intervenes on the market using macroeconomic policies.

MSD-OBE 125 **Organizational Behaviour II**

The module is designed to strengthen students'self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the working life challenges to the individual and society. The module covers group dynamics, management and leadership as well as business culture.

MSD-EAP 126 **English for Academic Purposes II**

This module is intended to equip students with writing, speaking and reading skills for effective communication. It covers remedial, achieving worthwhile content, composing various arguments and oral skills.

Year two

MSD-ACC 211 **Business Accounting II**

The module introduces students to complex issues pertaining to partnerships and preparation of financial statements for manufacturing and non-manufacturing limited companies. It also covers the issue and redemption of shares and debentures.

MSD-CAC 212 **Cost Accounting**

This module introduces students to concepts, principles and accounting for costs relating to materials, labour and overheads. It also explains costing techniques that are used in industrial organisations.

MSD-LAW 213 **Commercial Law**

This module provides students with an understanding of the principles and concepts that apply to specific types of contracts and commercial instruments used in business.

MSD-STA 214 **Fundamentals of Statistics**

This module offers students statistical tools to use in data collection, presentation and summary as well as analysis and interpretation to facilitate effective decision making in organisations.

MSD-MIS 215 **Management Information Systems**

This module prepares students to make decisions about information technology and information systems for business organisations. It covers information technology, systems development life cycle and management and security of information systems.

MSD-COM 216 **Business Communication**

The module introduces students to elements of communication theory to enable them communicate effectively.

MSD-ACC 221 **Business Accounting III**

The module introduces students to the preparation of financial statements of clubs, societies, joint ventures, branches and departments. It also covers valuation of inventories, accounting for hire purchase transactions and analysis of financial statements.

MSD-CAC 222 **Cost and Budgetary Control**

This module introduces students to profit reporting skills required in preparation of reports for management analysis. It also enables students to prepare budgets and analyse the standard costs of products and services.

MSD-TAX 223 **Taxation**

The module introduces students to elements of taxation, its functions, types and principles. It covers tools government uses to collect tax, how to compute tax for an individual, business (sole trader), partnership and company, as well as computation of various rates and levies that are applicable in Malawi.

MSD-STA 224 **Business Statistics**

This module introduces students to statistical tools useful for making inferences about a population in a climate of uncertainty in business.

MSD-CAP 225 **Computer Applications**

The module introduces students to computer systems and application packages that are mainly used in business environments. It covers the computer system and its components, word processing, spreadsheets, internet, databases and power point presentation.

MSD-COM 226 **Organizational and Managerial Communication 1**

The module introduces students to various modes of organisational communication as well as various types of interpersonal communication within and outside organisations.

Year three

MSD-TPP 311 **Tourism Principles and Practices**

The module introduces students to the fundamental concepts of tourism and hospitality management. It covers basic introduction to the subject, the tourism system and drivers of tourism demand, tourist motivations and consumer behaviours.

MSD-LAW 312 **Law for Tourism**

The module introduces students to general and specific principles of tourism law that are essential and applicable in tourism industry. It covers regulations, licensing, legal relationships and laws relating to general tourism operations.

MSD-POM 313 **Principles of Management**

This module provides students with an understanding of the theory and practice of management in organisations. It covers the management functions, practices and philosophies that would help students in identifying, analysing and solving management-related problems.

MSD-MQT 314 **Management Quantitative Techniques**

The module equips students with skills in formulating and solving management and business problems using a range of quantitative techniques.

MSD-TFT 315 **Transport for Tourism**

The module introduces students to the key role of transport in tourism development. It covers the issues and factors for consideration when developing transport infrastructure in a tourist destination.

MSD-MAR 316 **Introduction to Marketing**

This module provides students with the basic knowledge for understanding the nature of marketing, the guiding marketing management philosophies, the marketing setting/environment, marketing planning and the marketing mix.

MSD- BRM 321 **Business Research Methods**

This module provides students with a clear guide on the key elements of the business research process. Essentially, the module prepares students for the final year research project.

MSD-TDM 322 **Tourism Destination Management**

This module introduces students to the challenges faced by tourism entities. It focuses on the management of the tourist destinations.

MSD-PRM 323 **Project Management**

In this module, students are introduced to concepts and frameworks for managing projects. The module covers project planning and monitoring tools and techniques.

MSD- ENT 324 **Entrepreneurship and Innovation**

The module is designed to foster an entrepreneurial spirit in graduating students to become job creators and not job seekers to help Malawi achieve economic growth and socio-economic development.

MSD-SUS 325 **Sustainable Tourism**

The module provides knowledge to students on how best tourism resources can be sustained for the current and future generations. The module focuses on modern business approaches on corporate sustainability.

MSD-CGE 326 **Corporate Governance and Ethics**

The module introduces students to principles of good corporate governance. Specifically, the module focuses on the role of shareholders and board of directors, codes of good corporate governance and corporate social responsibility. The module also introduces students to the concept of business ethics, an overview of major ethical issues that businesses face today, and a discussion of moral philosophy through an understanding of classical and contemporary ethical theories

Year four

MSD-ITO 411 **International Tourism**

The module introduces students to the key aspects of international tourism. It covers systems, operations and challenges in international tourism.

MSD-STM 412 **Strategic Management**

In this module, students are introduced to the principles and techniques used to analyse strategic theories, problems and practices and apply these principles and techniques to real-life situations through case analysis.

MSD-ECO 413 **Eco Tourism**

The module introduces students to the concepts of partnering tourism development with the natural ecological system. It covers the key concepts of designing tourism development to fit in, benefit and sustain the ecological system.

MSD-OPM 414 **Operations Management**

The module introduces students to the concepts and practices of managing operations in most types of businesses.

MSD-CHT 415 **Cultural and Heritage Tourism**

The module covers concepts of culture and heritage and their role in the tourism industry. This includes cultural diversity, intercultural

phenomenon, cross-cultural perceptions, stereotyping, and the heritage tourism analysis and development.

MSD-SQM 416 **Service Quality Management in Tourism**

The module introduces students to the concepts and strategies that improve the delivery of tourism and hospitality services. It covers theoretical concepts as well as their practical applications in offering the highest quality service in the tourism and hospitality industry.

MSD-HRM 421 **Human Resource Management**

This module introduces students to the key areas essential to the HR function. It focuses on the nature and context of HRM, employee resourcing, maintenance and development of HR as well as managing employee relations.

MSD-RES 422 **Research Project**

In this module, students are required to systematically conduct small research projects and prepare project reports.

MSD-TOM 423 **Tourism Marketing**

The module introduces students to the role of marketing in tourism and the risk factors affecting generating countries and tourist demand behaviours.

MSD-CSM 424 **Customer Services Management**

The module introduces students to key aspects of managing customer service and covers the importance of customer service, models of customer service as well as handling difficult customers.

MSD-SBM 425 **Small Business Management**

The module introduces students to key aspects in managing small business enterprises. It covers the objectives and challenges of owning small businesses, staffing and succession planning, purchasing and marketing strategies for small businesses.

MSD-DMT 426 **Development and Management of Tourist Attractions**

The module introduces students to skills and processes required to develop and manage new tourist attractions. It covers the roles of

attractions in tourism and factors influencing the successful development and management of tourist attractions.

Postgraduate Programmes in the Faculty of Commerce

Master of Business Administration (MBA)

Module Code	Module Name and Descriptor
MBA-701:	**Financial Reporting Environment (FRE)** The aim of this module is to develop skills in reading the corporate report as well as evaluating and interpreting financial accounting statements to make informed decisions.
MBA-702:	**Research Methodology (RM)** This module is designed to equip students with knowledge and skills in research methodology to enable them conduct research and present ideas in a coherent way.
MBA-703:	**Management Quantitative Techniques (MQT)** The aim of this module is to acquaint students with methods of solving management problems using quantitative techniques.
MBA-704:	**Organisational Behaviour (OB)** The module provides students with an understanding of human behaviour and its impact on the management of the organisation.
MBA-705:	**Communication Management (CM)** The module is designed to equip students with interpersonal and communication skills to enable them communicate confidently and effectively.
MBA-706:	**Strategic Information Management (SIM)** This module enables students understand the importance of information as an organisational strategic resource and how they can use information systems and information technology to improve the competitiveness of their organisation.

MBA-711: **International Economics (IE)**

This module develops in students an understanding of economic principles and concepts which have a direct bearing on international trade and finance.

MBA-712: **Public Sector Management (PSM)**

The aim of this module is to enable students understand the process of management and decision making in the public sector. This entails presenting the conceptual meaning of the subject matter with as much reference as possible to practical instances on the ground. Also, the course aims at enabling students to vividly grasp the role of the public sector in handling public policy issues both in developed and developing economies, with emphasis on the latter.

MBA-801: **Strategic Financial Management (SFM)**

The module introduces students to the fundamentals of finance to enable them gain an understanding of financial management, master finance concepts and develop requisite analytical skills.

MBA-802: **Production and Operations Strategy (POS)**

The module provides students with an understanding of the nature, significance and problems of the operating systems and the nature and scope of operations management so that they can manage productive and value adding activities of their organisations effectively.

MBA-803: **Human Resource Management**

This module enables students develop a deeper understanding of the nature of human resource management and acquire skills to maximise the productivity, efficiency and effectiveness of the organisations key resource – the people.

MBA-804: **Strategic Management (SFM)**

The module develops students' knowledge and abilities to design, implement and control appropriate strategies.

MBA-805: **Legal Environment of Business (LEB)**

This module equips students with an understanding of principles and aspects of law which will enable them make sound and informed judgments in the legal environment in which businesses function.

MBA-806: **Marketing Management (MM)**

The course is designed to develop rigorous conceptual/analytical skills of investigation and the decision-making skills of foundations of marketing through coverage of prescribed readings, intensive case analysis and projects.

MBA-811: **International Business Management (IBM)**

The module provides an essential background for students to develop an understanding of the complex nature of decision making in the international business environment.

MBA-812: **Financial Institutions (FI)**

This module examines in depth the role and functions of financial markets and financial intermediaries.

MBA-900: **Thesis/Dissertation**

The module is designed to enable students apply skills and knowledge gained in the entire programme under close supervision to explore a particular topic in depth while allowing students to develop skills in the collection and appraisal of data, rigorous analysis and the coherent presentation of ideas.

MBA-902: **Managerial Economics (ME)**

The module provides students with tools, concepts and principles of microeconomics relevant to managerial decision making and enable them understand the practical application of economic principles in solving managerial problems.

MBA-904: **Managing Change (MC)**

This module provides students with conceptual foundations and develop analytical skills for understanding and managing change.

MBA-911: **Entrepreneurship (E)**

The module provides essential entrepreneurial knowledge, skills and attitudes necessary for starting new business ventures and succeeding in the management of existing ones.

MBA-912: **Industrial Relations (IR)**

This module provides students with tools and concepts required for handling industrial relations.

PhD programmes in Commerce

The Faculty of Commerce offers PhD programmes in three streams of entrepreneurship, strategic management and financial management. Because the PhD programmes are research-based, PhD students are required to take the prerequisite Research Methods module delivered through specifically arranged research seminars. Where there are some deficiencies, PhD students may be required to audit relevant Masters taught modules as deemed fit by the supervisors to strengthen their functional knowledge in their respective research area. Students will not be examined in such modules.

PhD in Entrepreneurship

This programme is designed to equip and expose students to relevant knowledge and understanding of entrepreneurship. Students gain insights into the unique nature, functioning, problems and existence of small and large businesses. Topics of research include small business management, business plan, family business, creativity and innovation and entrepreneurship policy.

The aim of this PhD degree is to facilitate entrepreneurial decision-making of the highest standard, the continual development of a high level of cognitive knowledge, skills and attitudes and the development of current research to make significant intellectual contribution to entrepreneurship as a body of knowledge and provide innovative solutions to the day to day problems faced by entrepreneurs.

PhD in Strategic Management

The PhD degree is geared towards providing students with specialist expertise in the field of strategic management and corporate planning. Students are encouraged to study the problems and issues facing general managers and administrators who must formulate and implement strategies for organisations/ institutions in uncertain and ambiguous environments.

The aim of the PhD programme is to facilitate and promote the institutionalisation of strategic management issues as the modern environment continues to change and managers should adapt to such turbulent changes. The programme also facilitates strategic decision making of the highest standard, the continual development of a high level of cognitive knowledge, skills and attitudes and the development of current research to contribute to the development and understanding of a specific field of interest in strategic management.

PhD in Financial Management

The PhD programme is designed to provide students with specialist expertise in the field of financial investment management in order to facilitate and promote financial decision making of the highest standard. It is worth noting that finance is a key element of any business/institution and without it, no business/institution can survive. That is why the raising, allocation and management of financial resources for maximum advantage is paramount. As such, businesses /institutions need people who

understand the ins and outs of finance. The aim of the programme is to develop high level intellectual, cognitive, practical and research competences in the students to enable them engage in sound decision making related to the management of financial resources.

FACULTY OF EDUCATION AND MEDIA STUDIES

Department of Language and Communication

Bachelor of Arts in Business Communication

Year One

BBC 111: **Oral Communication**

This module introduces students to oral communication skills and other relevant aspects of public speaking necessary for effective face-to-face communication in the organisation.

BBC 112: **Mass Communication I**

This module aims to provide students with the knowledge of the fundamentals of the mass media through the study of mass communication theories and their application in the analysis of mass media.

BBC 113 **Communication Theories I**

This module offers students an overview of communication theories and the models used to analyse mass communication. It enables them to apply the communication theories in their communication with different stakeholders.

BBC 114: **Communication Studies I**

This module exposes students to effective study practices and competent academic writing skills necessary for success in college. The module prepares students for the academic challenges in college.

BBC 115: **Introduction to Computer & Modern Communication Technology**

This module introduces students to modern communication technologies and their impact on business, organisational and socio-political environment. It orientates students to the computer as an important piece of advanced technology and how they can use it to enhance communication network within and outside the organisation.

BBC 116: **Literature I**

This module is intended to introduce students to literature and provide them with the relevant knowledge for analysing literary works.

BBC 121: **Mass Communication**

This module provides students with the knowledge of media functionalities and critical theories and other media-related issues to enable them conduct research in areas such as media institutional practices, ownership, regulation, censorship as well as media and democratisation.

BBC 122: **Communication Theory II**

This module offers an overview of the social impact of communication in the organisation to enable students acquire an understanding of the dynamics of interaction in society in order to function effectively in the organisation.

BBC 123: **Communication Studies II**

This module gives students an opportunity to apply their writing skills in the writing of essays and short formal reports.

BBC 124: **Design and Production of IEC –Print**

This module develops students' skills for designing and producing written or printed information education and communication (IEC) materials such as leaflets, newsletters, brochures, posters as well as magazines and journals for use in the business, marketing and organisational context. It equips students with computer knowledge and skills for desktop publishing (DTP).

BBC 125: **Literature II**

This module introduces students to literature and familiarises them with the language, elements and basic structures of literary works.

BBC 216: **Logic and Critical Thinking**

This module takes students through the theories and skills of logic, critical thinking and persuasion in the communication context. It enables them to apply the skills in their communication processes.

Year Two

BBC 211: **Introduction to Business Organisations**

This module exposes students to the functions and methods of business, types of business ownership and the role of business organisations in the contemporary society. It presents to students the dynamic nature of the business world, making them aware of the economic, commercial, social, political, legal and technological spheres and how these affect business activity.

BBC 212: **Intercultural Communication**

The module provides students with knowledge of theories and research in intercultural communication. It enables students to apply these theories and research skills in the development of a multi-cultural society.

BBC 213: **Communication Ethics**

The module introduces students to the nature of ethical reasoning, judgment and decision making needed in organisational communication. It gives students a broad understanding of normative and meta ethical principles which form the basis for sound ethical decisions and moral conduct in organisational communication activities.

BBC 214: **Media and Society**

This module focuses on the relationship among communication media and social practices, beliefs and ideologies. Among other areas of concentration, the module focuses on major social practices that have affected the media (e.g. censorship), particular kinds of media (e.g., the radio), or a specific medium in relation to a period (e.g. the impact of satellite television in democratic Malawi).

BBC 215: **Introduction to Sociology**

This module takes students through social concepts and processes individuals and societies need to interpret reality meaningfully and work effectively in society.

BBC 216: **Business Writing**

This module is designed to develop in students the prerequisite skills necessary to analyse and effectively respond to rhetorical situations by planning, writing, revising and editing a variety of business documents.

BBC 221: **Design and Production of IEC Materials**

This module aims to develop students' skills for designing and producing audio visual and integrated IEC media and channels such as audio CDs, tapes, radio documentaries and programmes and video / television documentaries which can be used for marketing products or for communicating business and organisational matters. The module also equips students with skills for planning, directing, editing and producing audio video documentaries and programmes.

BBC 222: **Management Principles and Practice**

The aim of this module is to equip students with the necessary background to understand the functions of management in the organisation.

BBC 223: **Communication Law**

This module introduces students to the general communication and media law to enable them understand how the law impacts on business and organisational activities.

BBC 224: **Statistics**

This module builds on students' O-level mathematical skills and introduces them to some of the basic ideas of applied statistics. The ideas are used as a context in which to discuss the application of statistics in a wide range of environments applicable to business communication. Topics of study include inferential statistics: probability and distribution theory, data analysis and the use of basic statistical software, data summaries, sampling, probability, probability distributions, regression, correlation and significance tests.

BBC 225: **Introduction to Economics**

This module introduces students to the basics of economics to enable them understand the financial position of the organisations they deal with in their work.

BBC 226: **Organisational Behaviour**

This module introduces students to the features that make up the human behaviour such as attitude, perception, behaviour, learning skills and motivation and how they are developed and shaped toward achieving organisational goals. The module helps students to understand human beings in order to work with them effectively in an organisation.

Year Three

BBC 311: **Organisational Communication I**

This module provides students with knowledge of organisational communication theories and research, and enables them to apply these theories and research skills to the effective use, assessment and planning of communication in and between organisations.

BBC 312: **Advertising I**

This module provides students with the theoretical and research knowledge that helps them understand consumer audiences, media of advertising, advertising agencies, and the skills to create advertisements and carry out advertising campaigns.

BBC 313: **Introduction to Development Communication**

This module provides students with a broad overview of the nature and functions of communication in development. It explores the impact of both the mass and interpersonal media affecting change in areas such as education, poverty, agriculture, socio-cultural issues, governance, health, water and sanitation, agriculture and environment.

BBC 314: **Customer Services Communication**

This module exposes students to the theoretical practicum of handling business clients using effective communication strategies. It prepares students for effective handling of corporate customers.

BBC 315: **Human Relations**

This module covers the general principles of human relations underlying employee-employer activities, with realistic theory and practice in the basic problems in the work environment. It covers morale, personality traits, leadership, employer-employee relations, and the communication processes.

BBC 315: **Public Relations**

This module equips students with skills for using various communication approaches and media to create understanding, positive image and good will of organisations, products and services. It focuses on the art of positive language, persuasion, strategic communication planning, and implementation as well as production of relevant communication products and undertakings in order to bring about understanding and good image which is the springboard for effective marketing, advertising, promotion and development of corporations.

BBC 321: **Organisational Communication II**

This module provides students with the knowledge to handle small group communication, make decisions and deal with different types of interviews.

BBC 322: **Advertising II**

This module provides students with the knowledge of developing appealing advertising messages and analysing different forms of advertising media.

BBC 323: **Corporate Communications**

This module introduces students to how companies communicate with key audiences, both internal and external to the corporation. It discusses the communication function and how companies reach a variety of publics who include customers, investors, employees, media, government agencies and communities located in the proximity of the corporation.

BBC 324: **Sales Promotion**

This module is designed to equip students with the knowledge and communication skills necessary for promoting sales of products/services at points of sale and point of purchase.

BBC 325: **Behavioural Change Communication**

This module equips students with knowledge and skills on how to effect behaviour change through strategic communication. It focuses on how cultural, social, economic and political factors influence people's choices and behaviours in relation to health, prevention of diseases and seeking of treatment.

BBC 326: **Communication Research I**

The module provides students with knowledge and skills necessary for them to design and conduct organisational communication research, and to report research findings.

Year Four

BBC 411: **Communication Research II**

This module provides students with the practical experience in writing research proposals in business and organisational communication and related areas.

BBC 412: **Persuasion and Business Negotiation**

This module equips students with a wide variety of approaches to the analysis and practice of negotiation and related issues in mediated negotiation. The module also introduces students to the history of thinking about negotiation and frameworks for analysing negotiation.

BBC 413: **Project Management I**

This module provides students with knowledge of the critical methods for planning and controlling activities in project implementation.

BBC 414: **Government Communication**

This module equips students with knowledge on the role of communication and media in politics and governance. Among other things, the module underscores the effects of communication and media in bringing about effective governance.

BBC 415: **Recruitment Communication**

This module takes students through the relevant communication skills necessary for obtaining a desired job and for filling positions in organisations. It focuses on developing effective organisational communication skills to help students acquire the right job and get the right people to work in an organisation.

BBC 416: **Change Management**

This module introduces students to the background, common concepts and practice of management and equips them with change management perspectives, theories and skills. The module also introduces students to the role of communication in change management.

BBC 421: **Dissertation**

This module gives the students an opportunity to apply their skills in communication research in carrying out research and writing the research project. The final output of the module is a research report.

BBC 422: **Global communication**

This module is designed to stimulate students' critical appraisal of international communication systems and expose them to international communication flow patterns, critical issues in global news and information coverage. Topics of study include media systems of the world, the theory

and flow of international communication, direct satellite broadcasting, globalisation and new information and communication technologies.

BBC 423: **Project Management II**

The module introduces students to critical methods for planning and controlling projects including time/cost tradeoffs, resource utilisation, and stochastic considerations. Students are also exposed to issues of managerial significance such as project costing, organisational design, and conflict resolution. Students also learn how to identify interacting dependencies that occur during the process stages.

BBC 424: **Conflict Management**

This module takes students through the nature and perspectives of conflict and the effective approaches, strategies and techniques for managing or resolving conflicts in an organisation.

BBC 425: **Communication Management**

The module provides students with the necessary knowledge of communication strategies in the organisation. It also provides students with an understanding of ethics in the communication with employees and how to relate with the media. (Topics of study)

BBC 426: **Advocacy**

The module provides knowledge, theories, approaches and processes for effective advocacy. It examines the role of advocacy communication in social and organisational change. It is built on the principle that advocacy is one of the important communication tools for bringing about change and development.

Postgraduate Programmes in the Department of Language and Communication

Master of Arts in Health and Behaviour Change Communication

APS-EBS-611: **Disease Epidemiology and Biostatistics**

This module is designed to instil in health communicators knowledge of various diseases and related epidemiological methods and biostatistics that can contribute to the effective investigation and control of communicable and non-communicable diseases in Malawi and the region.

EMS-CMA - 611*:* **Communications Management**

This module is designed to equip and refine students' knowledge and skills for effective business, organisational and managerial communication. It provides a guide and practice for effective communication at personal, supervisory and managerial levels. It specifically offers effective human, interpersonal, oral, written, non-verbal, visual, corporate, organisational and managerial communication and language for effective communication. The module also prepares students on how to manage communication or media organisations and programmes committed to the causes of change and development.

EMS-SBC - 611: **Social and Behaviour Change Communication Theories**

The module provides a knowledge base of all the theories, models, approaches and processes for effective behaviour change and helps students make informed decisions in designing and evaluating the BCC researches, strategies and interventions.

EMS-MMI - 611*:* **Mass Media and Behaviour Change Communication Materials**

This is a media and materials production module which is designed to equip students with three skills, namely, (a) selection of effective mass media and materials, (b) designing and (c) production of strategic education, communication and information (IEC) and mass media materials for effective behaviour change. The materials include visual channels such as posters, leaflets and billboards; audio visuals (CD and tapes), mass media such as print (newsletter, news paper, brochures, manuals, guide and handbooks); broadcast (radio and television) and other electronic mass media products (social media, web designing).

EMS-MCM - 611*:* **Interpersonal Media & Community Mobilization for Behaviour Change**

This module develops students' skills in using interpersonal face-to-face and community media/channels that are instrumental for behaviour change. It focuses on one-to-one channels such as counselling, peer to peer; interactive group communication such as focus group discussions, door to door, participatory advocacy; public media and communication like health talks, testimonies and speeches; training, education and facilitations such as workshops, dissemination seminars, symposia, forums, lectures and lessons; Participatory edutainment for change like theatre, music, dance.

EMS-MEV - 611: **Monitoring and Evaluation**

This module offers knowledge and skills that are needed to carry out monitoring and evaluation assignments on activities, projects and programmes related to health and behaviour change communication.

APS-ESD-612: **Environmental Health and Sustainable Development**

This module is aimed developing understanding of key principles of Environmental Health and related sustainable development. It offers students the opportunity to analyse factors in the environment which affect human health and how to control them. These include sanitation, hygiene, safety, pollution, housing, population growth, climate change, resources depletion, economic conception, environmental assessment and management.

EMS-SHC - 612: **Strategic Health Communications and Promotions**

The module orients students to the nature and elements of health communication and promotions. The module specifically refines students' ability to design and implement effective health communications and promotions for behaviour change. It provides them with knowledge and skills in integrated health marketing communications comprising public relations, advertising, promotion and social marketing. It offers skills for sustainable community change embracing participatory heath education, health advocacy and health mobilisation.

EMS-KHM - 612: **Knowledge and Health Management Information Systems**

This is a combination of Knowledge Management (KM) and Health Information Management System (HIMS). It is aimed at imparting KM embracing planning, acquisition of data, organising, storing, retrieving, utilisation and dissemination of health information systems, particularly using information technology and systems. The module helps health communicators to create and utilise links, electronic media and channels to communicate health issues. The module breaks the barrier between IT or IMS professionals and communication professionals so that they work together to communicate health and behaviour change.

2.8.10 EMS-PRM - 612: **Project Management**

The module offers students the knowledge and skills needed to manage people, organisations, projects and programmes effectively. The module combines project management and management principles and responds to the need for skilled health sector human resource who can effectively manage projects and programmes particularly related to HBCC.

EMS-CER - 612: **Communications Ethics, Law and Health Rights (Elective)**

This module introduces health communicators to the communications ethics, code of conduct, law and health rights to make them more professional and equally empower them with knowledge base for promoting the rights of health workers, patients or clients.

EMS-RSM - 612: **Research Methodology**

This module equips students with the skills for conducting research in health and communication. Specifically, it refines students' knowledge in research designing, proposal writing, data collection, analysis and presentation using appropriate tools.

EMS-TES -621/2*:* **Thesis**

The aim of the module is to develop students' skills in designing and conducting relevant academic and project-based research related to health and behaviour change communication.

Department of Journalism and Media Studies

Bachelor of Arts in Journalism

First Year

Module Code	Module Name and Descriptor
JMS 111:	**Mass Communication Theory**

This module presents students with an overview of the development of mass communication systems and an understanding of the mass communication processes. The module provides an overview of the functions and responsibilities of mass communication industries. It further surveys the evolution and development of the various mass media.

JMS 112: **Literature**

This module is a critical study of literary texts to enable students appreciate different genres of writing. It exposes students to different literary styles which will help them to critique literary works for public consumption. The module helps students to adapt literary styles to the writing of journalistic works such as features.

JMS 113: **Computer Skills**

This module introduces students to general computer usage such as word processing and internet access.

JMS 114: **News Reporting for Print Media**

This module deals with news gathering and reporting techniques for the print media. It helps students to acquire skills in interviewing, question framing, working with sources and journalistic information processing.

JMS 115: **Psychology**

This module introduces students to the concepts and theories of human behaviour and personality. It equips them with skills for psychological inquiry into human relations, mass influence, conversion and change. It helps them to interpret human actions and feelings such as fear, depression and stress as these affect news sources and audiences.

JMS 116: **Communication Studies**

This module introduces students to writing, listening and speaking skills and the requisite aptitudes for college study.

JMS 121: **News Writing for Print**

This module introduces students to the history and general principles of practical news writing such as inverted pyramid, objectivity and timeliness. It helps students to test assumptions in writing such as the effectiveness of the intro, body and conclusion.

JMS 122: **Statistical Methods**

The module introduces students to the concepts in statistics and their applications. The module enables students to make an objective evaluation of artistic/creative works they present to the audience through the mass media.

JMS 123: **Aesthetics and Art**

This module is designed to develop students' ability to express ideas and viewpoints on art clearly and concisely. It is intended to help students appreciate artefacts and critique their contributions to society.

JMS 124: **Logic and Critical Thinking**

This module trains students to think critically and effectively by drawing conclusions from premises. The module also introduces students to techniques of argumentation and to common fallacies. It helps students to evaluate messages relative to their arguments and fallacies.

JMS 125: **Mass Communication Theory**

This module presents students with an overview of the development of mass communication systems. The module helps students to explain the relationship between mass media and society by using cases, research findings and conclusions that have been abstracted into theory such as the media effects theories.

JMS 126: **Sociology**

This module introduces students to social structure, norms and value systems. It is designed to enable students understand and interpret news events such as xenophobia, ethnicity and racism from a socio-cultural perspective/context for wider understanding.

Year Two

JMS 211: **Mass Media and Society**

This module examines the complex relationships between institutions of mass communication, the state and society. It examines the role and impact on society of various media institutions; media policies and regulations; audience needs and gratifications.

JMS 212: **News Writing and Reporting for Radio**

The aim of this module is to introduce students to techniques of gathering, analysing and writing news and features for radio and television. Students learn how to use audio recorders and editing systems in the production of news stories, how to interview for tape and write for the ear.

JMS 213: **Economics**

This module introduces students to the theories and foundations of microeconomics and macroeconomics as they relate to everyday life. Economics knowledge is vital to students of journalism as it will help them grasp the economic sense of news events such as decrease and increases in values of currency, inflation, prices and the implication on peoples' lives.

JMS 214: **News Writing and Reporting for TV**

This module introduces students to general principles of practical news writing for television such as the inverted pyramid, objectivity and timeliness. It trains the students in video shooting, dramatisation, script writing and voicing as a means of communicating news events.

JMS 215: **History of the Mass Media in Malawi**

This module is a study of the evolution of the mass media in Malawi. It traces the media landscape of Malawi as it has evolved over the years to the present, forecasting the media future for Malawi deduced from the patterns and practices over the years.

JMS 216: **Political Studies**

This module surveys the various political systems and the ideas behind them evolving from classical Greece to the modern world.

JMS 221: **Online Journalism**

This module introduces students to the skills of producing and distributing news content via the internet. It also equips students with skills and tools for using the Internet as a source for information.

JMS 222: **Media Ethics and Issues**

This module introduces students to the principles and practice of ethical decision making in news gathering, analysis and presentation across all media.

JMS 223: **Copy-Editing, Design & Layout**

This module aims to equip students with basic skills in designing printed communication materials such as newsletters, newspapers and brochures. The module also teaches make-up of publications such as the use of headlines, typefaces, graphics and art principles. Students also learn how to edit written materials for brevity, clarity, spelling, grammar and style.

JMS 224: **Media Law, Policy and Regulation**

This module consists of a description and analysis of legal and policy frameworks within which the media operates in Malawi using a wide variety of primary and secondary sources of law.

JMS 225: **Photojournalism**

This module introduces students to the use of still and moving images as a means of telling stories. Students learn how to use space, colour, tone and aesthetics in communicating events through visuals.

JMS 226: **African Economics Issues**

This module introduces students to the economic landscape and practices in post-colonial Africa. It explains different economic and socio-political policies and their impact on human development such as the effects of globalisation, marginalisation and democratisation on Africa's development.

Year Three

JMS 311: **Media Criticism**

This module introduces students to the critical constructs and theoretical bases used to assess media text and content.

JMS 312: **Television Production**

This module is a practical module in studio and ENG television news production.

JMS 313: **Specialised Writing (Print)**

This module builds on News Writing for Print (JMS 121). It exposes students to researching and writing specialised articles such as features, editorials and commentaries. It also includes writing for specific areas such as sport, science and the courts.

JMS 314: **Radio Production**

This module is designed to equip students with knowledge and skills in radio news production. Students are exposed to news editing, advanced script writing and documentary production.

JMS 315: **Media Research Methods**

This module introduces social science research methods and philosophies with specific focus on the mass media. It helps students to distinguish between academic research and reporting and journalistic research and reporting. It also prepares students for the final year research project. Topics of study include philosophical foundations of research, research

designs such as quantitative, qualitative and mixed research designs as well as research ethics.

JMS 316: **Integrated Marketing Communication**

This module trains students in marketing communications and public relations. It focuses on planning and implementing coordinated multi-media marketing and public relations campaigns.

JMS 321: **Internship**

This module exposes students to real life situations in journalistic practice. Students are attached to media institutions, banks, civil society organisations and government departments for three months. They interview news sources and write news stories, edit and rewrite news stories, attend editorial production and post-mortem meetings.

Year Four

JMS 411: **Investigative Journalism**

This module trains students to research news events through, inter alia, advanced interviews, document analysis and interpretation and trend establishment. Students are expected to produce analytical pieces of written, television and radio journalism.

JMS 412: **Development Journalism**

This module exposes students to development communication theories, philosophies and methodologies that underpin modern thinking about development and how communication media can support or facilitate the attainment of development. By the end of the module, students should be able to plan and produce development communication media such as brochures, newsletters, newspapers, magazines, radio and television documentaries.

JMS 413: **International Relations**

This module gives students the theoretical background to international relations. It examines a range of contemporary and historical topics through which it is possible to explore the behaviour of states and international organisations. The course also contrasts the behaviour of small and large states in international relations. By the end of the module, students should be able to apply the knowledge acquired to explain and analyse issues for the media audience.

JMS 414: **Media Economics**

The module examines economic theory applied to the analysis of mass media industries. It also examines the structure and performance of mass media and advertising industries.

JMS 415: **Media and Global Culture**

This module exposes students to the field of cultural studies. It explores the relationship between global distribution of mass media products and its profound impact on culture. The aim is to enable students understand and explain the intricate relationships between the media and culture at both national and international levels.

JMS 421 **Dissertation**

This double module is the culmination of Research Methods (JMS 315). It trains students in the academic research. Students apply research methods skills to develop research topics, justify methods of inquiry, analyse and interpret research findings and identify recommendations for further research.

JMS 422 **Media Management**

This module provides students with in-depth knowledge and understanding of management concepts and their applications in the media context. It enables students to appreciate the challenges facing African media managers in a period of technological, political and social change.

JMS 423: **Economics and Business Journalism**

The module is designed to provide students with knowledge of covering economics news, development challenges and business. The module combines work on key economic concepts with practical, journalistic exercises. It covers the core skills that any economic journalist needs: including understanding the coverage of macroeconomic issues, working with statistics, reporting on enterprises, covering competition in a more global economy and reporting analytically.

JMS 424 **Special Projects in Journalism**

This module gives students the opportunity to develop media outputs based on the skills acquired in various modules. Students write specialised articles and produce specialised publications on current thematic areas of their choice.

Calendar 2016-2018

Department of Technical Education

Undergraduate Programmes

Bachelor of Technical Education (Science) (BTED

Year One

Module Code	Module Name and Descriptor
CAT-111	**College Algebra and Trigonometry** In this module, students study the basic concepts of college mathematics, including the elementary number theory, functions and trigonometry. These concepts form the foundation for the study of mathematics and engineering science.
TDR-111	**Technical Drawing I** The module is designed to provide students with the knowledge and skills in the use of drawing equipment, production of lines and construction of geometric figures. Students also develop skills to read and make isometric and orthographic projections.
COS-111	**Communication Studies I** In this module, students develop note-taking techniques, reading strategies, listening skills and study skills. They also improve their essay and report writing skills.
INS-111	**Information Systems** The module introduces students to the role of computerised information systems in organisations. The module emphasises on analysing an individual computerised Information System (IS) as a combination of technology, people, organisation and data that support business processes.
PRT-111	**Production Technology I (Wood)** The aim of this module is to develop students' basic knowledge of workshop safety, maintenance and use of hand tools and equipment; the classification and properties of wood; and wood processing. Students are also exposed to the application of wood adhesives and production of wood joints.
APC-111	**Applied Chemistry I** The module introduces students to chemical concepts and principles that form the basis for advanced modules in chemistry. The module includes content on matter, periodicity, stoichiometry and solution chemistry.

CAL-121 **Calculus I**

The module introduces students to differentiation, continuity and differentiability. The module also introduces integration of functions and its application to solving problems.

APC-122 **Applied Chemistry II**

In this module, students study the chemical concepts and principles that form the basis for advanced modules in chemistry. The module includes content on solution chemistry II, chemistry of water, basic nuclear and organic chemistry, reaction kinetics and mechanisms.

TDR-122 **Technical Drawing II**

The module exposes students to the knowledge and skills to construct an ellipse, parabola and hyperbola using conic and loci methods. Students learn to locate the path traced out by a point in a simple-link mechanism and develop surface using the parallel line method.

COS-122 **Communication Studies II**

In this module, students build on the essay, report writing and oral presentation skills introduced in the previous module. The module further provides students with the opportunity to analyse non-fiction texts as a means of enhancing use of the English language and their reasoning skills.

PRT-122 **Production Technology II (Wood)**

In the module, students develop skills and knowledge to make artefacts. Students acquire skills and knowledge on timber finishes, fungicides and pesticides, lamination and timber bending. They are also exposed to wood machining using the lathe.

PED-121 **Psychology of Education**

In this module, students are introduced to basic concepts and theories in educational psychology as they relate to teaching and learning. The module focuses on evolution of psychology, theories of learning, cognitive development, factors affecting learning as well as the development of personality. Students develop an understanding of psychological issues as they apply to education.

Year Two

CAL-212 **Calculus II**

This module builds on the knowledge of differential and integral calculus. The module covers techniques of integration, the study of improper integrals and an exploration of applications involving definite integrals and integration of trigonometric functions.

TDR-213 **Technical Drawing III**

This module helps students to gain knowledge and develop skills in reading and presenting drawings in oblique, perceptive and auxiliary projections and in exploded views. Students are expected to be able to construct threads and coil springs.

APH-211 **Applied Physics I**

The module introduces students to elements of physics relevant to science and technology courses. Topics of study include vectors, static forces, forces applied to solid materials, work, energy and power, friction, velocity and acceleration and dynamic forces.

LLA-211 **Literature and Literary Appreciation** I

In this module, students develop knowledge and an appreciation of the main English literary genres. The module is designed to ignite in students' interest in reading, equip them with the critical vocabulary used in literary genres and improve their ability to read literature effectively.

PHE-211 **Philosophy of Education**

In this module, students study the concepts of philosophy as they relate to educational issues and practices. The module is designed to help students analyse the works of some of the major philosophers and their contributions to the development of education from the classical to the post-modern era.

PRT-213 **Production Technology III (Metal)**

This module introduces students to basic metal technologies and processes. This includes theoretical knowledge and practical skills relating to safety precautions in the metal workshop, hand tools, hand processes, sheet metal processes, soldering and brazing, ferrous and non-ferrous metals and heat treatment methods of metals.

LIA-221 **Linear Algebra**

In this module, students study linear maps and vector spaces which are the foundation for a large area of mathematics. In particular, linear equations and linear differential equations are widely applied in the physical sciences. The module builds on students' understanding of the concepts of linear algebra and associated tools for calculations.

APH-222 **Applied Physics II**

In this module, students build on the concepts relevant to science and technology courses introduced in APH 210. The module also develops students' understanding of issues of angular motion, machines, heat, electricity and magnetism, nuclear physics, oscillations and waves.

TDR-224 **Technical Drawing IV**

This module imparts in students knowledge and skills in drawing simple and complicated intersecting objects and their developments. The module improves students' skills in orthographic projection by adding an element of sectioning.

LLA-222 **Literature and Literary Appreciation II**

In this module, students build on the skills they developed in LLA 210. They explore the narrative form as a genre of fiction writing. In addition, students explore and analyse African novel writing and dramas.

PRT-224 **Production Technology IV (Metal)**

The helps students to develop technical skills in metal production technology. These studies include the development of practical technical skills such as metal forging, beaten metalwork, arc welding, gas welding, mechanical joints and the use of metal lathe.

SED-221 **Sociology of Education**

In this module, students develop an understanding of sociology as it relates to educational issues and challenges in the home, workplace and society. The module focuses on the recognition of the effects of the changing social and economic environments on the educational system in Malawi from the pre-industrial to the post-industrial age.

Year Three

DEQ-311 **Differential Equation**

The module introduces students to the basic methods used for solving ordinary differential equations (ODEs) and learn how ODEs can be used to model a wide variety of real situations.

TDR-315 **Technical Drawing V**

This module enables students to develop skills in presenting and interpreting engineering assemblies and design cams. The module coverage includes engineering assemblies, limits, fits and tolerances, specifications and performance curves for different types of motions and relevant cam profiles.

ESC-311 **Engineering Science I**

In this module, students appreciate the application of physics relevant to science and technology courses. Topics of study include structure and properties of materials, stress and strain analysis and principles of thermodynamics.

TME-311 **Testing, Measurement and Evaluation**

The aim of this module is to develop students' understanding of testing, measurement and evaluation as they relate to educational issues. They also develop practical skills related to planning and construction of tests and the analysis and interpretation of test scores.

TEM-311 **Teaching Methods**

In this module, students acquire knowledge about teaching methods and learning styles. Students practise a variety of teaching methods. Specifically, the module discusses curriculum issues, syllabus preparation, Bloom's Taxonomy of objectives, schemes and records of work, lesson plans, teaching and learning aids, teaching and learning strategies, assessment of student learning, and the qualities of an effective teacher.

IMT-311 **Instructional Media and Technology**

The module explores the use of technology-enabled media in learning and instruction. Students are expected to develop the skills and acquire the knowledge required to combine instructional strategies and concepts from previous courses with educational technology and new media. The module enables students to develop an appreciation for technology-enabled instruction and the theories that support its practical applications.

TPR-321 **Teaching Practice**

In this module, students have the opportunity to try out instructional, management and personal skills learnt in college. They have authentic teaching experiences and apply the principles, theories and ideas that foster student learning. Students should be able to apply the instructional approaches, skills and techniques; observe pupils and their learning environment; observe other teachers and their teaching practices; and experience and participate in school organization and administration.

Year Four

ESC-412 **Engineering Science II**

This module introduces concepts of fluid mechanics, pneumatics and pneumatic systems, hydrostatics, and aircraft and rocket flights. Students learn the application of the concepts in the operation of hydraulic and pneumatic pumps and flight systems.

PRT-415 **Production Technology V (Plastics)**

This equips students with skills and knowledge in the management and organisation of technical and vocational facilities and the development of the plastic industry. The module topics include management, planning and layout of facilities. The module further provides an opportunity for students to acquire skills and knowledge in development of the plastic industry, composition and properties of plastic materials and other new materials as well as their fabrication and applications

DER-411 **Design and Realisation I**

The module orients students to the knowledge and skills of engineering design and realisation. Students identify problems that require engineering intervention; carry out an investigation, formulate design specifications; produce a detailed design; and produce a prototype. Finally, they test and evaluate a prototype.

TDR-416 **Technical Drawing VI**

In this module, students use a graphical method to resolve forces and moments in a structural framework. The module also provides instruction on the construction of involute spur gears and modification of assemblies. Students also develop assessment skills in technical drawing

CUS-411 **Curriculum Studies**

The module introduces students to the foundations, principles, issues and current trends that influence the conceptualisation, development, implementation and evaluation of the curriculum in independent African states. These foundations, principles, issues and trends relate to and influence the development of technical, vocational and entrepreneurship education.

RSM-411 **Research Methodology I**

In this module, students develop the knowledge of the fundamental concepts of research. They also develop the skills to conduct basic research related to educational issues and practices. The module also covers the works of some key researchers in the field of education. Students develop skills in identifying and applying the theories of the key educational researchers to current educational practices in the field.

RSM-422 **Research Method and Methodology II**

In this module, students develop the knowledge and skills to produce an in-depth piece of research in the field of education. The module also includes formulating, conduction, interpretation and presentation of research findings.

CAD-421 **Computer Aided Drawing**

The module builds on students' knowledge and skills developed in manual technical drawing modules to study the concepts of computer assisted drafting. Students use Computer Aided Drawing (CAD) software to make and modify 2D and 3D drawings. The course content includes drawing set-up, coordinate systems, drawing and modifying commands, display options, use layers, add text and basic dimensions to the drawing and plot the drawing.

ASE-421 **Adult and Special Needs Education**

In this module, students study the characteristics and needs of adult learners and those with special needs. The module sensitises students to the learning needs of adults and people with special needs and helps them in developing strategies to motivate these groups of students. Students also learn how to organise knowledge to enhance the learning of this special group.

DER-422 **Design and Realisation II**

This module helps students to develop the skills and knowledge required to realisation a prototype that was designed in module DER-320 and to compile a project report.

EAL-421 **Educational Administrational and Leadership**

The module is a survey of the major concepts, theories and principles of leadership and management as they apply to educational and training institutions.

EES- 421 **Electrical Engineering Science**

In this module, students study concepts and application of electrical science, analog electronics and control systems.

Bachelor of Education (Business Studies) (EBS)

Year One

Module Code	Module Name and Descriptor
BUM-111	**Business Mathematics I**

The module introduces students to some of the basic ideas of college mathematics, including the elementary number theory, functions and trigonometry. These are used as a context in which to discuss the development of college mathematics through examples, conjectures, theorems, proofs and applications.

FIA-111 **Financial Accounting I**

The module introduces students to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities. Students also acquire skills to prepare basic financial statements.

COS-111 **Communication Studies I**

This module is designed to impart in students skills in note taking, reading, listening and effective study to be successful in college-level studies. Strategies to improve essay and report writing and opportunities to develop and deliver presentations to are also covered in the module.

INS-111 **Information Systems**

This module introduces the role of computerised information systems in organisations. The main emphasis of the module is on analysing an individual computerised Information System (IS) as a combination of technology, people, organisation and data that support business processes. Furthermore, the module addresses issues relating to how IS and ICT add value to organisations, computer assembly, upgrading, troubleshooting and installation of software.

ECN-11I **Economics 1**

This module introduces students to the concepts and principles of economics. The module covers the nature and scope of economics, market, production costs, market factors and business organisations.

OBE-111 **Organisational Behaviour**

The module is designed to develop interpersonal competences to allow individuals to understand human work behaviour at individual, interpersonal, team and organisational level and to strengthen students' self-awareness, intellectual growth, well-being, and improve their understanding of others and the relationship between the individual and society. It helps students understand the meaning, history and organisation of work as well as the concepts of perception, motivation and personality, group dynamics, management and leadership, and business culture.

BUM-122 **Business Mathematics II**

The module provides compound interest theory and its application to mortgage and commercial loans, consumer credit transactions, valuation of securities and appraisal of investment projects. In addition, the module provides an introduction to calculus for finance and matrices and their application in wider optimisation financial problems.

FIA-122 **Financial Accounting II**

In this module, students continue to be introduced to financial accounting techniques and concepts to enable them acquire accounting skills to handle business transactions. The module covers bookkeeping techniques, accounting for assets and liabilities. Students are also expected to prepare financial statements for limited companies.

COS-122 **Communication Studies II**

In this module, students build on the essay, report writing and oral presentation skills developed in previous communication module. The module further provides students with the opportunity to analyse non-

fiction texts as a means of increasing their use of the English language and reasoning skills.

ITP-121 **Information Technology Packages**

The module introduces computer application packages that are mainly used in business transactions. Students should be able to understand and differentiate elements contained in computer applications and effectively determine and use appropriate application software package for an intended work.

ECN-122 **Economics II**

This course introduces students to the concepts and principles of macroeconomics. It covers the market structure, distribution of goods, insurance and public finance.

PED-121 **Psychology of Education**

In this module, students are introduced to basic concepts and theories in educational psychology as they relate to teaching and learning. The module focuses on evolution of psychology, theories of learning, cognitive development, factors affecting learning as well as the development of personality. Students develop an understanding of psychological issues as they apply to education.

Year Two

BST-211 **Business Statistics I**

This module lays the foundation for the use of basic statistical software, simple ideas of summarising data (using a spreadsheet), followed by the key concept of sample and population. Basic ideas of regression, correlation, statistical inference (including techniques of estimation, confidence intervals and hypothesis testing) and index numbers are also covered and applied to business data sets.

CAC-211 **Cost Accounting**

The module introduces students to the principles and techniques of cost accounting. Students are expected to apply costing techniques to produce information for decision making.

LLA-211 **Literature and Literary Appreciation I**

In this module, students develop an appreciation of the main English literary genres. The module is designed to ignite in students interest in reading, equip them with the critical vocabulary used in literary genres, and improve their ability to read literature effectively. The module also includes strategies that will help students to apply literary terms in their own studies and teaching career.

PRG-211 **Programming I**

The module introduces structured programming principles and covers concepts of programme requirements analysis, algorithms, coding and testing. Preferably, C and C++ or any other related programming language can be used to demonstrate the mentioned concepts.

GPL-211 **General Principles of Law**

In this module, students are introduced to the legal environment and principles. Students also learn how to apply the principles in various situations.

PHE-211 **Philosophy of Education**

In this module, students study the concepts of philosophy as they relate to educational issues and practices. The module is designed to help students analyse the works of some of the major philosophers and their contributions to the development of education from the classical to the post-modern era.

BST-222 **Business Statistics II**

This module lays the foundation for the study of probability and distribution theory. It defines probability via axioms and develops some of its useful properties. Random variables are introduced as well as the properties of probability distributions of practical importance.

MAC-221 **Management Accounting**

In this module, students continue to develop skills gained in the cost accounting module. Students apply modern management accounting techniques when producing information for decision making. Students also develop skills in budgeting.

LLA-222 **Literature and Literary Appreciation II**

In this module, students build on the skills they developed in LLA 210. They explore the narrative form as a genre of fiction writing. In addition, students explore and analyse African novel writing and dramas.

PRG-222 **Programming II**

The module covers advanced structured programming principles and covers concepts of data structuring, programme maintainability and reusability. Preferably, C and C++ or any other related programming language can be used to demonstrate the mentioned concepts.

BCL-221 **Business Consumer Law**

The module introduces students to the law that regulates and protects consumer interest in Malawi. The rationale is to equip them with the skills for analysing and applying legal principles in consumer protection.

SED-221 **Sociology of Education**

In this module, students develop an understanding of sociology as it relates to educational issues and challenges in the home, workplace and society. The module focuses on the recognition of the effects of the changing social and economic environments on the educational system in Malawi from the pre-industrial to the post-industrial age.

Year Three

FAM-311 **Financial Management**

The module enables students to examine the general nature of financial management. The module focuses on working capital management, sources of capital, cost of capital and capital structure.

NWF-311 **Network Fundamentals**

The module introduces fundamental networking concepts and technologies which will help students in developing the skills necessary to plan and implement small networks across a range of applications. It covers planning, cabling, configuring and testing the local area (LAN) with understanding of OSI/TCP models and network address schemes.

FMK-311 **Fundamentals of Marketing**

This module introduces students to the concepts and principles of marketing. The module covers marketing concepts, product research and development, pricing, distribution, promotion, direct marketing and marketing as business strategy.

TME-311 **Testing Measurement and Evaluation**

In this module, students develop an understanding of testing, measurement and evaluation as they relate to educational issues. Students also develop practical skills related to planning and construction of tests and the analysis and interpretation of test scores.

ITM-311 **Instructional Media and Technology**

The module explores the use of technology-enabled media in learning and instruction. Students are expected to develop the skills and knowledge required to combine instructional strategies and concepts from previous courses with educational technology and new media. The module enables students to develop an appreciation of technology-enabled instruction and the theories that support its practical applications.

TEM-311 **Teaching Methods**

In this module, students acquire knowledge about teaching methods and learning styles. Students practise a variety of teaching methods. Specifically, the module discusses curriculum issues, syllabus preparation, Bloom's Taxonomy of objectives, schemes and records of work, lesson plans, teaching and learning aids, teaching and learning strategies, assessment of student learning, and the qualities of an effective teacher.

TPR-321 **Teaching Practice**

In this module, students have the opportunity to try out instructional skills learnt from school-based teachers and students in the classroom. They have authentic teaching experiences, apply the principles, theories and ideas they learnt in college. Students should be able to apply the instructional approaches, skills and techniques recommended by their lecturers; observe pupils and their learning environment; observe teachers and their teaching practices; and experience school organisation and administration.

Year Four

FAD-411 **Financial Administration**

In this module, students continue to examine the general nature of financial management. The module focuses on present values and capital budgeting, risk and asset pricing. Students apply theories and tools in financial decision making through problem-solving methodologies.

SAD-411 **Systems Analysis and Design**

The module introduces a practical approach to systems analysis and design. Emphasis is placed on planning information systems project, gathering information from different sources, analysing user and business requirements, designing solutions, planning systems implementation and documenting information processes.

MKM-411 **Marketing Management**

This module introduces students to a systematic approach to marketing decision making using a planning framework. With the aid of contemporary theory and case studies, the module explores each stage in the marketing planning process from appraising the firm's current situation through to objective setting, formulating and evaluating alternative marketing strategies and making them operational via an integrated marketing mix. Students are encouraged to explore the practical application of concepts and techniques in a variety of marketing contexts and to reflect on their usefulness.

IBL-411 **International Business Law**

The module introduces students to the law governing commercial transactions in the domestic and international contexts.

CUS-411 **Curriculum Studies**

In this module, students study the foundations, principles, issues and current trends that influence the conceptualisation, development, implementation and evaluation of the curriculum in independent African states. These foundations, principles, issues and trends relate to and influence the development of technical, vocational and entrepreneurship education.

RSM-411 **Research Methods**

The module is designed to develop students' knowledge of the fundamental concepts of research. They also develop the skills to conduct basic research related to educational issues and practices. This module also covers the works of some key researchers in the field of education. Students develop skills in identifying and applying the theories developed by the key educational researchers to current educational practices in the field.

CPS-411 **Corporate Policy and Strategic Planning**

In this module, students develop skills and knowledge in corporate policy and strategic planning. The module also covers organisation structures and their performance.

DMS-411 **Database Management System**

The module introduces the basic principles of data management in a database environment. It involves understanding the functionality provided by typical database management systems; analysing the data requirements of a database application and developing a proper database schema to support the storage of those data. SQL is introduced as a declarative language supporting data management. Preferably, MySQL or any other related database management systems can be used to demonstrate the mentioned concepts.

SBE-321 **Small Business Enterprise**

This module introduces students to the concepts and principles of small business management. Students develop the basic understanding required to evaluate the prospects of a small business as well as to start and operate the business. They also learn how to research selected business opportunities and develop a business plan for a new business.

EAL-411 **Education Administration and Leadership**

The module surveys the major concepts, theories and principles of leadership and management as they apply to educational and training institutions.

ASE-311 **Adult and Special Needs Education**

In this module, students study the characteristics and needs of adult learners and those with special needs. The module sensitises students to the learning needs of adults and people with special needs to help the students in developing strategies to motivate these groups of learners. Students also learn how to organise knowledge to enhance the learning of this special group.

RSM-422 **Research Methods II**

In this module, students develop the knowledge and skills required to produce an in-depth piece of research in the field of education. The module includes interpretation and presentation of research findings.

Bachelor of Technical Education (Technology)(BTED-TECH)

Year one

Module Code	Module Name and Descriptor
ENM-111	**Engineering Materials I** In this module, students learn common materials available for engineering activities and knowledge of the structure of engineering materials and how they can be modified.
TDR-110	**Technical Drawing I** In this module, students acquire the knowledge and develop skills in the use of drawing equipment, production of lines and construction of geometric figures. Students also develop skills to read and make isometric and orthographic projections.
COS-110	**Communication Studies I** This module is designed to impart in students skills in note taking, reading, listening and effective study to be successful in college-level studies. Strategies to improve essay and report writing and opportunities to develop and deliver presentations to are also covered in the module.
INS-110	**Information System** The module introduces students to the role of computerised information systems in organisations. The module emphasises on analysing an individual computerised Information System (IS) as a combination of technology, people, organisation and data that support business processes.
WST-111	**Workshop Technology I** In this module, students study the basic workshop theory and develop basic workshop skills. The expectation is that students should be able to apply these skills in practical workshop settings.
WST-122	**Workshop Technology II** In this module, students study a range of equipment and processes in general use in workshops and learn to assess the suitability of the equipment and processes.

ENM-122 **Engineering Materials II**

The module introduces students to the main properties, applications, advantages and limitations of various materials. This includes understanding of effective and economical use of materials.

TDR-120 **Technical Drawing II**

In this module, students gain knowledge and develop skills to construct an ellipse, parabola and hyperbola using conic and loci methods. Students learn to locate the path traced out by a point in a simple-link mechanism and develop surface using the parallel line method.

COS-120 **Communication Studies II**

In this module, students build on the essay, report writing and oral presentation skills introduced in the previous module. The module further provides students with the opportunity to analyse non-fiction texts as a means of enhancing their use of the English language and reasoning skills.

WSP-121 **Workshop Practice I**

In the module, students develop skills and knowledge in workshop theory and practice. The module further exposes students to workshop machines.

PED-120 **Psychology of Education**

The module introduces students to the basic concepts and theories in educational psychology as they relate to teaching and learning. The module focuses on the evolution of psychology, theories of learning, cognitive development, factors affecting learning as well as the development of personality. Students develop an understanding of psychological issues as they apply to education.

Year Two

ENS-211 **Engineering Science I**

This module introduces students to the basic scientific principles as applied in engineering technologies. (Needs more content)

TDR-210 **Technical Drawing II**

This module enables students gain knowledge and develop skills in reading and presenting drawings in oblique, perceptive and auxiliary projections and exploded views. Students are expected to be able to construct threads and coil springs.

LLA-210 **Introduction to Literature**

In this module, students develop an appreciation of the main English literary genres. The module is designed to ignite in students interest in reading, equip them with the critical vocabulary used in literary genres, and improve their ability to read literature effectively. The module also includes strategies that will help students to apply literary terms in their own studies and teaching career.

PHE-210 **Philosophy of Education**

In this module, students study the concepts of philosophy as they relate to educational issues and practices. The module is designed to help students analyse the works of some of the major philosophers and their contributions to the development of education from the classical to the post-modern era.

TEC-200 **Technology I &II**

These are a group of elective technology modules in which students have an opportunity to choose a career path in the following areas of expertise: Metal work (mechanical technology), welding technology, motor vehicle technology, wood technology and electrical technology. The modules introduce students to engineering technologies and processes. This relates to theoretical knowledge and practical skills in technology as they apply safety precautions and applications.

TDR-220 **Technical Drawing IV**

This module imparts in students knowledge and skills in drawing simple and complicated intersecting objects and their developments. The module also improves students' skills in orthographic projection by adding an element of sectioning.

LLA-220 **Literature and Literary Appreciation II**

In this module, students build on the skills they developed in LLA 210. They explore the narrative form as a genre of fiction writing. Students also explore and analyse African novel writing and dramas.

ENS-222 **Engineering Science**

In this module, students develop skills and knowledge in material design and technologies of materials, systems and machines.

SED-221 **Sociology of Education**

The module is designed to enable students develop an understanding of sociology as it relates to educational issues and challenges in the home, workplace and society. The module focuses on the recognition of the effects of the changing social and economic environments on the educational system in Malawi from the pre-industrial to the post-industrial age.

TEC-300 **Technology III &IV**

These are a group of elective technology modules in which students have an opportunity to choose a career path in the following areas of expertise: Metal work (mechanical technology), welding technology, motor vehicle technology, wood technology and electrical technology. The modules introduce students to advanced engineering technologies and processes. The modules enriche students' theoretical knowledge and practical skills in technology as they apply to safety precautions and applications.

Year Three

TDR-315 **Technical Drawing V**

This module enables students to develop skills in presenting and interpreting engineering assemblies and design cams. Module coverage includes engineering assemblies, limits, fits and tolerances, specifications and performance curves for different types of motions and relevant cam profiles.

TME-311 **Testing, Measurement and Evaluation**

In this module, students develop an understanding of testing, measurement and evaluation as they relate to educational issues. They also develop practical skills related to planning and construction of tests and the analysis and interpretation of test scores.

IMT-311 **Instructional Media and Technology**

The module explores the use of technology-enabled media in learning and instruction. Students are expected to develop the skills and acquire the knowledge required to combine instructional strategies and concepts from previous courses with educational technology and new media. The module enables students to develop an appreciation for technology-enabled instruction and the theories that support its practical applications.

WSP- 313 **Workshop Practice**

In this module, students develop skills and knowledge in workshop theory and practice. The module further exposes students to workshop machines.

TEM-311 **Teaching Methods**

The module is designed to enable students acquire knowledge about teaching methods and learning styles. Students practise a variety of teaching methods. Specifically, the module discusses curriculum issues, syllabus preparation, Bloom's Taxonomy of objectives, schemes and records of work, lesson plans, teaching and learning aids, teaching and learning strategies, assessment of student learning, and the qualities of an effective teacher.

TPR-321 **Teaching Practice**

In this module, students have the opportunity to try out instructional skills learnt from school-based teachers and students in the classroom. They have authentic teaching experiences, apply the principles, theories and ideas they learnt in college. Students should be able to apply the instructional approaches, skills and techniques recommended by their lecturers; observe pupils and their learning environment; observe teachers and their teaching practices; and experience school organisation and administration

Year Four

RSM-411 **Research Methodology I**

The module is designed to develop students' knowledge of the fundamental concepts of research. They are also expected to develop skills to conduct basic research related to educational issues and practices. The module also covers the works of some key researchers in the field of education. Students develop skills in identifying and applying the theories developed by the key educational researchers to current educational practices.

DER-411 **Design and Realisation**

This module helps students to acquire knowledge and develop skills in engineering design and realisation. Students should be able to identify problems that require engineering interventions; carry out an investigation, formulate design specifications; produce a detailed design; and produce a prototype. Finally, students should be able to test and evaluate a prototype.

WSP- 414 **Workshop Practice**

In this module, students develop skills and knowledge in workshop theory and practice. The module further exposes students to workshop machines.

TDR-416 **Technical Drawing IV**

In this module, students use a graphical method to resolve forces and moments in a structural framework. The module also provides instruction in the construction of involute spur gears and modification of assemblies. Students also develop assessment skills in technical drawing.

CUS-411 **Curriculum Studies**

The module is a study of the foundations, principles, issues and current trends that influence the conceptualisation, development, implementation and evaluation of the curriculum in independent African states. These foundations, principles, issues and trends relate to and influence the development of technical, vocational and entrepreneurship education.

CODE?? **Technology VI**

In this module, students study the concepts and application of electrical science, analog electronics and control systems.

RSM-422 **Research Method and Methodology**

The module is designed to enable students develop the knowledge and skills to produce an in-depth piece of research in the field of education. The module includes formulating, conduction, interpretation and presentation of research findings.

CAD-421 **Computer Aided Drawing**

In this module, students build on the knowledge and skills acquired in manual technical drawing modules to study the concepts of computer-assisted drafting. Students use Computer Aided Drawing (CAD) software to make and modify 2D and 3D drawings. The course content includes drawing set-up, coordinate systems, drawing and modifying commands, display options, use layers, add text and basic dimensions to the drawing and plot the drawing.

DER-422 **Design and Realisation II**

This module is designed to help students develop skills and knowledge required to realisation a prototype that was designed in module DER-320 and to compile a project report.

EAL-421 **Educational Administrational and Leadership**

The module surveys the major concepts, theories and principles of leadership and management as they apply to educational and training institutions.

ASE-421 **Adult and Special Needs Education**

The module exposes students to the characteristics and needs of adult learners and those with special needs. The module sensitises students to the learning needs of adults and people with special needs and help students in developing strategies to motivate these groups of learners. Students also learn how to organise knowledge to enhance the learning of this special group.

SBE-421 **Small Business Enterprise**

This module introduces students to the concepts and principles of small business management. Students acquire the basic understanding required to evaluate the prospects of a small business as well as to start and operate the business. Students also learn how to research selected business opportunities and develop a business plan for a new business.

Postgraduate Programmes in the Department of Technical Education

University Certificate of Education

EDC-110 **History of Education in Malawi and School Administration**

This module aims at providing students with the foundation of the teaching career. In this module, students demonstrate an understanding of the historical education system in Malawi, investigate the growth, development and management of school administration in the current system. It further looks at other sectors that are linked with education with the aim of reducing poverty.

EDC-111 **Psychology of Education**

The aim of this module is to introduce basic concepts and theories of educational psychology as they apply to teaching and learning and to promote the development of knowledge, skills and appropriate attitudes that are relevant to the teaching profession in teachers.

Calendar 2016-2018

EDC-112 **Sociology of Education**

This module provides students with the knowledge, skills and appropriate attitudes and values that undergird the sociological foundations of education as they relate to the workplace, home and the society at large and to address the impact of change in the social and economic environment on the educational system in Malawi.

EDC-113 **Philosophy of Education**

The aim of this module is to introduce concepts of philosophy and to develop the skills to apply those concepts in educational practice.

EDC-120 **Methods of Teaching and Instructional Media and technology**

The aim of this module is to enable students develop skills and knowledge related to the principles of teaching and learning and to produce and use audio and visual aids in teaching and learning.

EDC-121 **Curriculum Methods**

This module consolidates students' knowledge, skills and values required to develop, implement and evaluate curricula in the field of technical vocational and entrepreneurship education.

EDC-122 **Assessment, Measurement and Evaluation**

The aim of this module is to develop pre-service teachers' skills and knowledge in educational testing, measurement and evaluation, so that they should be able to determine students' learning progress and achievement of educational outcomes.

EDC-123 **Teaching Practice**

The aim of this module is to provide support and evaluation of student learning in an authentic environment or context in which the student-teachers can acquire teaching practice skills necessary to assume the responsibility of their future roles as educators and educational leaders.

Master of Technical and Vocational Education

Module Code	Module Name and Descriptor
EMS.CTE.6.1:	**Contemporary Issues in technical and vocational education**

In this module, students examine the potential contributions of education to national development through analysing reformative and innovative

trends in educational systems. Students also study contemporary issues such as centralisation and decentralisation, cost benefits of educational provisions and their impacts.

EMS.IFE.6.1: **Integrated Foundations of Education**

In this module, students analyse basic theoretical frameworks in philosophy, history of philosophy, sociology and economics as they relate to education. The module focuses on the evaluation of the frameworks and their application to the practice of technical and vocational education in Malawi and World.

EMS.ODL.6.1: **Organisational Development and Leadership**

In this module, students examine psychological/sociological factors governing educational leadership in terms strengths, weaknesses and personal/professional growth. Students are expected to apply skills and strategies for developing organisational structures and empower technical and vocational education institutions.

EMS.CDE.6.1: **Curriculum Development and Evaluation**

In this module, students conceptualise modern school management skills and practices as related to technical and vocational education. Students further discuss the curriculum development procedure with emphasis on curriculum component; design, development, planning, assessment and diffusion.

EMS.PST.6.2: **Pedagogy Studies**

This module enables students to analyse theoretical frameworks that govern pedagogical concepts, knowledge, instructional and administrative practices relevant to the creation of an effective adult learning environment.

EMS.RSM.6.2: **Educational Research Methods**

This module examines conceptual issues in research. The module further provides students with the opportunity to design and conduct a mini-research and analyse research data. Students also critique research reports.

EMS.STE.6.2: **Science and Technology Education**

In this module, students examine the theoretical concepts in science and technology education. The module covers perceptions of science and technology, teaching and learning, contemporary issues, educational

foundation for promoting positive learning and gender issues and innovation.

EMS.EED.6.2: **Entrepreneurship Education and Development**

The module is designed to enable students conceptualise and apply entrepreneurial practices as related to technical and vocational education. The module further provides students with the opportunity to design and develop a business model and evaluate a case study.

EMS.DAT.6.2: **Design and Appropriate Technology**

The aim of this module is to provide an understanding of key concepts and issues related to appropriate technology. It further allows students to recognise the value of understanding the social implications, environmental impact, legal issues, socio-political, ethical and cultural issues pertaining to creation, use, and proliferation of design and science-based technologies. The module covers conceptual issues, environmental policy and sustainable technology, appropriate technology policy analysis, research and development.

EMS.SPP.6.2: **Strategic Planning and Policy Development**

In this module, students conceptualise and analyse theoretical frameworks in strategic planning as they relate to technical and vocational education. The module focuses on concepts and policy, development, analysis, implementation and their application to technical education case studies.

EMS.TES.7.3/4: **Thesis**

The aim of this module is to enhance students' understanding of scholarly research work in educational set-ups and provide empirical solutions. The module covers empirical case studies, critical analysis of course documents, critical analysis of curriculum materials, research reviews and analysis of data sets.

FACULTY OF ENGINEERING

Department of Civil Engineering

Diploma in Civil Engineering

Year One

Module Code	Module Name and Descriptor
MEC-DRW-1-1	**Engineering Drawing I** The aim of this module is to introduce students to the basic principles of engineering drawing and equip them with draughting skills for the production of working drawings. Topics covered include: Introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance as well as simplified drawing of machine elements.
MAT-ALG-1-1	**Algebra and Trigonometry** This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable. Topics of study include set theory, intervals on the number line, inequalities and absolute value, rules of exponents, roots and logarithms and polynomials.
CIT-ITC-1-1	**Introduction to Computers** This module introduces students to the use of computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel, spreadsheets M**icrosoft PowerPoint**, Microsoft access, methods of data protection and the internet.
PBS-PHY-1-1	**Physics** This module deals with the basics of physics relevant to the discipline of engineering. Topics covered include units and dimensions, oscillations and waves, nuclear physics and mechanics.
PBS-CHE-1-1	**Chemistry** This module deals with the basics of chemistry relevant to the discipline of engineering. Topics covered include matter, periodicity, metals and polymerisation.

LAN-ELS-1-1 **English Language Skills**

This module develops students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

CIV-BWK-1-2 **Basic Workshops**

This module introduces students to the nature and scope of civil engineering work through a series of project exercises on a variety of aspects such as concrete, soil, timber, steel and bitumen. It develops students' understanding of the recommended standards for use and preparation of civil engineering materials through in-situ and laboratory tests.

MEC-MES-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics include differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

CIV-SUR-1-2 **Surveying**

This module introduces students to basic surveying principles. It introduces a tape, dumpy level, Theodolite, total station and Global Positioning System (GPS) as instruments of surveying. At the end of this module, students should be able to operate these instruments.

CIV-WST-1-2 **Water and Sanitation Technology**

This module introduces students to water and sanitation issues. It develops students' understanding of household or communal water supply and foul water drainage. At the end of this module, students are expected to demonstrate an understanding of different water sources and how foul water can be safely disposed of at household level without affecting the environment.

YearTwo

LAN-CSE-2-1 **Communication skills II**

This aim of this module is to equip students with interpersonal, recruitment and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal, conflict management and communication, advanced oral, advanced writing, recruitment communication and corporate communication.

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

CIV-CEP-2-1 **Civil Engineering Practice**

This module equips students with practical skills required in civil engineering projects. These include the construction of pavements, bridges, buildings and dams. At the end of this module, students should be able to identify proper materials and methods required in the construction of these structures.

CIV-CTE-2-1 **Construction Technology**

This module offers students knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include the building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows and construction plant.

CIV-FPM-2-1 **Fundamentals of Project Management**

This module introduces students to project planning skills and scheduling techniques, construction site organisation structure and site supervision skills. At the end of the module, students should be able to plan site activities and supervise construction activities.

MEC-CAD-2-1 **Computer Aided Drawing**

This course provides students with basic skills in computer aided drawing tools. At the end of this module, students should be able to produce drawings using a computer.

FOE-IND-2-2 **Industrial Attachment**

The aim of this module is to expose students to practical experience as a means of reinforcing theoretical engineering principles. It covers the following: application of engineering principles, use of appropriate analytic, design and evaluation methods, work organisation and prioritisation, self appraisal, progress on defined tasks, interaction with workforce and response to technical instruction and support, technical presentation abilities both written and oral, their judgment and value and flexibility of working as an individual or as a team member.

Year Three

CIV-STE-3-1 **Structural Engineering I**

This module provides students with thorough grounding in the principles of structural engineering. It covers general stress and strain, flexural stress, shear stress, combined bending and direct stresses, yield and failure criteria, strength and deflection criteria and simple beam theory. At the end of the module, students should be able to understand the behaviour of beams and trusses under different loading conditions.

CIV-BUC-3-1 **Building Construction**

This module equips students with skills required in the construction and maintenance of buildings. It covers interpretation of architectural and engineering drawings, formwork and falsework (scaffolding), concrete mix designs, building carpentry, finishes and building maintenance.

CIV–WSU–3–1 **Water Supply**

This module acquaints students with the complex relationships that exist between hydraulic, chemical, biological, economic and social factors in the construction and operation of water supply systems. The module

covers different water resources i.e. the hydrological cycle, water intakes, pipe and pipeline hydraulics, planning water supply systems, water distribution systems and the operation of water treatment plants, water supply services and emergency water supplies.

CIV-CPM-3-1 **Construction Project Management**

This module introduces students to tools and measures for assessing the performance of a construction project (and its sub-units) against project benchmarks (project schedules, estimates, and budgets). It includes human behavioural considerations, project scheduling, project measures and controls, project progress reporting and project documentation.

CIV-CSU-3-1 **Construction Surveying**

This module acquaints students with practical applications of surveying needed in the construction of roads, buildings, dams and sewer and pipe lines. At the end of this module, students should be able to use modern surveying instruments i.e. Dumpy level, Theodolite, Total Station and Global Positioning System (GPS) to set out various construction projects.

DBA–BME–3–1 **Business Management and Entrepreneurship**

This module is designed to give students thorough understanding of characteristics and operations of a business entity. It also introduces them to the culture of entrepreneurship and the process of converting dreams into business ventures. Students are exposed to the key aspects of financial management in business ventures.

CIV-STE-3-2 **Structural Engineering II**

This module provides students with thorough grounding in the principles of structural engineering design. It covers types of structures and their component elements, dead and live loads, which can be applied to a structure, using limit state design concepts, loads acting on members are determined, and structural elements sized in reinforced concrete, steel, timber and masonry.

CIV-SWM-3-2 **Solid Waste and Wastewater Management**

The module aims to equip students with knowledge and skills in solid waste and wastewater management principles. The content of this module includes: Solid waste classification and sources, solid waste properties, solid waste management, wastewater treatment, and operation and maintenance of wastewater treatment plant.

CIV-SME-3-2 **Soil Mechanics**

This module introduces students to properties of soils and rocks and develops students' understanding of the originals, compositions and construction properties of soils. At the end of the module, students should be able to plan and conduct site investigation as well as carry out laboratory tests on soils.

CIV-ROE-3-2 **Road Engineering**

This module introduces students to the theories and techniques used in the design and construction of rural and urban highways. By the end of this module, students should be able to create a set of drawings for a rural road and urban highway projects. Drawings include those for horizontal and vertical alignment and control, cross sections and volumes.

CIV-QST-3-2 **Quantity Surveying Techniques**

This module aims at simulating the practice of a quantity surveyor and also introduces students to the fundamental principles of computing quantities used in civil engineering projects. It covers topics such as historic development of quantity surveying, duties of quantity surveyors, mensuration of quantities, format and use of Standard Method of Measurement and general principles of taking-off.

FOE-PRJ-3-2 **Project**

This module enables students to apply the scientific, engineering, technical and communication skills acquired in the four year university education to solve an engineering problem. Each student is assigned a supervisor in the respective departments. The supervisor guides the students from start to finish of the project.

Department of Civil Engineering

Diploma in Civil Engineering

Year One

Module Code	Module Name and Descriptor
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The aim of this module is to introduce students to the basic principles of engineering drawing and equip them with draughting skills for the production of working drawings. Topics covered include: Introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of

geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance as well as simplified drawing of machine elements.

MAT-ALG-1-1 **Algebra and Trigonometry**

This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable. Topics of study include set theory, intervals on the number line, inequalities and absolute value, rules of exponents, roots and logarithms and polynomials.

CIT-ITC-1-1 **Introduction to Computers**

This module introduces students to the use of computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel, spreadsheets M**icrosoft PowerPoint**, Microsoft access, methods of data protection and the internet.

PBS-PHY-1-1 **Physics**

This module deals with the basics of physics relevant to the discipline of engineering. Topics covered include units and dimensions, oscillations and waves, nuclear physics and mechanics.

PBS-CHE-1-1 **Chemistry**

This module deals with the basics of chemistry relevant to the discipline of engineering. Topics covered include matter, periodicity, metals and polymerisation.

LAN-ELS-1-1 **English Language Skills**

This module develops students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

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aspects such as concrete, soil, timber, steel and bitumen. It develops students' understanding of the recommended standards for use and preparation of civil engineering materials through in-situ and laboratory tests.

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MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. The topics covered include differentiation, integration and their applications.

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This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

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This module introduces students to water and sanitation issues. It develops students' understanding of household or communal water supply and foul water drainage. At the end of this module, students are expected to demonstrate an understanding of different water sources and how foul water can be safely disposed of at household level without affecting the environment.

YearTwo

LAN-CSE-2-1 **Communication skills II**

This aim of this module is to equip students with interpersonal, recruitment and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal, conflict management and communication, advanced oral, advanced writing, recruitment communication and corporate communication.

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

CIV-CEP-2-1 **Civil Engineering Practice**

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This module introduces students to project planning skills and scheduling techniques, construction site organisation structure and site supervision skills. At the end of this module, students should be able to plan site activities and supervise construction activities.

MEC-CAD-2-1 **Computer Aided Drawing**

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Year Three

CIV-STE-3-1 **Structural Engineering I**

This module provides students with thorough grounding in the principles of structural engineering. It covers general stress and strain, flexural stress, shear stress, combined bending and direct stresses, yield and failure criteria, strength and deflection criteria and simple beam theory. At the end of the module, students should be able to understand the behaviour of beams and trusses under different loading conditions.

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This module equips students with skills required in the construction and maintenance of buildings. It covers interpretation of architectural and engineering drawings, formwork and falsework (scaffolding), concrete mix designs, building carpentry, finishes and building maintenance.

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DBA–BME–3–1 **Business Management and Entrepreneurship**

This module is designed to give students thorough understanding of characteristics and operations of a business entity. It also introduces them to the culture of entrepreneurship and the process of converting dreams into business ventures. Students are exposed to the key aspects of financial management in business ventures.

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CIV-SME-3-2 **Soil Mechanics**

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CIV-ROE-3-2 **Road Engineering**

This module introduces students to the theories and techniques used in the design and construction of rural and urban highways. By the end of this module, students should be able to create a set of drawings for a rural

road and urban highway projects. Drawings include those for horizontal and vertical alignment and control, cross sections and volumes.

CIV-QST-3-2 **Quantity Surveying Techniques**

This module aims at simulating the practice of a quantity surveyor and also introduces students to the fundamental principles of computing quantities used in civil engineering projects. It covers topics such as historic development of quantity surveying, duties of quantity surveyors, mensuration of quantities, format and use of Standard Method of Measurement and general principles of taking-off.

FOE-PRJ-3-2 **Project**

This module enables students to apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem. Each student is assigned a supervisor in the respective departments. The supervisor guides the student from the beginning to the end of the project.

Bachelor of Science In Civil Engineering—Structures, Transport and Water

Year One

Module Code	Module Name and Descriptor
FOE-DRW-1-1	**Engineering Drawing I**

The aim of the module is to introduce students to the basic principles of engineering drawing. It equips students with draughting skills for the production of working drawings.

MAT-ALT-1-1 **Algebra and Trigonometry**

This module is designed to introduce students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

CIT-ITC-1-1 **Introduction to computers**

The aim of this module is to introduce students to computers and software packages.

PBS-ENS-1-1 **Engineering Science**

This module inculcates a scientific orientation in students and develops scientific attitudes that are relevant to the discipline of engineering in the area of chemistry and physics.

LAN-ELS-1-1 **English Language Skills**

The module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication.

CIV-CTE-1-2: **Civil Technology**

This module provides students with knowledge and understanding of the principles of construction technology associated with building and civil works.

EEE-ELS-1-2 **Electrical Science**

This module introduces students to the principles of electricity necessary for further studies in engineering.

FOE-DRW-1-2 **Engineering Drawing II**

The module extends students' knowledge of draughting for the production of working drawings.

MEC-MEC-1-2 **Mechanical Science**

This module seeks to introduce students to the basic principles of mechanical science.

MAT-CAL-1-2 **Calculus I**

The aim of this course is to introduce students to the basic ideas of elementary calculus.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication.

Year Two

CIT-STP-2-1 **Structured Programming in C**

The module provides students with the necessary skills to write programmes using the C programming language.

EEE-EIT-2-1 **Electrical Installation Technology**

This module introduces students to electrical installation technology and practice.

MEC-ENM-2-1 **Engineering Materials**

The aim of this module is to impart knowledge in students on the structure and properties of engineering materials.

LAN-CSE-2-1 **Communication Skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively.

BELS-ISU-2-1 **Introduction to Surveying**

The aim of this module is to introduce students to the principles of surveying.

MAT-CAL-2-1 **Calculus II**

The aim of this module is to complete the study of elementary calculus of functions of one variable and provide students with mathematical foundations in calculus of two variables for their further work in engineering.

MAT-LAL-2-2 **Linear Algebra**

The aim of this module is to equip students with methods for solving problems in analysis and linear algebra.

MEC-STD-2-2 **Statics and Dynamics**

The aim of this module is to introduce students to the basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles.

BELS-SUR-2-2 **Surveying**

The aim of this module is to equip students with knowledge and skills needed in land surveying.

CIV-CEP-2-2 **Civil Engineering Practice**

The aim of the module is to develop students' understanding of the recommended standards for use and preparation of civil engineering materials through in-situ and laboratory tests.

CIT-OOP-2-2 **Object Oriented Programming in C++**

This module provides students with engineering problem solving skills using C++ programming language.

MEC-CAD-2-2 **Computer Aided Drawing**

This module introduces students to the fundamentals and applications of Computer Aided Drawing (CAD).

Year Three

MAT-PST-3-1 **Probability and Statistics**

This module is designed to provide students with statistical tools for quantitative analysis of engineering problems.

CIV-STR-3-1 **Structural Analysis I**

The aim of this module is to provide students with a thorough grounding in the principles of structural engineering.

CIV-GEO-3-1 **Engineering Geology**

This module equips students with principles of geology applicable to civil engineering works.

CIV-FLM-3-1 **Fluid Mechanics for Civil Engineers**

The aim of this module is to develop students' ability to solve practical engineering problems involving fluids both at rest and in motion.

CIV-CEQ-3-1 **Civil Engineering Quantities**

This module introduces students to the basic principles of computing quantities used in civil engineering projects.

DBA-MGT-3-1 **Engineering Management**

The aim of this module is to introduce students to the key principles of management.

CIV-ENV-3-2 **Environmental Engineering**

This module introduces students to the concepts of environmental engineering.

CIV-STD-3-2 **Structural Design I**

The aim of this module is to introduce students to structural design and the criteria for structural adequacy.

CIV-GEO-3-2 **Geotechnical Engineering**

The module is designed to enhance students' knowledge of soil mechanics.

BELS-CSU-3-2 **Cadastral Surveying**

This module equips students with surveying techniques applied in the civil engineering construction process.

MAT-NUM-3-2 **Numerical Methods**

The aim of this module is to enable students understand numerical methods used in solving engineering problems.

CIV-COM-3-2 **Construction Methods**

This module introduces students to construction methods used by engineers and contractors.

Year Four

FOE-IND-4-1 **Industrial Attachment**

The aim of this module is to expose students to practical experience as a means of reinforcing theoretical engineering principles.

CIV- HYD -4-2 **Hydraulics I**

This module develops students' ability in the application and analysis of the behaviour of fluids in internal and free surface flow systems. It enhances students' ability to analyse and design open channels with loose boundaries.

CIV- STR -4-2 **Structural Analysis II**

This module introduces students to various methods of determining deflection of beams and trusses. It is designed to develop student's ability to solve engineering problems involving statically indeterminate structures.

CIV- STR -4-2 **Structural Design II**

This module enables students gain an understanding of the overall structural behaviour and design principles of structural elements of buildings constructed in concrete, timber, masonry and steel.

CIV-TRA-4-2 **Transportation Studies**

The aim of this module is to introduce students to socio-economic factors to be considered in planning and implementing transport systems.

BELS-SUR-4-2 **Engineering Surveying**

The module acquaints students with the practical applications of surveying techniques in the civil engineering construction process. It introduces the students to up-to-date surveying techniques including the use of electronic surveying instruments and aerial photogrammetry.

EEE-COA-4-2 **Computer Applications**

The aim of this module is to provide students with knowledge on how to apply computing principles to solve civil engineering problems.

Specialisation Pathways

Structures

Year Five

CIV–MGT–5–1 **Construction Management**

The aim of this module is to equip students with construction management procedures in order to develop and supervise projects successfully.

CIV-STD-5-1 **Structural Design III**

This module equips students with advanced knowledge in design of structural elements in common structural media.

CIV-STR-5-1 **Structural Analysis III**

The module introduces students to three dimensional stresses for space structures and to further their knowledge in advanced theory of structures.

MEC-FEA-5-1 **Finite Element Analysis**

The aim of this module is to introduce aspects of finite element technology and familiarise students with finite element software.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four year university education to solve an engineering problem.

CIV–FDE–5–1 **Foundation Engineering**

This module provides students in civil engineering with methods of analysis and design for various geotechnical systems.

CIV-STR-5-2 **Structural Analysis IV**

The module enables students understand and analyse plastic behaviour of steel structures and dynamic behaviour of structures.

FOE–BME–5–2 **Business Management and Entrepreneurship**

This module introduces students to the characteristics and operations of a business entity. It also introduces students to the culture of entrepreneurship and the process of converting dreams into business ventures.

CIV–CAD–5–2 **Computer Aided Design**

The aim of this module is to introduce students to different software packages used to analyse civil engineering problems related to their field of specialisation.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four year university education to solve an engineering problem.

FOE-ENS-5-2 **Engineering and Society**

The aim of this module is to provide students with an understanding of their role and responsibilities as engineers in society.

CIV-STD-5-2 **Structural Design IV**

The aim of this module is to enable students gain an understanding of the behaviour and design of more advanced structural forms in the concrete, steel, masonry and timber.

CIV-STD-5-1 **Structural Design III**

This module is designed to equip students with advanced knowledge in design of structural elements in common structural media.

CIV-STR-5-1 **Structural Analysis III**

The module introduces students to three dimensional stresses for space structures and to further their knowledge in advanced theory of structures.

CIV-STR-5-2 **Structural Analysis IV**

This module enables students understand and analyse plastic behaviour of steel structures and dynamic behaviour of structures.

CIV-STD-5-2 **Structural Design IV**

This module seeks to enable students gain an understanding of the behaviour and design of more advanced structural forms in the concrete, steel, masonry and timber.

Transport

FOE–BME–5–2 **Business Management and Entrepreneurship**

The aim of this module is to introduce students to the characteristics and operations of a business entity as well as the culture of entrepreneurship and the process of converting dreams into business ventures.

CIV–MGT–5–1 **Construction Management**

The aim of this module is to equip students with construction management procedures in order to develop and supervise projects successfully.

MEC-FEA-5-1 **Finite Element Analysis**

The aim of this module is to introduce students to aspects of finite element technology and familiarise them with finite element software.

CIV–TRA–5–1 **Highway Engineering I**

The aim of this module is to enable students have an understanding of the criteria, procedures and methods for the geometric design of highway features.

CIV–TRA–5–2 **Highway Engineering II**

This module is designed to enable students understand road works design, construction and associated road safety features.

CIV–TRP–5–1 **Transportation Planning**

This module provides students with grounding principles in approaches to transport planning and an introduction to transport economics.

CIV–HMM–5–1 **Highway Maintenance and Management**

This module provides a holistic understanding of highway maintenance and management principles.

CIV–RSA–5–2 **Road Safety**

The module introduces students to policies related to road safety covering motorised and non-motorised transport.

CIV–CAD–5–2 **Computer Aided Design**

This module introduces students to different software packages used to analyse civil engineering problems related to their field of specialisation.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four year university education to solve an engineering problem.

FOE-ENS-5-2 **Engineering and Society**

The aim of this module is to provide students with an understanding of their role and responsibilities as Engineers in society.

Water

CIV–HYD–5–1 **Hydraulics II**

This module aims at enabling students to analyse, design and operate dams and hydraulic structures and develop their ability in the identification, classification and choice of hydraulic machines.

CIV-WRM-5-2 **Water Resources Management**

This module aims at equipping students with skills needed in the assessment and management of water resources.

CIV-HDL-5-1 **Hydrology**

This module provides students with a thorough understanding of the elements of hydrology relevant to civil engineers.

CIV-WAT-5-1 **Water Supply Engineering**

This module acquaints students with the complex relationships existing between: hydraulic, chemical, biological, economic and social factors in the design and operation of water supply system.

CIV-WAT-5-2 **Wastewater Engineering**

This module seeks to acquaint students with the complex relationships existing between hydraulic, chemical, biological, economic and social factors in the design and operation of wastewater treatment facilities.

Department of Electrical Engineering

Diploma In Electrical and Electronics Engineering

Year One

Module Code	Module Name and Descriptor
DEE-DRW-1-1	**Engineering Drawing**

The aim of this module is to equip students with draughting skills for the production of working drawings. This module covers introduction to drawing (Types of lines and lettering according to BS 308 and geometric construction), engineering drawing (orthographic projections, three dimensional views, dimensioning and tolerances), electrical symbols and Electrical Assembly.

MAT-ALG-1-1 **Algebra and Trigonometry**

The aim of this module is to introduce students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable. Module coverage includes set theory, intervals on the number line, inequalities and absolute value, rules of exponents, roots and logarithms, polynomials, multiplication and division of polynomials, the binomial theorem, factoring, completing the square and the quadratic formula.

CIT-ICT-1-1 **Introduction to Computers**

This aim of this module is to introduce students to the use of computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel, **M**icrosoft PowerPoint, Microsoft access, methods of data protection and the internet.

PBS-ENS-1-1 **Engineering Science**

The aim of this module is to introduce students to the concepts of physics and chemistry relevant to the discipline of engineering. Topics covered matter, periodicity, metals, polymerisation, units and dimensions, mechanics, oscillations and waves,magnetic effects, ray and wave optics, and modern physics.

LAN-ELS-1-1 **English language Skills**

The aim of this module is to develop students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include: introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

DEE-ELS-1-2 **Electrical Science**

This module introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics covered include: Electrostatics, introduction to electrical systems, chemical effect of electric current, current electricity and magnetostatics, electromagnetic induction and electromagnetic waves**.**

MAT-CAL-1-2 **Calculus I**

The aim of this module is to introduce the basic ideas of elementary calculus, the derivative and integral of functions of one variable

necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include: technical writing, report writing, research communications, application of oral communication skills, nonverbal communication, visual communication, barriers to effective communication and business writing.

DEE-CSL-1-2 **Combinational and Sequential Logic**

The aim of this module is to provide students with knowledge and skills in the analysis and application of combinational logic systems. Topics covered include: Boolean variables, operators, and laws of Boolean algebra, minimisation of Boolean of expressions and functions, logic gates and their symbols, realisation of Boolean functions through use of logic gates as well as construction and testing of combinational logic systems.

DEE-WSP-1-2 **Workshop practice**

This module equips students with workshop theory and develop basic workshops skills in electrical engineering. Topics covered are: safety regulations, safety at work, electrical safety, electricity supply standards, overview of a modern power systems, electricity and the environment, substations, site distribution systems, cable management systems, standby power supplies, installation wiring systems, earthing and lightning protection.

DEE-ANE-1-2 **Analogue Electronics**

This module introduces students to the basic structures construction, operation and applications of semiconductor devices. Some of the topics covered are types of diodes, transistors, diacs, triacs and thyristors.

Year Two

MAT-CAL-2-1 **Calculus II**

This module completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include: further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

DEE-CON-2-1 **Computer Networking**

This module provides students with knowledge and skills in computer networking. Topics covered include: LAN, WAN, router configuration, wireless networks, and cabling.

DEE-ELC-2-1 **Electrical Circuits**

This module provides students with fundamental theories necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered are: circuit theorems and analysis methods, alternating voltages and currents, DC and AC Transient Responses, Single-phase AC circuits, Three-phase AC circuits, and Resonance in AC circuits.

DEE-ANE-2-1 **Analogue Electronics II**

This module provides students with knowledge on analogue electronic circuits, systems and their applications. Topics covered are: Small Signal Amplifiers, Large Signal Amplifiers, DC powers suppliers and voltage regulators, coupling of amplifiers and feedback, fault diagnosis and rectification in amplifiers.

DEE- DRW-2-1 **Electrical Engineering Drawing (CAD)**

This module introduces students to fundamentals and applications of Computer Aided Drawing (CAD) in electrical engineering. Topics include introduction to Auto CAD, basic construction in Auto CAD and Auto CAD Electrical.

DEE-WSP-2-1 **Workshop practice – Installation**

This module equips students with knowledge and workshop skills in electrical installation work. Topics covered include conduit assembly, installation testing and fault finding.

FOE-IND-2-2 **Industrial attachment**

The aim of this module is to expose students to practical experience as a means of reinforcing theoretical engineering principles. The content of the module includes: application of engineering principles, work organization and prioritization, self-appraisal, progress on defined tasks, interaction with workforce and response to technical instruction and support, technical presentation abilities (written and oral), and flexibility of working as an individual or as a team member.

Year Three

DEE-EPT-3-1 **Electrical plant**

This module provides students with knowledge on construction, principles of operation and applications of transformers DC machines, induction motors and three phase synchronous machines. The module covers transformers, DC and synchronous machines (construction, operation, performance and application).

DEE-POG-3-1 **Power Generation**

This module introduces students to the construction and principles of power generation systems as well as concepts of environmental impact of power generating systems. Topics covered include world energy sources, construction and principles of operation of nuclear and renewable energies.

DEE- PSP-3-1 **Power system protection**

The module provides students with knowledge and skills in power system protection. Some of the topics covered are: fundamentals of power system protection, components of protection, substation design diagrams, equipment earthing, and basic protection schemes for transmission lines.

DEE-EPM-3-1 **Electrical Plant Maintenance**

The module provides knowledge and skills for maintenance of electrical plant. Topics covered are selection of appropriate measuring instruments, corrective maintenance and preventive maintenance.

DBA-MGT-3-1 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. Topics include nature of management, organisation, jobs and roles, human resource management and e**conomics.**

DEE-PTD-3-2 **Power Transmission and Distribution**

This module equips students with knowledge and skills in power transmission, power distribution and system protection. Topics covered include types of transmission distribution systems, substation equipment, overhead and underground distribution systems, one-line diagrams, earthing of supply and distribution systems and methods of circuit protection.

DEE-ENT-3-2 **Entrepreneurship**

The module introduces students to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include finance for engineering managers, business plan, business ethics and social responsibility, dynamics of business, marketing, sales, and entrepreneurship.

DEE-INE-3-2 **Industrial Electronics**

This module introduces students to principles and application of power electronic systems in electrical plant. Topics covered include: operation of controlled and uncontrolled rectifier circuits, construction and principles of operation of PLCs, programming of PLC based control systems and installing and troubleshooting PLC based systems.

DEE-INC-2-1 **Instrumentation and Control**

This module introduces students to the construction and principles of operation and application of measuring instruments. Topics covered include data presentation instruments, transducers, electrical measuring instruments, open and closed loop control systems and selection of suitable instruments for particular application.

DEE-MEE-3-2 **Maintenance of Electrical Equipment**

This module equips students with knowledge and skills in the maintenance of consumer and office equipment. Topics covered include description of principles and operation of consumer electronic equipment, diagnosis and rectification of faults in various consumer equipment.

Diploma in Biomedical Engineering

Year One

Module Code	Module Name and Descriptor
MAT-ALG-1-1	College Algebra

The aim of this module is to introduce students to the basics of elementary algebra and analytic geometry necessary for the study of calculus of functions of one variable. Topics covered include elementary algebra, elementary analytic geometry, and exponential and logarithmic functions.

LAN-ELS-1-1 **English language skills**

This module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective

communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

MEC-DRW-1-1 **Engineering Drawing I**

The aim of this module is to equip students with draughting skills for the production of working drawings. Topics covered include introduction to engineering drawing, electrical symbols, and electrical assembly. In addition to class room instructions, students have to complete laboratory drawing assignments

PBS-CHE-1-1 **Chemistry**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes that are relevant to the discipline of engineering in the area of chemistry. Topics covered include matter, periodicity, polymerisation and metals.

PBS-PHY-1-1 **Physics**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes that are relevant to the discipline of engineering in the area of physics. Topics covered include units and dimension, mechanics, oscillations and waves, ray and wave optics, and nuclear physics.

CIT-ICT-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include Interacting with the computer, data management, creating professional looking documents using Microsoft word, Microsoft excel, spreadsheets Microsoft PowerPoint, Microsoft access, methods of data protection and the internet.

MAT-TAC-1-2 **Trigonometry and Calculus 1**

This course introduces the basic ideas of trigonometry, elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. The topics covered include trigonometry, differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing,

research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

DBE-ELS-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, electromagnetic induction and electromagneticwaves, DC and AC electrical circuits, network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-MEC—1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

PBS-HAP-1-2 **Human Anatomy and Physiology**

The aim of this module is to introduce students to the human body's structural constitution and its normal functioning in relation to the application of biomedical instruments. Topics covered are general organisation of the human body, nervous system, energy balance metabolism and nutrition, respiratory system and the muscular system.

MEC-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). It also covers loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential

equations, functions of two variables, differential calculus of functions of several variables

DBE-ELC-2-1 **Electrical Circuits**

This course provides students with fundamental theories necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered are: circuit theorems and analysis methods, alternating voltages and currents, DC and AC transient responses, single-phase AC circuits, three-phase AC circuits, and resonance in AC circuits.

DBE-ANE-2-1 **Analogue Electronics**

The aim of this module is to introduce students to principles of analogue electronics. Topics covered are semiconductor diodes, Bipolar Junction Transistor, FETs, transistor amplifier, oscillators and voltage regulators.

DBE-DEL-2-1 **Digital Electronics**

The aim of this module is to provide students with knowledge and skills in digital electronics. The topics covered are logic gates and circuits, combinational gate systems, TTL and CMOS, basic sequential circuits, application of flip-flop and finite state machine design.

DBE-ADE-2-1 **Analytic & Diagnostic equipment**

The aim of this module is to provide knowledge and understanding of various analytic and diagnostic equipment found in hospitals. Some of the topics covered are analytical equipment, blood flow meters, blood gas analyser, blood cell counters and endoscopy.

DBE-MEW-2-1 **Mechanical and Electrical Workshop Technology**

This module equips students with the knowledge of workshop theory and develops their basic workshops skills in electrical engineering. Topics covered are: safety regulations; safety at work, electrical safety, electricity supply standards, earthing, lightning protection, mains cables, selection of wiring systems, protective systems, installation drawings, installation testing and inspection, lighting and illumination, fault diagnosis in electrical and electronic systems.

DBE-BIC-2-2 **Biochemistry**

The module provides students with the knowledge of fundamental concepts of biochemistry using the examples of the structure and role of lipids, carbohydrates and amino acids / proteins in living systems.

Students also learn to apply the concepts of and techniques in biochemistry to the understanding of the composition of biological materials and some elementary biochemical energy yielding reactions and metabolic pathways.

DBE-BIN-2-2 **Bio-Instrumentation**

This module introduces students to the principles of medical instrumentation. Among other topics, it covers bio sensors and transducers; temperature, displacement, acoustical and radiation measurements; bio-potential amplifiers and signal processing; origin of bio-potentials; bio-potential electrodes; measurement of biopotentials such as ECG, EEG and EMG; blood pressure measurements and electrical safety.

DBE-WPT-2-2 **Workshop practice II- Ward Equipment**

This module provides students with principles of operation, trouble shooting and maintenance of laboratory and ward equipment. Some of the areas covered are concepts of 5s, anaesthesia machine, pulse oximeters, chemistry analyser.

PBS-OHS-2-2 **Occupational Health and Safety Procedures**

The aim of the module is to equip students with skills and knowledge on how to protect themselves and other people from hazards arising in their work places. Areas covered are: introduction to occupational health, types and identification of hazards to workers, occupational health and safety risk management systems, introduction to occupational health and safety regulations.

MEC-ENM-2-2 **Engineering Materials**

This course introduces students to the basics of engineering materials and standards of materials, products, and material testing. Topics include classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography, metal bonding, alloying, ferrous alloys, FeFe3C diagram, phase transformation, non-ferrous alloys, strengthening methods: strengthening by alloying, heat treatment, precipitation hardening and strain hardening.

DBE-MIS-2-2 **Medical imaging**

This module is an introduction to concepts of imaging and sensing that underlie a wide range of bio imaging modalities. Topics covered include;

imaging principles, imaging mathematics, imaging physics, and image generation techniques, cell imaging, multiphoton microscopy for bio studies, molecular imaging, infrared imaging, bio magnetic imaging, computed tomography, X-ray imaging, nuclear medicine, magnetic resonance imaging, and ultrasound imaging.

Year Three

FOE-IND-2-2 **Industrial attachment**

This module enables students gain practical experience from the industry in order to enhance their knowledge and skills.

DBA-MGT-3-2 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. Topics covered are: Nature of management, organisation, jobs and roles, human resource management, and economics.

MEC-MAR-3-2 **Maintenance and Reliability**

This course presents to students the fundamentals of maintenance and reliability engineering, and maintenance management. Topics covered include modern trends in maintenance technology, maintenance types, maintenance management information system, maintenance engineering, maintenance practice and procedures, machine diagnostics, machine condition monitoring and signature analysis, maintenance job planning and scheduling total quality maintenance, and reliability centred maintenance.

DBE-RAP-3-2 **Radiology physics**

The module is a review of fundamental radiation physics and cell biology. Topics include physics and chemistry of radiation absorption, direct/indirect action, target theory, multi-hit target theory and other theories; radiation and properties; Alfa radiation; Beta radiation; Gamma and X-ray radiation as well as interaction of X-ray with matter.

MEC-HYP-3-2 **Hydraulics and Pneumatics**

The aim of this module is to equip students with knowledge and skills in pneumatic and hydraulic systems. Some of the areas covered are hydraulic and pneumatic components, maintenance of hydraulic and pneumatic systems and diagnosis and testing of hydraulic and pneumatic systems.

Calendar 2016-2018

DBE-ETM-3-2 **Electromagnetics**

This module provides students with the knowledge on the fundamental principles of electromagnetic and electric fields and their applications in electrical engineering. Some of the topics covered are: Charge, matter, , Coulomb's Law, Gauss' Law and electric fields, electric potential, capacitance and dielectrics, current density, magnetic fields force and torque.

DBE-PRJ-3-2 **Project**

This module provides students with an opportunity to demonstrate the ability to use the acquired knowledge to solve a particular engineering problem.

Diploma in Telecommunications and Electronics Engineering

Year One

Module Code **Module Name and Descriptor**

MAT-ALG-1-1 **College Algebra**

The aim of this module is to introduce students to the basic principles of college algebra. It covers elementary algebra, exponential and logarithmic functions.

LAN-ELS-1-1 **English language skills**

This module enhances students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, academic report writing, the writing process – the academic essay and oral presentation.

CIT-ICT-1-1 **Introduction to Computers**

This module introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel, spreadsheets Microsoft PowerPoint, Microsoft access, methods of data protection and the Internet.

PBS-ENS-1-1 **Engineering Science**

The module introduces students to fundamental scientific principles, laws and theories that are used in engineering. Topics covered are matter,

periodicity, metals, polymerisation, units and dimensions, mechanics, oscillations and waves, magnetic effects, ray and wave optics.

MEC-DRW-1-1 **Engineering Drawing**

This module is an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements (bolts, threads, gears, etc.), assembly drawing, exploded view and drawing symbols. In addition to classroom instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer aided drawing.

DEE-WSP-1-1 **Workshop practice**

This module equips students with knowledge and basic workshop skills in electrical and telecommunication engineering. Some of the topics covered are: safety regulations; safety at work, electrical safety, electricity supply standards, overview of a modern power systems, electricity and the environment, substations, site distribution systems, cable management systems, standby power supplies and installation wiring systems.

MAT-TAC-1-2 **Trigonometry and Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications. Trigonometry and analytic geometry necessary for the study of further mathematics, science and principles of Engineering.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non verbal communication, visual communication, barriers to effective communication and business writing.

ELE-ELS-1-2 **Electrical Engineering Principles**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in electrical engineering. Principles covered in this module include electricity systems,

chemical effects of electric current, charge and matter, DC circuits, AC circuits, network theorems, and magnetisms.

DEE-CDN-1-2 **Communications Systems and Digital Networks**

The aim of this module is to equip students with knowledge and skills in data communication networks. It covers data transmission methods, error correction and checking methods; leased lines and modems; data networks switching types; Open Systems Interconnection (OSI) model; categories and topologies in computer networks and access methods.

DEE-CSC-1-2 **Digital Electronics: Combinational and Sequential**

This module provides students with knowledge and skills in the analysis and application of combinational and sequential logics circuits in digital electronic systems. It covers characteristics of logic gates and circuits; flip-flops and sequential circuits and their applications in digital electronics.

DEE-ANE-1-2 **Analogue Electronics I: Semiconductor Devices**

This module introduces students to the principles and operations of semiconductor devices and their application in analogue electronics. It covers basics of semiconductor materials; diodes, bipolar transistors; unipolar transistors; and fault diagnostic tests for various diodes, transistors and semiconductor power devices.

Year Two

MAT-CAL-2-1 **Calculus II**

The aim of this course is to provide students with mathematical skills in differential and integral calculus of functions of more than one variable. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

DEE-DRW-2-1 **Electrical Engineering Drawing**

This module introduces students to fundamentals and applications of Computer Aided Drawing (CAD) in electrical engineering. Topics covered include introduction AutoCAD, geometric construction, basic objects construction tools, construction and editing tools; object properties and organisation; AutoCAD for Electrical diagrams.

DEE-ADC-2-1 **Analogue and Digital Communication**

The module provides students with the fundamental principles used in the modelling, analysis and design of analogue and digital communication systems. Topics covered are: signals and noise, amplitude modulation, angle modulation, line coding, transmission of digital and analogue signals, baseband and broadband digital transmission, and digital carrier modulation systems.

DEE-PRA-2-1 **Propagation and Antennas**

The module aims at introducing principles of signal propagation over various medium space. Topics covered are: elements of a communication system, transmission lines, principles of antennas, radio propagation, link budget and signal to noise ratio.

DEE-UCP-2-1 **UNIX and C Programming**

The module provides students with the necessary skills to write structured programmes using the C programming language and understand UNIX Operating system. Topics covered include: Algorithm & flow charts, introduction to OS & Unix, Basic commands of Unix, editing; under Linux, Variables and Data Types and control flow.

DEE-ANE-2-1 **Analogue Electronics II**

This module provides students with knowledge on analogue electronic circuits, systems and their applications. The module covers topics on small signal amplifiers, large signal amplifiers, DC powers suppliers and voltage regulators, coupling of amplifiers and feedback, fault diagnosis and rectification in amplifiers.

DBA-MGT-2-2 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. The module covers nature of management, organisation, jobs and roles, human resource management, and economics.

DEE-MEE-2-2 **Maintenance of Electrical Equipment**

This module equips students with knowledge and skills in the maintenance of consumer and office equipment. Topics covered include description of principles and operation of consumer electronic equipment, diagnosis and rectification of faults in various electronic equipment.

DEE-TES-2-2 **Telephony Systems: Fixed and Mobile**

The module provides students with an understanding of telephony systems, both fixed and mobile. Topics covered include introduction to PSTN, transmission, switching, signalling, teletraffic engineering, cellular concept, mobile radio channels, access protocols and schemes, mobile communication standards and their architectures.

DEE-OCS-2-2 **Optical Communication Systems**

This module provides students with an understanding of optical communication systems. Topics involved are: Optics, characteristics of optical fibres, optical waveguide, optical sources and transmitters, optical detectors and receivers, termination and joining of optical fibres, dispersion and power losses in optical communication systems and optical link design.

DEE-CON-2-2 **Computer Networking**

This module provides students with knowledge and skills in computer networking. Topics covered include LAN, WAN, internetworking router configuration and cabling.

DEE-TRB-2-2 **TV and Radio Broadcasting Systems**

The module provides students with knowledge and skills in broadcasting systems, both radio and television. Topics covered are: sound recording, monochrome television, colour television, video recording, analogue and digital audio and video broadcasting techniques, coding and decoding.

Year Three

FOE-IND-3-1 **Industrial attachment**

This module helps students to gain practical experience from the industry in order to enhance their knowledge and skills.

DEE-ENT-3-2 **Entrepreneurship**

The module introduces students to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include finance for engineering managers, business plan, business ethics and social responsibility, dynamics of business, marketing, sales and entrepreneurship.

DEE-DAR-3-2 **Engineering Design and Realization**

This module introduces students to the principles of engineering designs and how the designs are realised. The module covers the following topics: Design philosophy, design techniques and integration, human factors and design for society, principles of ecodesign, design and manufacturing processes and design prototyping

DEE-COE-3-2 **Communication Electronics**

The module aims at equipping students with knowledge and skills in communication electronic circuits, systems and their applications. Topics covered are: Superheterodyne receivers, Tuned Radio Frequency (RF) Amplifiers, mixers, oscillators, phase locked loops circuits and filters.

DEE-RCS-3-2 **Radio Communication Systems**

The module provides students with an understanding of microwave and satellite communication systems. Topics include link analysis for microwave and satellite, network architecture, hardware equipment, device addressing, performance measurement, security issues, channel access and allocation, and media access techniques Satellite systems (constellations and orbits).

DEE-WNT-3-2 **Wireless Networking**

This module introduces students to the principles of wireless networking. Topics include: features and services, standards and protocols, security mechanisms, channel access and allocation, link budget, media access techniques, device addressing and identification mechanisms and performance measurement.

DEE-PRJ-3-2 **Project**

The aim of this module is to enable students apply the scientific, engineering and technical and communication skills acquired to solve a particular engineering problem.

Calendar 2016-2018

Diploma in Mechanical Engineering Production
Diploma in Automobile Engineering, and
Diploma in Welding and Fabrication

Year One

Module Code	Module Name and Descriptor
MEC-ALG-1-1	**Algebra and Trigonometry** This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable. Topics of study include set theory, intervals on the number line, inequalities and absolute value, rules of exponents, roots and logarithms, polynomials, multiplication and division of polynomials, the binomial theorem, and factoring.
LAN-COS-1-1	**English Language Skills** This module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.
MEC-DRW-1-1	**Engineering Drawing I** The aim of this module is to introduce students to the basic principles of engineering drawing and equip them with draughting skills for the production of working drawings. Topics includes introduction to mechanical engineering drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning as well as dimensioning and tolerance.
PBS-PHY-1-1	**Physics** This module introduces students to the principles of physics relevant to the discipline of engineering. Topics covered include units and dimensions, oscillations and waves, nuclear physics and mechanics.
PBS-CHE-1-1	**Chemistry** This module introduces students to the principles of chemistry relevant to the discipline of engineering. Topics covered include matter, periodicity, metals and polymerisation.

MEC-ICT-1-1 **Introduction to Computers**

This module introduces students to the use of computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft word, Microsoft excel (spreadsheets), Microsoft PowerPoint, Microsoft access, methods of data protection and the internet.

PBC-ENS-1-1 **Engineering Science**

This module orients students to the principles of physics and chemistry relevant to the discipline of engineering. Topics covered are matter, periodicity, metals, polymerisation, units and dimensions,mechanics, oscillations and waves, magnetic effects, ray and wave optics, and modern physics

MEC-CAL-1-2 **Calculus I**

This module introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

MEC-CS1-1-2 **Communication Skills I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, and barriers to effective communication and business writing.

MEC-VEE-1-2 **Vehicle Electrical and Electronic Systems I**

The aim of this module is to give students an understanding of basic vehicle electrical systems used in vehicles, and to provide them with the basic skills to work and handle vehicle electrical systems. The module emphasises on electrical devices, vehicle circuits and systems, batteries, starting systems, vehicle lighting systems, semiconductors, digital circuit principles, heating, and ventilation.

MEC-VTP-1-2 **Vehicle Technology and Practice I**

This module introduces students to safety requirements in a motor vehicle workshop and basic operating principles of motor vehicle systems. It also introduces students to various measuring tools and enables them develop basic skills in repairing motor vehicles, dismantling and assembling of vehicle components.

MEC-MES-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

MEC-DRW-1-2 **Engineering Drawing II**

This module extends students' knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings fully dimensioned for manufacture, limits and fits, isometric projection, loci, electrical symbols to B.S. 3939, welding symbols as per BS 499, auxiliary views of engineering components and surface development.

MEC-WPR-1-2 **Welding Technology and Practice I**

This module introduces students to basic principles of the welding equipment and accessories; equips students with technology and practical skills basic to local manufacturing industry; and develops an ability in students to make a proper choice of a welding process. The module covers the following topics: safety in welding, sources of energy in welding and cutting, electricity, welding and welding processes.

MEC- MTP-1-2 **Manufacturing Technology and Practice I**

This module familiarises students with the basics of manufacturing processes and technologies involved in industrial activities. Topics covered include safety, hand tools and marking out equipment, measurement and drilling machines.

Year Two

MEC-MAS-2-1 **Engineering Materials**

This module provides students with the basics of engineering materials and standards of materials, products and material testing. Topics covered include classification of materials, material properties (mechanical, physical, chemical, technological), material standards, product standards, testing of materials (mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep), atomic bonding, basics of crystallography, metal bonding, alloying, ferrous alloys and Fe-Fe3C diagram.

MEC-THF-2-1 **Thermo-fluids**

This module provides students with the basic concepts in thermodynamics and fluids mechanics to equip students with theories that will enable them solve engineering problems in thermo fluids. Topics covered include properties of a fluids, perfect gas laws, specific heat capacities, polytropic processes, mass, energy and momentum conservation principles, 1st and 2nd laws of thermodynamics, types of fluid flow and shear stress in fluid flow and Reynolds number.

COS-2-1 **Communication Skills II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-VEE-2-1 **Vehicle Electrical and Electronic Systems II**

The aim of this module is to give students an understanding of electronic systems used in vehicles and provide them with the diagnostic and analytical skills to work and handle vehicle electronic systems. Topics of study include alternators, instrumentation, computers in vehicles, advances in digital electronics, air conditioning and climate control, vehicle security systems and restraint systems.

MEC-INS-2-1 **Industrial Studies**

This module provides students with the basic knowledge of supervisory skills necessary in the industry. It also provides students with fundamentals of business management and how resources such as people, materials and machinery are employed in a project to convert raw materials into finished products in a production process while applying engineering skills learned in other co-requisite modules.

MEC-VTP-2-1 **Vehicle Technology and Practice II**

The aim of this module is for students to develop practical skills to work on vehicle systems. The module covers engine construction and driving methods, main components of engine auxiliary systems, ignition system, two and four stroke engines (spark and compression ignition), engine lubrication, breathing systems, fuel systems, braking systems, steering systems, suspension systems, transmission, routine maintenance and running adjustments, and practical skills.

MAT-CAL-2-1 **Calculus II**

This module completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, and differential calculus of functions of several variables.

MEC-FDR-2-1 **Fabrication Drawing**

This module provides students with advanced knowledge in drawing specific for fabrication. Topics include advanced pattern development comprising parallel line method, radial line method and triangulation method.

MEC-FTP-2-1 **Fabrication Technology and Practice I**

This module introduces students to the field of fabrication. Students are equipped with appropriate technologies, practical skills and techniques relevant to fabrication. Topics include safety in fabrication, general fitting, measurements, marking out, cutting machines, forming machines, stiffening, jointing, sheet metal work, structures fabrication, and non-fusion joining processes.

MEC-MTP-2-1 **Machining Technology and Practice I**

This module introduces students to machines and machine shop tools and equipment. Students are exposed to knowledge and skills of basic machine technology and practice. Topics include cutting tools, machines (lathe machines, shapers, milling machines and grinding machines), and practice.

MECH-MTP-2-1 **Manufacturing Technology and Practice II**

This module equips students with higher principles of machine tools and equipment. Topics covered include lathe machine, shaping machine, milling machine and metal cutting.

FOE-IND-2-2 **Industrial Attachment**

This module provides students with an opportunity to work as apprentices in the industry. During industrial attachments, students are encouraged to apply engineering principles and research methods they have learnt to their respective sectors or to practical problems faced. They are encouraged to take note of every activity they participate in. At the end

of this period, students are supposed to write a comprehensive report according to a format prescribed by the faculty.

Year Three

MEC-WRG-3-1 **Workshop Organisation**

The aim of this module is to provide students with knowledge to organise vehicle workshops to efficiently and effectively use the labour, financial and material resources to deliver quality service. Topics covered include layout, service station, organisation of departments, records and claims, reception, forecourt ork and vehicle sales.

MEC-PRJ-3-1 **Project**

This module enables students to work independently on design and research and to find practical working engineering solutions. Topics include project approach and planning which involves regular meetings with the project supervisor while professionally keeping records of activities noted.

DBA-MGT-3-1 **Engineering Management**

This module introduces students to the key principles of management. Topics covered include nature of management, organisation, jobs and roles, human resource management and economics.

MEC-CAD-3-1 **Computer Aided Drawing**

This module provides students with basic skills in computer aided drawing using licensed software (Autodesk Inventor). This module includes introduction to geometrical modelling, introduction to Computer Aided Design (CAD) and computer laboratory drawing assignments.

MEC-STM-3-1 **Strength of Materials**

The aim of this module is to impart in students the theoretical and practical knowledge of strength of materials. Topics include stress-strain concept, tensile test, stress and strain due to axial loading, statically indeterminate case related to axial loading, introduction to plasticity and residual stress, stress and strain due other loads such as torsion, bending moment, and shear force and Mohr's circle of stress.

MEC-SDN-3-1 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include: static equilibrium,

equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles.

MEC-HYP-3-1 **Hydraulics and Pneumatics**

This module introduces students to hydraulics and pneumatics as forms of power transmission and control. It covers systems overview, components, symbols and circuits, diagnosis and maintenance of hydraulic and pneumatic systems.

MEC-WTP-3-1 **Welding Technology and Practice II**

The aim of this module is to provide students with a broader and advanced knowledge of welding principles of a wide range of welding processes, economic and material considerations in regard to choice of the welding process. The module covers thermal cutting, welding and welding technology, other welding processes, further welding techniques and practice.

MEC MTP-3-1 **Manufacturing Technology and Practice III**

This module introduces students to principles of welding processes and different cutting tool materials for selected machining processes. Topics covered include fabrication, gas welding and cutting tools.

MEC-FMT-3-2 **Fleet Management**

The aim of this module is to equip students with knowledge and skills in fleet management for the control of vehicle operations, maintenance procedures and handling of accidents efficiently. The module covers regulation and control of operations, driver standards, licensing and speed limits, vehicle maintenance, weights, tyres and seat belts, vehicle utilisation, fuel management, road traffic accidents, health, safety and security, Malawi Road Traffic Act, and vehicle parts and supply management.

MEC-IQC-3-2 **Industrial Quality Control**

This module familiarises students with quality control techniques, quality assurance issues and quality management methods. Topics covered include introduction to quality control, total quality management, quality improvement techniques, statistical concepts, control charts for variables, control chart interpretation and analysis, other variable control charts, fundamentals of probability, control charts for attributes, reliability,

quality costs and quality systems: ISO 9000, six sigma, benchmarking and auditing.

MEC-PRJ-3-2 **Project**

This module enables students to work independently on design and research and to find practical working engineering solutions. The module content includes project approach, and planning which involves regular meetings with the project supervisor whilst professionally keeping records of activities noted.

MEC-MTI-3-2 **Measurements & Instrumentation**

This module deals with measurement techniques ranging from the basic principles, sensors to data acquisition. Coverage includes: definition/ terminologies, calibration, standards, static and dynamic signal analysis, data representation in the frequency domain, sampling theorem and aliasing, digital data acquisition, dynamic response of instruments, step response of first and second order systems.

MEC-MED-3-2 **Machine Elements Design**

This module deals with the introduction of machine elements (bolts, nuts, gears, couplings, etc.), selection and sizing to satisfy a certain requirement. Topics of study include ergonomics , aesthetics and industrial design, patents, design of shafts, cams, gears, power screws, gaskets, seals and pipe joints, selection of springs, selection of bearings, design and selection of flat belts.

DBA-ENT-3-2 **Entrepreneurship**

The module introduces students to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include finance for engineering managers,business plan, business ethics and social responsibility, dynamics of business, marketing, sales and entrepreneurship.

MEC-VTP-3-2 **Vehicle Technology and Practice 3**

This module develops students' diagnostic and practical skills in repairing engines and automatic transmission systems, heavy vehicle steering, braking and transmission systems. The module material includes petrol and diesel engine design features and constructional details, repair techniques, use of equipment in determining amount and type of wear on engine parts, and use of diagnostic equipment on electronic engine management systems.

MEC-IPD-3-2 **Industrial Product Design**

This module is designed to further industrial technician student understanding of product design management. Topics covered include competitive design management, industrial design, investing in product development, design process and industrial design CAD skills.

MEC-FTP-3-2 **Fabrication Technology and Practice II**

This module orients students to broader study of measurements, machines and processes in fabrication, including safety. Topics covered include safety, measurements, material removal and cutting, and forming processes.

MEC-MTP-3-2 **Manufacturing Technology and Practice IV**

This module introduces students to advanced methods of manufacturing processes. Topics covered include numerically controlled machining, gear manufacturing/cutting, forming, moulding, casting and machine grinding.

MEC-MET-3-2 **Metrology**

The module equips students with an understanding of the operating principles of precision measuring tools commonly used in production workshops. Topics comprise principles and practices of surface texture, machine tool acceptance tests, comparators and pneumatic gauging.

Bachelor of Electrical and Electronics Engineering

Year one

Module Code	Module Name and Descriptor
MAT-ALG-1-1	**Algebra and Trigonometry**

This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LAN-ELS-1-1 **English language skills**

This module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

MEC-DRW-1-1 **Engineering Drawing 1**

The module provides an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches and auxiliary view. It also deals with sectioning, dimensioning and tolerance, simplified drawing of machine elements (bolts, threads, gears, etc.), assembly drawing, exploded view and drawing symbols. In addition to classroom instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer-aided drawing.

CIT-ICT-1-1 **Introduction to Computers**

This module introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft Word, Microsoft Excel, spreadsheets **M**icrosoft PowerPoint, Microsoft access, methods of data protection and the internet

PBS-ENS-1-1 **Engineering Science**

This module inculcates in students the scientific orientation and attitudes relevant to the discipline of engineering in the area of chemistry and physics. Topics covered are matter, periodicity, metals, polymerisation, units and dimensions, mechanics, oscillations and waves, magnetic effects, ray and wave optics and modern physics.

CIV-CTE-1-2 **Civil Technology**

This course offers knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows, and drainage and sanitary systems

ELE-ELS-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, electromagnetic induction and electromagnetic waves**,** DC and AC electrical circuits, network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). Loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

MEC-MEC-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

MAT-CAL-1-2 **Calculus I**

This module introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

Year Two

MAT-CAL-2-1 **Calculus II**

This module completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables and differential calculus of functions of several variables.

ELE-EPR-2-1 **Engineering Practice**

This module equips students with the knowledge of workshop theory and develops basic workshops skills in electrical engineering. Topics covered include safety regulations, safety at work, electrical safety, electricity supply standards, overview of modern power systems, electricity and the

environment, substations, site distribution systems, cable management systems and standby power supplies.

LAN-CSE-2-1 **Communication skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-MAS-2-1 **Engineering Materials**

This module introduces students to the basics of engineering materials and standards of materials, products and material testing. The module covers the following topics, among others: classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography and metal bonding.

ELE-ELC-2-1 **Electrical Circuits**

This module provides students with fundamental theories necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics include circuit theorems and analysis methods, alternating voltages and currents, DC and AC Transient Responses, single-phase AC circuits, three-phase AC circuits, and resonance in AC circuits.

CIT-STP-2-1 **Structured Programming in C**

The module provides students with the necessary skills to write structured programmes using the C programming language. Topics covered are: Basic concepts in C programming, input/output, selection statements, repetitive statements, functions, arrays, pointers, strings, structures and file input/output.

ELE-ANE-2-2 **Analogue Electronics I – Devices**

This module introduces students to basic electronic fundamentals, including components and principles of semiconductor. Topics covered are, semiconductor physics, semiconductor diodes, bipolar junction transistors and field effect transistors

ELE-DIE-2-2 **Digital Electronics I- combinational logic**

The module provides students with knowledge of basic logic gates and logic circuits. Topics covered are logic gates and circuits, combinational gate systems, TTL and CMOS devices.

ELE-ELE-2-2 **Electromagnetics**

This module provides students with knowledge of the fundamental principles of electromagnetic and electric fields and their applications in electrical engineering. Topics covered include charge, matter, Coulomb's Law, Gauss' Law and electric fields, electric potential, capacitance and dielectrics, current density, magnetic fields force and torque.

MAT-LAL-2-2 **Linear Algebra**

This module is designed to equip students with knowledge of the methods of solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

ELE-SDN-1-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles and kinematics of rigid bodies.

CIT-OOP-2-2 **Object oriented programming in C++**

This module aims at providing students with the necessary skills to write object-oriented programmes using the C++ programming language. Topics covered are object-oriented programming concepts, statements and control structures, arrays and functions; file processing, pointers and dynamic memory allocation, data structures and programming project in C++

Year Three

MAT-PAS-3-1 **Probability and statistics**

This module provides students with knowledge of the fundamental concepts and methods of statistics which will help them develop critical judgement and decision-making abilities through the use of quantitative

methods in their areas of study. Topics covered include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions, and linear regression and correlation.

ELE-CES-3-1 **Communication Electronics**

The module aims at equipping students with knowledge and skills in communication electronic circuits, systems and their applications. Topics covered are superheterodyne receivers, Tuned Radio Frequency (RF) Amplifiers, mixers, oscillators, phase locked loops circuits and filters.

ELE-ANE-3-1 **Analogue electronics II – Amplifiers**

This module provides students with knowledge on analogue electronic circuits, systems and their applications. Topics covered are small signal amplifiers, large signal amplifiers, tuned transistor amplifier, operational amplifiers, feedback and oscillator circuits, voltage regulators and opto-electronics

ELE-DIE-3-1 **Digital Electronics-Sequential Logic**

This module is designed to introduce students to knowledge of sequential circuits, systems and their applications. Areas covered are properties of sequential logic circuits and systems, basic sequential circuits, application of flip flop, finite-state-machine design, elements of computers and, practical topics.

ELE-ELM-3-1 **Electrical Machines I**

This module provides students with knowledge of construction, principles of operation and applications of transformers and three phase synchronous machines. Topics covered are transformers, synchronous generators and synchronous motors, their construction, operation, performance and application.

ELE-ISE-3-1 **Introduction to software engineering**

The module provides students with a working foundation in software development techniques, algorithms and programming. Topics covered are computers and levels of programming, systems programming, structured programming, data management and programming languages.

DBA-MGT-3-1 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. It covers the nature of management, organisation, jobs and roles, human resource management and economics.

ELE-ANC-3-2 **Analogue Communication**

The module provides students with the fundamental principles used in the modelling, analysis and design of analogue communication systems. Topics covered are amplitude modulation, angle modulation, random signals and noise, and performance of analogue communication systems.

WLE-DCN-3-2 **Data Communication Networks**

This module aims at providing students with mathematical tools necessary for modelling, analysing and designing telecommunication systems. Topics covered are elements of data communication, Local Area Networks, Wide Area Networks, protocols and architecture, Networks Access Protocol, routing and internetworking

ELE-ELM-3-2 **Electrical Machines II**

This module provides students with knowledge on construction, principles of operation and applications of 3-phase induction motors, single-phase motors and dc machines. Topics covered are 3-phase induction motors, single-phase ac motors, dc generators and dc motors, their construction, operation, performance, installation and maintenance.

ELE-LEC-3-2 **Linear Electronic Circuits**

This module aims at providing students with knowledge on linear electronic circuits and their applications. Topics covered are basic operational amplifier circuit, simple opamplifier based circuits (summers, integrator and differentiator, log, antilog, Multiplier, divider circuits), rectifiers and active filters, non linear OP-AMP circuits and applications of linear ICs.

MEC-MTI-3-2 **Measurement and Instrumentation**

This module aims at providing students with knowledge in the construction, principles of operation and application of measurement systems. The module also equips students with skills in measurement and instrumentation. Topics covered are principles of measurement, sensors and transducers, signal conditioning, and data presentation systems.

ELE-SSN-3-2 **Signals, systems and Noise**

This module provides students with mathematical tools necessary for modelling, analysing and designing telecommunication systems. Topics covered are classification of signals, signal transformations, representation of signals, classification of systems, system representation, signal distortion, filters, classification of noise and representation of noise in communication networks.

MAT-NUM-3-2 **Numerical Methods**

The aim of this module is to enable students understand numerical methods of solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Topics covered are solution of equations, interpolation and numerical differentiation, systems of linear equation, ordinary differential equations, numerical integration and numerical solutions of partial differential equations (Elliptic PDEs).

Year Four

FOE-IND-4-1 **Industrial attachment**

This module enables students to gain practical experience from the industry in order to enhance their knowledge and skills.

ELE-SWE-4-2 **Software Engineering 1**

This module aims at providing students with knowledge in software engineering. The module covers the following topics: Introduction to software engineering, software prototyping, formal software specification, dependable systems and computer-aided software engineering.

ELE-MPT-4-2 **Microprocessor Technology**

This module provides students with working knowledge on the architectures and operation of microprocessors and microcomputer systems. Topics covered are structure of a microprocessor, microcomputer interfacing, single chip microcomputers, assembly language programming, ADCs and DACs.

ELE-COS-4-2 **Operating Systems for Engineers**

This module provides students with knowledge and skills on how to use operating systems for engineers. It covers the following topics: Operating systems, process management, storage management, I/O systems and practical systems.

ELE-COA-4-2 **Computer Applications**

This module provides students with knowledge on how to apply computing principles to solve engineering problems. Topics covered include solving problems using C/C++ and MatLab, simulation of systems using SIMULINK, digital circuit simulation with FPGAs and analogue circuit analysis.

ELE-DSP-4-2 **Digital Signal Processing**

This module provides students with the fundamental principles used in the modelling, analysis and design of digital signals. Topics covered are digitisation of analogue signals, discrete, time signals and systems, Discrete Fourier Transform and Fast Fourier Transform, digital filters and effects of finite word length.

ELE-SYC-4-2 **Control Systems I**

This module provides students with the theory and methods of control and their application to engineering systems. Topics covered are introduction to control engineering, system modelling, feedback systems, systems stability and performance analysis.

ELE-EPG-4-2 **Electrical Power Generation**

This module provides students with knowledge on composition, function and characteristics of electrical power generation systems. Topics covered are electrical power supply systems, power generation, generation plant size and demand profiles, thermal electric power generating stations, hydroelectric power generating stations and other systems, electrical power transmission systems, substations, transmission line parameters, transmission line models and performance calculations.

ELE-MEP-4-2 **Medical Electronics I – Physiology**

This module provides students with a basic understanding of human physiology. Topics covered are physiology of excitable tissue, functions of the nervous system, endocrinology, metabolism and reproduction function, gastrointestinal function, circulation, respiration, formation and excretion of urine.

ELE-PRA-4-2 **Propagation and Antennas**

The module aims at introducing principles of signal propagation over various media. Topics covered are elements of a communication system, transmission lines, antennas, radio propagation, wave guides and optical fibre.

ELE-DIC-4-2 **Digital Communication**

This module provides students with the fundamental principles used in the modelling, analysis and design of digital communication systems. Topics covered are information theory, source and channel coding, digital transmission of analogue signals, baseband digital transmission and digital carrier modulation systems.

MEC-PEM-4-2 **Project Management**

This module gives students an understanding and skills required for successful project implementation. The module also enhances students' project management competences through case studies. Topics covered include introduction to project, project appraisal, project financing, implementation of projects, constraints and problems of project implementation, graphic representation of project activities, network analysis, management information system, group dynamics, project management and business development.

ELE-SYC-5-1 **Control Systems II**

This module provides students with knowledge on advanced theory in control systems. Topics covered are system time response, controller and compensator design, applications and systems simulation.

ELE- PSA-5-1 **Power System Analysis**

This module provides students with knowledge on electrical concepts required in the analysis of power systems. Topics include one line diagrams, per unit system, network models, power system load flow studies and power system fault studies.

ELE-PLC-5-1 **Programmable Logic Controllers**

This module provides students with knowledge in the construction, principles of operation and application of PLCs. Topics covered are PLC construction, input and output control devices, ladder programming, internal relays, timers, counters, shift registers, PL user programming and PLC based systems.

ELE-POE-5-1 **Power Electronics**

This module provides students with knowledge on construction, principles of operation and application of power electronic devices. The module covers the following areas: Power electronic devices, single phase rectification and inversion, single phase power control circuits,

three-phase rectification and in version, three-phase power control circuits, variable Speed DC and AC electric drives.

ELE-CDO-5-1 **Computer Design and Organization**

The module provides a broad understanding of the concepts behind computer organisation and design. Topics covered are introduction, dynamic branch prediction, execution cores, VLIW, memory hierarchy, multiprocessors, multithreading and dataflow computers.

ELE-MID-5-1 **Medical Electronics II - Instrumentation and Design**

The module provides students with knowledge on the principles of medical measurement. The module covers the following topics: Introduction to medical measurements, measurement of biopotentials, measurement of pressure and flow, chemical biosensors and analysers, treatment and prosthetic devices, microprocessor-based medical instruments and electrical safety.

ELE-DCS-5-1 **Data Communication Systems**

The module provides students with knowledge and skills of data communication systems. Topics covered are: Communication networks, switching, process and layered architecture standards, Local Area Networks, Wide Area Networks, routing, frame relay and ATM, narrowband and broadband ISDN, network security and management.

MEC-EMA- 5-1 **Energy Management**

This module equips students with the knowledge and skills of energy needs assessment, utilisation and monitoring at local, regional and global level. Topics covered include global and southern Africa energy market, need and importance of energy conservation and management, load management, energy auditing- methodology, analysis and reporting, boilers, steam distribution, electric system and lighting.

ELE-STR-5-1 **Satellite Communications Systems and RADAR**

The module provides students with an understanding of satellite communication and RADAR systems. Topics include satellite systems (constellations and orbits), link analysis, satellite communication techniques, multiple access techniques, switching, broadcasting by satellites and RADAR systems.

ELE-OCS-5-1 **Optical Communication Systems**

The module provides students with an understanding of optical communication systems. Topics include optics, characteristics of optical fibers, optical waveguide, optical sources and transmitters, optical detectors and receivers, optical amplifiers, noise and detection, dispersion in optical communication systems and optical link design.

ELE-TSS-5-1 **Telephony systems**

The module provides students with an understanding of telephony systems. Topics covered include introduction to PSTN, digital switching system, subscriber, switching subsystem, time and space switching, trunk subsystem, control subsystems, signalling systems, call process, teletraffic engineering and operations and maintenance.

ELE-ADA-5-1 **Algorithm Design and Analysis**

The module provides students with techniques for the design of efficient algorithms. The module covers the following topics: Introduction, basics of algorithms analysis, graphs, greedy algorithms, divide and conquer, dynamic programming, network flow, NP and computability intractability.

ELE-COI-5-1 **Computational Intelligence**

The module provides students with knowledge and skills in concepts, models, algorithms and tools for development and applications of intelligent systems. Topics covered are artificial neural networks, evolutionary computing, swarm intelligence, fuzzy systems, artificial immune systems and hybrid systems.

Year Five

ELE-SYC-5-1 **Control Systems II**

This module provides students with knowledge on advanced theory in control systems. Topic covered are system time response, controller and compensator design, applications and systems simulation.

ELE- PSA-5-1 **Power System Analysis**

This module provides students with knowledge on electrical concepts required in the analysis of power systems. Topics covered are one line diagrams, per unit system, network models, power system load flow studies and power system fault studies.

ELE-PLC-5-1 **Programmable Logic Controllers**

This module provides students with knowledge on the construction, principles of operation and application of PLCs. Topics covered are PLC construction, input and output control devices, ladder programming, internal relays, timers, counters, shift registers, PL user programming and PLC Based systems.

ELE-POE-5-1 **Power Electronics**

This module provides students with knowledge on construction, principles of operation and application of power electronic devices. The module covers the following topics: Power electronic devices, single phase rectification and inversion, single phase power control circuits, three-phase rectification and in version, three-phase power control circuits, variable speed DC and AC electric drives.

ELE-MID-5-1 **Medical Electronics II - Instrumentation and Design**

The module provides students with knowledge of the principles of medical measurement. The module covers the following topics: Introduction to medical measurements, measurement of biopotentials, measurement of pressure and flow, chemical biosensors and analysers, treatment and prosthetic devices, microprocessor-based medical instruments and electrical safety.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem.

ELE-EPD-5-2 **Power Transmission & distribution Systems**

The module provides students with the knowledge required for evaluating the performance of transmission and distribution systems. The following topics are covered: Components of the transmission and distribution systems, overhead and underground line construction, transmission and distribution line circuits, distribution sub-stations and DC Power transmission.

MEC-EIS-5-2 **Engineering in Society**

This module provides students with an understanding of their role and responsibilities as engineers in society.

ELE-PPS-5-2 **Photovoltaic Power Systems**

The module provides students with knowledge on the construction and principles of operation and applications of PV Solar Cells. The module covers the following areas: Solar radiation, manufacturing of solar cells, photovoltaic system options and economics, PV modules and arrays, solar charge controllers, inverters and backup generators, Batteries and charging , determining electricity requirements, stand alone and utility-interactive PV power systems, Design, installation, monitoring and maintenance of PV power systems.

ELE-EPS- 5-2 **Power System Protection**

The module provides students with knowledge of the components, principles of operation and application of protection systems. Topics covered are: protection principles and components, protective relays, fuses and instrument transformers, transient and surges, generator, motor, transformer, reactor busbar, line and circuit, System stability, reclosing and synchronising, load shedding and frequency relaying, testing and maintenance.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem.

FOE–BME–5–2 **Business Management and Entrepreneurship**

This module introduces students to the characteristics and operations of a business entity. It also introduces students to the culture of entrepreneurship and the process of converting dreams into business ventures.

Year One

Module Code **Module Name and Descriptor**

MAT-ALG-1-1 **Algebra and Trigonometry**

This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LAN-ELS-1-1 **English language skills**

This module is designed to develop in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for

effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

MEC-DRW-1-1 **Engineering Drawing 1**

This module is an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements, assembly drawing, exploded view and drawing symbols. In addition to classroom instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer aided drawing.

CIT-ICT-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft Word, Microsoft Excel, spreadsheets **M**icrosoft PowerPoint, Microsoft Access, methods of data protection and the internet.

PBS-ENS-1-1 **Engineering Science**

This module inculcates a scientific orientation in students and develops scientific attitudes relevant to the discipline of engineering in the area of chemistry and physics. Topics covered are matter, periodicity, metals, polymerisation, units and dimensions, mechanics, oscillations and waves, magnetic effects, ray and wave optics and modern physics.

CIV-CTE-1-2 **Civil Technology**

This course offers knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows, and drainage and sanitary systems.

ELE-ELS-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, electromagnetic induction and

electromagnetic waves, DC and AC electrical circuits, network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). Loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

MEC-MEC-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

ELE-EPR-2-1 **Engineering Practice**

This module equips students with workshop theory and basic workshops skills in electrical engineering. Topics covered are: safety regulations, safety at work, electrical safety, electricity supply standards, overview of a modern power systems, electricity and the environment, substations, site distribution systems, cable management systems, standby power supplies, installation wiring systems, earthing, lightning protection, mains cables and selection of wiring systems, among others.

LAN-CSE-2-1 **Communication skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-MAS-2-1 **Engineering Materials**

This module provides students with knowledge in the basics of engineering materials and standards of materials, products and material testing. Topics include classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography, metal bonding, alloying and ferrous alloys.

ELE-ELC-2-1 **Electrical Circuits**

This course provides students with fundamental theories necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. The module covers topics such as circuit theorems and analysis methods, alternating voltages and currents, DC and AC transient responses, single-phase AC circuits, three-phase AC circuits, and resonance in AC circuits.

CIT-STP-2-1 **Structured Programming in C**

The module provides students with the necessary skills to write structured programmes using the C programming language. Topics covered are basic concepts in C programming, input/output, selection statements, repetitive statements, functions, arrays, pointers, strings, structures and file input/output.

ELE-ANE-2-2 **Analogue Electronics I – Devices**

This module introduces students to basic electronic fundamentals, including components and principles of semiconductor. Topics covered are: Semiconductor physics, semiconductor diodes, bipolar junction transistors and field effect transistors.

ELE-DIE-2-2 **Digital Electronics I- combinational logic**

The module provides students with knowledge on basic logic gates and logic circuits. Topics covered are logic gates and circuits, combinational gate systems, TTL and CMOS devices.

ELE-ELE-2-2 **Electromagnetics**

This module provides students with the knowledge on the fundamental principles of electromagnetic and electric fields and their applications in electrical engineering. Topics covered are: Charge, matter, and Coulomb's Law, Gauss's Law and electric fields, electric potential, capacitance and dielectrics, current density, magnetic fields force and torque, Ampere"s Law and magnetic field produced by a current or moving charges.

MAT-LAL-2-2 **Linear Algebra**

This module equips students with methods for solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

ELE-SDN-1-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles, kinematics of rigid bodies, machines; mechanical advantage, velocity ratios and law of machines, angular momentum and its conservation, moments of inertia, parallel and perpendicular axes theorem.

CIT-OOP-2-2 **Object oriented programming in C++**

This module aims at providing students with the necessary skills to write object-oriented programmes using the C++ programming language. Among others, it covers areas such as object-oriented programming

concepts, statements and control structures, arrays and functions; file processing, pointers and dynamic memory allocation, data structures and programming project in C++.

Year Three

MAT-PAS-3-1 **Probability and statistics**

This course provides students with fundamental concepts and methods of statistics which will help them develop critical judgement and decision-making abilities through the use of quantitative methods in their areas of study. Topics covered include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions, and linear regression and correlation.

ELE-CES-3-1 **Communication Electronics**

The module aims at equipping students with knowledge and skills in communication electronic circuits, systems and their applications. Topics covered are superheterodyne receivers, tuned radio frequency (RF) amplifiers, mixers, oscillators, phase locked loops circuits and filters.

ELE-ANE-3-1 **Analogue electronics II – Amplifiers**

This course provides students with knowledge of analogue electronic circuits, systems and their applications. Coverage includes small signal amplifiers, large signal amplifiers, tuned transistor amplifiers, operational amplifiers, feedback and oscillator circuits, voltage regulators and opto-electronics.

ELE-DIE-3-1 **Digital Electronics-Sequential Logic**

This module equips students with knowledge on sequential circuits, systems and their applications. Areas covered are properties of sequential logic circuits and systems, basic sequential circuits, application of flip flop, finite-state-machine design, elements of computers and practical topics.

ELE-ELM-3-1 **Electrical Machines I**

This module provides students with knowledge on construction, principles of operation and applications of transformers and three phase synchronous machines. Areas covered are transformers, synchronous generators and synchronous motors, their construction, operation, performance and application.

ELE-ISE-3-1 **Introduction to software engineering**

The module provides students with a working foundation in software development techniques, algorithms and programming. Topics covered are computers and levels of programming, systems programming, structured programming, data management and programming languages.

DBA-MGT-3-1 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. Topics covered are the nature of management, organisation, jobs and roles, human resource management and economics.

ELE-ANC-3-2 **Analogue Communication**

The module provides students with the fundamental principles used in the modelling, analysis and design of analogue communication systems. Topics covered are: Amplitude modulation, angle modulation, random signals and noise and performance of analogue communication systems.

ELE-DCN-3-2 **Data Communication Networks**

This module aims at providing students with mathematical tools necessary for modelling, analysing and designing telecommunication systems. Topics covered are elements of data communication, Local Area Networks, Wide Area Networks, protocols and architecture, networks access protocol, routing and internetworking.

ELE-ELM-3-2 **Electrical Machines II**

This module equips students with knowledge on construction, principles of operation and applications of 3-phase induction motors, single-phase motors and dc machines. Topics covered are 3-phase induction motors, single-phase AC motors DC generators and DC motors, their construction, operation, performance, installation and maintenance.

ELE-LEC-3-2 **Linear Electronic Circuits**

This module aims at providing students with knowledge on linear electronic circuits and their applications. Topics covered are basic operational amplifier circuit, simple opamplifier-based circuits (summers, integrator and differentiator, log, antilog, multiplier, divider circuits), rectifiers and active filters, non-linear OP-AMP circuits and applications of linear ICs.

MEC-MTI-3-2 **Measurement and Instrumentation**

This module aims at providing knowledge on the construction, principles of operation and application of measurement systems. The module also provides students with the skills in measurement and instrumentation. Topics covered are principles of measurement, sensors and transducers, signal conditioning and data presentation systems.

ELE-SSN-3-2 **Signals, systems and Noise**

This module provides students with mathematical tools necessary for modelling, analysing and designing telecommunication systems. Topics covered are classification of signals, signal transformations, representation of signals, classification of systems, system representation, signal distortion, filters, classification of noise and representation of noise in communication networks.

MAT-NUM-3-2 **Numerical Methods**

The aim of this module is to enable students understand numerical methods of solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Topics covered are solution of equations, interpolation and numerical differentiation, systems of linear equation, ordinary differential equations, numerical integration, and numerical solutions of partial differential equations (Elliptic PDEs).

Year Four

Module Code	Module Name and Descriptor
FOE-IND-4-1	**Industrial attachment**

This module enables students to gain practical experience from the industry in order to enhance their knowledge and skills.

ELE-MPT-4-2 **Microprocessor Technology**

This module provides students with working knowledge on the architectures and operation of microprocessors and microcomputer systems. Topics covered are structure of a microprocessor, microcomputer interfacing, single chip microcomputers, assembly language programming, ADCs and DACs.

ELE-DSP-4-2 **Digital Signal Processing**

This module provides students with the fundamental principles used in the modelling, analysis and design of digital signals. Topics covered

are: Digitisation of analogue signals, discrete, time signals and systems, Discrete Fourier Transform and Fast Fourier Transform, digital filters and Effects of finite word length.

ELE-COA-4-2 **Computer Applications**

This module provides students with knowledge on how to apply computing principles to solve engineering problems. Topics covered include solving problems using C/C++ and MatLab, simulation of systems using SIMULINK, digital circuit simulation with FPGAs and analogue circuit analysis.

ELE-DIC-4-2 **Digital Communication**

This module provides students with the fundamental principles used in the modelling, analysis and design of digital communication systems. Topics covered are: Information theory, source and channel coding, digital transmission of analogue signals, baseband digital transmission and digital carrier modulation systems.

ELE-PRA-4-2 **Propagation and Antennas**

The module aims at introducing principles of signal propagation over various media. Topics covered are: Elements of a communication system, transmission lines, antennas, radio propagation, wave guides and optical fibre.

MEC-PEM-4-2 **Project Management**

This module gives students an understanding and skills required for successful project implementation. The module also enhances students' project management competences through case studies. Topics covered include introduction to project, project appraisal, project financing, implementation of projects, constraints and problems of project implementation, graphic representation of project activities, network analysis, management information system, group dynamics and project management and business development.

Year Five

ELE-DCS-5-1 **Data Communication Systems**

The module provides students with knowledge and skills of data communication systems. Topics covered are: Communication networks, switching, process and layered architecture standards, Local Area Networks, Wide Area Networks, routing, frame relay and ATM, narrowband and broadband ISDN, network security and management.

ELE-OCS-5-1 **Optical Communication Systems**

The module provides students with an understanding of optical communication systems. Topics covered are optics, characteristics of optical fibers, optical waveguide, optical sources and transmitters, optical detectors and receivers, optical amplifiers, noise and detection, dispersion in optical communication systems and optical link design.

ELE-STR-5-1 **Satellite Communications Systems and RADAR**

The module provides students with an understanding of satellite communication and RADAR systems. Topics include satellite systems (constellations and orbits), link analysis, satellite communication techniques, multiple access techniques, switching, broadcasting by satellites and RADAR systems.

ELE-TSS-5-1 **Telephony systems**

The module provides students with an understanding of telephony systems. Topics covered include introduction to PSTN, digital switching system, subscriber, switching subsystem, time and space switching, trunk subsystem, control subsystems, signalling systems, call process and teletraffic engineering.

ELE-CDO-5-1 **Computer Design and Organization**

The module provides a broad understanding of the concepts behind computer organisation and design. Topics covered are: Introduction, dynamic branch prediction, execution cores, VLIW, memory hierarchy, multiprocessors, multithreading and dataflow computers.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem.

ELE-MTS-5-2 **Mobile Telecommunications Systems**

The module provides students with an understanding of mobile communication systems. Topics covered are cellular concept, mobile radio channels, access protocols and schemes, mobile communication standards and their architectures.

EEE-TRB-5-2 **TV and Radio Broadcasting Systems**

The module provides students with knowledge and skills in broadcasting systems both radio and television. Topics covered are: Sound recording, monochrome television, colour television, video recording, analogue and digital audio and video broadcasting techniques, coding and decoding.

MEC-EIS-5-2 **Engineering in Society**

This module provides students with an understanding of their role and responsibilities as engineers in society.

ELE-RTS-5-2 **Real Time Systems**

The module provides knowledge on the concepts and techniques associated with designing, developing and testing real-time systems. Topics covered are: Typical real-time applications, hard versus soft real-time systems, A Reference Model of Real-Time Systems, commonly used approaches to hard real-time scheduling, clock-driven scheduling and priority-driven scheduling of periodic tasks.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem.

FOE–BME–5–2 **Business Management and Entrepreneurship**

The aim of this module is to introduce student clear understanding of characteristics and operations of a business entity. To introduce the student to the culture of entrepreneurship and the process of converting dreams into business ventures. To give the student a clear understanding of key aspects of financial management in business.

Bachelor of Electronics and Computer Engineering

Year One

Module Code	Module Name and Descriptor
MAT-ALG-1-1	**Algebra and Trigonometry**

This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LAN-ELS-1-1 **English language skills**

This module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

MEC-DRW-1-1 **Engineering Drawing 1**

This module is an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements and assembly drawing.

CIT-ICT-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft Word, Microsoft Excel, spreadsheets **M**icrosoft PowerPoint, Microsoft Access, methods of data protection and the internet.

PBS-ENS-1-1 **Engineering Science**

This module inculcates a scientific orientation in students and develops scientific attitudes relevant to the discipline of engineering in the area of chemistry and physics. Topics covered are matter, periodicity, metals, polymerisation, units and dimensions, mechanics, oscillations and waves, magnetic effects, ray and wave optics and modern physics.

CIV-CTE-1-2 **Civil Technology**

This course offers knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows as well as drainage and sanitary systems.

ELE-ELS-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics,

current electricity and magnetostatics, electromagnetic induction and electromagnetic waves, DC and AC electrical circuits, network theorems and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). Loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development .

MEC-MEC-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics

MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

Year Two

MAT-CAL-2-1 **Calculus II**

This module completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables and differential calculus of functions of several variables.

ELE-EPR-2-1 **Engineering Practice**

This module develops students' workshop theory and basic workshops skills in electrical engineering. Topics covered are: Safety regulations, safety at work, electrical safety, electricity supply standards, overview of a modern power systems, electricity and the environment, substations, site distribution systems, cable management systems, standby power supplies, installation wiring systems, earthing, lightning protection, mains cables and selection of wiring systems.

LAN-CSE-2-1 **Communication skills for Engineers II**

This module equips students with interpersonal, recruitment and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-MAS-2-1 **Engineering Materials**

This course develops the basic of engineering materials and standards of materials, products and material testing. Topics include: classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography, metal bonding and alloying.

ELE-ELC-2-1 **Electrical Circuits**

This course provides students with fundamental theories necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered are: Circuit theorems and analysis methods, alternating voltages and currents, DC and AC transient responses, single-phase AC circuits, three-phase AC circuits and resonance in AC circuits.

CIT-STP-2-1 **Structured Programming in C**

The module provides students with the necessary skills to write structured programmes using the C programming language. Topics covered include basic concepts in C Programming, Input/Output, selection statements, repetitive statements, functions, arrays, pointers, strings, structures and file input/output.

ELE-ANE-2-2 **Analogue Electronics I – Devices**

This module introduces students to basic electronic fundamentals, including components and principles of semiconductor. Topics covered are semiconductor physics, semiconductor diodes, bipolar junction transistors and field effect transistors.

ELE-DIE-2-2 **Digital Electronics I- combinational logic**

The module provides students with knowledge on basic logic gates and logic circuits. Topics covered are logic gates and circuits, combinational gate systems, TTL and CMOS devices.

ELE-ELE-2-2 **Electromagnetics**

This module provides students with the knowledge on the fundamental principles of electromagnetic and electric fields and their applications in electrical engineering. Topics covered are: Charge, matter and Coulomb's Law, Gauss' Law and electric fields, electric potential, capacitance and dielectrics, current density, magnetic fields force and torque.

MAT-LAL-2-2 **Linear Algebra**

This module equips students with methods for solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

ELE-SDN-1-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles and kinematics of rigid bodies.

CIT-OOP-2-2 **Object oriented programming in C++**

This module aims at providing students with the necessary skills to write object-oriented programmes using the C++ programming language. Topics include Object Oriented Programming concepts, statements and control structures, arrays and functions; file processing, pointers and dynamic memory allocation, data structures and programming project in C++.

Year Three

MAT-PAS-3-1 **Probability and statistics**

This module provides students with fundamental concepts and methods of statistics to help them develop critical judgement and decision-making abilities through the use of quantitative methods in their areas of study. Topics covered include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions, and linear regression and correlation.

ELE-CES-3-1 **Communication Electronics**

The module aims at equipping students with knowledge and skills in communication electronic circuits, systems and their applications. Topics covered are superheterodyne receivers, tuned radio frequency (RF) amplifiers, mixers, oscillators, phase locked loops circuits and filters.

ELE-ANE-3-1 **Analogue electronics II – Amplifiers**

This course provides students with knowledge on analogue electronic circuits, systems and their applications. Topics covered include small signal amplifiers, large signal amplifiers, tuned transistor amplifier, operational amplifiers, feedback and oscillator circuits, voltage regulators and opto-electronics.

ELE-DIE-3-1 **Digital Electronics-Sequential Logic**

This module provides students with knowledge on sequential circuits, systems and their applications. Areas covered are properties of sequential logic circuits and systems, basic sequential circuits, application of flip flop, finite-state-machine design, elements of computers and Practical topics.

ELE-ELM-3-1 **Electrical Machines I**

This module provides students with knowledge on construction, principles of operation and applications of transformers and three phase synchronous machines. Topics covered are: Transformers, synchronous generators and synchronous motors, their construction, operation, performance and application.

ELE-ISE-3-1 **Introduction to software engineering**

The module provides students with a working foundation in software development techniques, algorithms and programming. Topics covered

are: Computers and levels of programming, systems programming, structured programming, data management and programming languages.

DBA-MGT-3-1 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. Topics covered are: Nature of management, organisation, jobs and roles, human resource management and and economics.

ELE-ANC-3-2 **Analogue Communication**

The module provides students with the fundamental principles used in the modelling, analysis and design of analogue communication systems. Topics covered are: Amplitude modulation, angle modulation, random signals and noise, and performance of analogue communication systems.

ELE-DCN-3-2 **Data Communication Networks**

This module aims at providing students with mathematical tools necessary for modelling, analysing and designing telecommunication systems. Topics covered are: Elements of data communication, Local Area Networks, Wide Area Networks, Protocols and Architecture, Networks Access Protocol, Routing and Internetworking.

ELE-ELM-3-2 **Electrical Machines II**

This module is designed to provide students with knowledge on construction, principles of operation and applications of 3-phase induction motors, single-phase motors and dc machines. Topics covered are 3-phase induction motors, single-phase AC motors, DC generators and DC motors, their construction, operation, performance, installation and maintenance.

ELE-LEC-3-2 **Linear Electronic Circuits**

This module aims at providing students with knowledge on linear electronic circuits and their applications. Topics covered are: Basic operational amplifier circuit, simple opamplifier-based circuits (summers, integrator and differentiator, log, antilog, multiplier, divider circuits), rectifiers and active filters, non linear OP-AMP circuits and applications of linear ICs.

MEC-MTI-3-2 **Measurement and Instrumentation**

This module aims at providing knowledge on the construction, principles of operation and application of measurement systems. The module also provides students with skills in measurement and instrumentation. Topics covered are: Principles of measurement, sensors and transducers, signal conditioning and data presentation systems.

ELE-SSN-3-2 **Signals, systems and Noise**

This module provides students with mathematical tools necessary for modelling, analysing and designing telecommunication systems. Topics covered are: Classification of signals, signal transformations, representation of signals, classification of systems, system representation, signal distortion, filters, classification of noise, and representation of noise in communication networks.

MAT-NUM-3-2 **Numerical Methods**

The aim of this module is to enable students understand numerical methods of solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Topics covered are: Solution of equations, interpolation and numerical differentiation, systems of linear equation, ordinary differential equations, numerical integration, and numerical solutions of partial differential equations (Elliptic PDEs).

Year Four

FOE-IND-4-1 **Industrial attachment**

This module assists students gain practical experience from industry in order to enhance their knowledge and skills.

MEC-PEM-4-2 **Project Management**

This module gives students an understanding and skills required for successful project implementation. The module also enhances students' project management competences through case studies. Topics covered include introduction to project, project appraisal, project financing, implementation of projects, constraints and problems of project implementation, graphic representation of project activities, network analysis, management information systems, group dynamics, project management and business development, project portfolio management and planning, project engineering approaches, business processes and basics of strategy formulation.

ELE-SWE-4-2 **Software Engineering 1**

This module aims at providing students with knowledge in software engineering. The module covers the following topics: Introduction to software engineering, software prototyping, formal software specification, dependable systems and computer-aided software engineering.

ELE-MPT-4-2 **Microprocessor Technology**

This module provides students with working knowledge on the architectures and operation of microprocessors and microcomputer systems. Topics covered are: Structure of a microprocessor, microcomputer interfacing, single chip microcomputers, Assembly Language programming, ADCs and DACs.

ELE-COS-4-2 **Operating Systems for Engineers**

This module provides students with knowledge and skills on how to use Operating Systems for engineers. It covers the following topics: Operating systems, process management, storage management, I/O systems and practical systems.

ELE-COA-4-2 **Computer Applications**

This module provides students with knowledge on how to apply computing principles to solve engineering problems. Topics covered include, Solving problems using C/C++ and MatLab, simulation of systems using SIMULINK, digital circuit simulation with FPGAs and analogue circuit analysis.

ELE-DSP-4-2 **Digital Signal Processing**

This module provides students with the fundamental principles used in the modelling, analysis and design of digital signals. Topics covered are: Digitisation of analogue signals, discrete, time signals and systems, discrete Fourier Transform and fast Fourier Transform, digital filters and effects of finite word length.

Year Five

ELE-DCS-5-1 **Data Communication Systems**

The module provides students with knowledge and skills of data communication systems. Topics covered are: Communication networks, switching, process and layered architecture standards, Local Area Networks, Wide Area Networks, routing, frame relay and ATM, narrowband and broadband ISDN, network security and management.

ELE-CDO-5-1 **Computer Design and Organization**

The module gives a broad understanding of the concepts behind computer organisation and design. Topics covered are: Introduction, dynamic branch prediction, execution cores, VLIW, memory hierarchy, multiprocessors, multithreading and dataflow computers.

ELE-ADA-5-1 **Algorithm Design and Analysis**

The module provides students with techniques for the design of efficient algorithms. The course covers the following topics: Basics of algorithms analysis, graphs, greedy algorithms, divide and conquer, dynamic programming, network flow, NP and computability intractability.

ELE-COI-5-1 **Computational Intelligence**

The module provides students with knowledge and skills in concepts, models, algorithms and tools for development and applications of intelligent systems. Topics covered are artificial neural networks, evolutionary computing, swarm intelligence, fuzzy systems, artificial immune systems and hybrid systems.

MEC-EMA- 5-1 **Energy Management**

This module equips students with energy needs assessment, utilisation and monitoring at local, regional and global levels. Topics covered include global and Southern Africa energy market, need and importance of energy conservation and management, load management, energy auditing: methodology, analysis and reporting, boilers, steam distribution, electric system and lighting.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem.

ELE-DBS-5-2 **Database Systems**

The module provides students with knowledge and skills in principles, concepts and models of database systems. Topics covered are introduction to database management systems, database models, database design, database query, management of databases and transaction processing

ELE-IWS-5-2 **Internet and Web Services**

The module provides students with knowledge and skills for developing internet web-based applications. Topics covered are, web programming, information retrieval, classification and clustering on the web, information extraction, spider architecture, inverted indices, frequency rankings, latent semantic indexing, hyperlink analysis, and refinement interfaces, emerging issues.

ELE-RTS-5-2 **Real Time Systems**

The module provides knowledge on the concepts and techniques associated with designing, developing and testing real-time systems. Topics covered include typical real-time applications, hard versus soft real-time systems, A Reference Model of Real-Time Systems, commonly used approaches to hard real-time scheduling, clock-driven scheduling, priority-driven scheduling of periodic tasks and scheduling aperiodic and sporadic jobs in priority-driven systems.

MEC-EIS-5-2 **Engineering in Society**

This module provides students with an understanding of their role and responsibilities as engineers in society.

FOE-FYP-5 **Final Year Project**

The aim of this module is to enable students apply the scientific, engineering, technical and communication skills acquired in the four-year university education to solve an engineering problem.

FOE–BME–5–2 **Business Management and Entrepreneurship**

The aim of the module is to introduce students to the characteristics and operations of a business entity. It also deals with the culture of entrepreneurship and the process of converting dreams into business ventures.

Bachelor of Biomedical Engineering (Honours)

Year One

Module Code **Module Name and Descriptor**

MAT-COA-1-1 **College Algebra**

The aim of this module is to introduce students to the basics of elementary algebra and analytic geometry necessary for the study of calculus of functions of one variable. Topics covered include elementary algebra, elementary analytic geometry, and exponential and logarithmic functions.

LAN-ELS-1-1 **English Language skills**

This module seeks to develop students' basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

MEC-DRW-1-1 **Engineering Drawing I**

The aim of this module is to introduce students to the basic principles of engineering drawing and equip them with drafting skills for the production of working drawings. Some of the topics covered include: Introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements and assembly drawing.

PBS-CHE-1-1 **Chemistry**

This module inculcates a scientific orientation in students and develops scientific attitudes relevant to the discipline of engineering in the area of chemistry. Topics covered are matter, periodicity, metals and polymerisation.

PBS-PHY-1-1 **Physics**

This module inculcates a scientific orientation in students and develops scientific attitudes relevant to the discipline of engineering in the area of physics. Topics covered include: units and dimensions, oscillations and waves, nuclear physics and mechanics.

CIT-ITC-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using Microsoft Word, Microsoft Excel, spreadsheets Microsoft PowerPoint, Microsoft Access, methods of data protection and the internet.

Year One

MAT-TAC-1-2 **Trigonometry and Calculus I**

This course introduces the basic ideas of trigonometry, elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics include trigonometry, differentiation, integration and their applications.

LAN-CSE-1-2 **Communication Skills for Engineers I**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

ELE-ELS-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, electromagnetic induction and electromagnetic waves, DC and AC electrical circuits, network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-MEC-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

BBE-HAP-1-2 **Human Anatomy and Physiology I**

The module introduces students to body systems which include history of human anatomy and physiology, general organisation of the human body, cardiovascular system, nervous system, respiratory system, digestive system and urinary system.

MEC-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). Loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

LAN-CSE-2-1 **Communication skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

BBE-MEW-2-1 **Mechanical and Electrical Workshop Technology**

This module equips students with workshop theory and basic workshops skills in electrical engineering. Topics covered include safety regulations; safety at work, electrical safety, electricity supply standards, overview of modern power systems, electricity and the environment, substations, site distribution systems, cable management systems, standby power supplies, installation wiring systems, earthing, lightning protection and mains cables.

ELE-ELC-2-1 **Electrical Circuits**

This course provides students with fundamental theories necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered are circuit theorems and analysis methods, alternating voltages and currents, DC and AC transient responses, single-phase AC circuits, three-phase AC circuits, and resonance in AC circuits.

PBS-HAP-2-1 **Human Anatomy and Physiology II**

The aim of this module is to introduce students to the human body's structural constitution and its normal functioning and their related disorders. Some of the topics covered are nervous system, endocrine system, musculo-skeletal system, integumentary system (including temperature regulation), reproductive system, lymphatic system and immune system.

MEC-ENM-2-1 **Engineering Materials**

This course provides an introduction to the basics of engineering materials and standards of materials, products and material testing. Areas covered include classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography, metal bonding, alloying and ferrous alloys.

BBE-WPT-2-2 **Workshop practice II**

This module provides students with principles of operation, trouble shooting and maintenance of laboratory and ward equipment as well as the operation and maintenance of hospital utilities like medical gases, water treatment plant, and electrical power plant. Topics include laboratory and ward equipment; anaesthesia machine, ventilator, oxygen concentrators, infusion pump, ECG, bedside patient monitors, pulse oximeter, centrifuge, chemistry analyser, microscope and blood bank refrigerator.

ELE-ETM-2-2 **Electromagnetics**

This module provides students with the knowledge on the fundamental principles of electromagnetic and electric fields and their applications in electrical engineering. Topics covered are: Charge, matter and Coulomb's Law, Gauss' Law and electric fields, electric potential, capacitance and dielectrics, current density, magnetic fields force and torque, Ampere's Law and magnetic field produced by a current or moving charges, Faraday's Law, induced emf and Inductance, magnetic oscillations, Maxwell's Equations and electromagnetic waves.

ELE-ANA-2-2 **Analogue Electronics**

This module introduces students to basic electronic fundamentals, including components and principles of semiconductor. Topics covered are semiconductor physics, semiconductor diodes, bipolar junction transistors, voltage regulators, field effect transistors, feedback and oscillator circuits, and tuned transistor amplifier.

ELE-DIG-2-2 **Digital Electronics**

The module provides students with knowledge on basic logic gates and logic circuits. Topics covered are logic gates and circuits, combinational gate systems, TTL and CMOS devices, properties of sequential logic circuits and systems, basic sequential circuits, application of flip flop, and finite-state-machine design.

MEC-SDN-2-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles, kinematics of rigid bodies, machines; mechanical advantage, velocity ratios and law of machines, angular momentum and its conservation, moments of inertia, parallel and perpendicular axes theorem.

PBS-BIO-2-2 **Biochemistry**

The module provides students with the knowledge of fundamental concepts of biochemistry using the examples of the structure and role of lipids, carbohydrates and amino acids / proteins in living systems. The student will also learn to apply the concepts of and techniques in biochemistry to the understanding of the Composition of biological materials and some elementary biochemical energy yielding reactions and metabolic pathways.

Year Three

MAT-PAS-3-1 **Probability and Statistics**

This course provides students with fundamental concepts and methods of statistics which will help them develop critical judgement and decision-making abilities through the use of quantitative methods in their areas of study. Topics covered include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions, and linear regression and correlation.

DBA-MGT-3-1 **Engineering Management**

The aim of this module is to introduce students to the key principles of management. Topics covered are: Nature of management, organisation, jobs and roles, human resource management and economics concepts such as basic accounting, depreciation, economic and technical life span of equipment, break-even point, annuity and interest applied in hospital setting.

CIT-STR-3-1 **Structured Programming**

The aim of this module is to introduce students to programming languages C and C++ as tools to solve problems and to provide hands on training. Topics covered include programming fundamentals; decision and loop control structure; arrays and functions; introduction to Oop concepts; inheritance and overloading; structured programming using C++; data input and output; pointers; and late binding.

BBE-MEI-3-1 **Medical Imaging**

This module is an introduction to concepts of imaging and sensing that underlie a wide range of bio imaging modalities. Topics covered include: imaging principles, imaging mathematics, imaging physics, and image generation techniques, cell imaging, multiphoton microscopy for bio studies, molecular imaging, infrared imaging, bio magnetic imaging, computed tomography, X-ray imaging, nuclear medicine, magnetic resonance imaging, and ultrasound imaging and artefacts

ELE-EMA-3-1 **Electrical Machines**

This module provides students with knowledge on construction, principles of operation and applications of transformers and three phase synchronous machines. Topics covered are transformers, synchronous generators and synchronous motors, their construction, operation, performance and application.

MEC-STM-3-1 **Strength of Materials**

This course discusses stress calculation due to loads. Topics include stress-strain concept, tensile test, stress and strain due to axial loading, statically indeterminate case related to axial loading, introduction to plasticity and residual stress, stress and strain due other loads, such as torsion, bending moment, and shear force, Mohr's circle of stress, failure theory, deflection, statically indeterminate structures, and energy method.

MEC-TDY-3-2 **Engineering Thermodynamics**

This course deals with basic concepts of thermodynamics and its applications in the analysis of simple thermodynamics systems. Coverage includes definition and basic concepts of thermodynamics, energy definition and the first law, p-v-T relationship and properties of simple compressible pure substance, ideal gas concept, incompressible substance, energy analysis for mass and control volume, entropy definition and the second law, energy definition and energy balance in thermo-mechanical systems, refrigeration.

BBE-BSP-3-2 **Bio-Signal Processing**

This module provides students with the fundamental principles used in the modelling, analysis, and design of digital signals. Topics covered are: digitisation of analogue signals, discrete, time signals and systems, discrete Fourier Transform and Fast Fourier Transform, digital filters and effects of finite word length.

BBE-BMC-3-2 **Biomechanics**

The purpose of this module is to introduce students to the basics of biomechanics. Coverage includes application of statics and dynamics to simple force analyses of the musculoskeletal system; introduction to the fundamentals of strength of materials; biomechanics of soft and hard tissues: microstructure and mechanical properties of biological tissues (Bones, joints, cartilage, blood vessels, connective tissue, muscle, and heart).

BBE-BIS-3-2 **Bio- Instrumentation**

This module introduces the principles of medical instrumentation. Among other areas, it covers bio sensors and transducers; temperature, displacement, acoustical and radiation measurements; bio-potential amplifiers and signal processing; origin of bio-potentials; bio-potential electrodes; measurement of biopotentials such as ECG, EEG and EMG; blood pressure measurements and electrical safety.

BBE-OHS-3-2 **Occupational Health and Safety**

This module introduces students to the knowledge and principles in occupational health. The content covered includes safety practices in the hospital maintenance Workshop, personal protective equipment, safety and regulations in managing biohazards, waste and other hospital effluent.

BBE-RAP-3-2 **Radiology Physics**

The aim of this module is to provide students with knowledge in the concepts and methods of physics in the diagnosis and treatment of human disease. Coverage includes review of fundamental radiation physics and cell biology; physics and chemistry of radiation absorption, direct/ indirect action, physics of radiation absorption, target theory, multi-hit target theory and other theories as well as radiation and properties.

Year Four

FOE-IND-4-1 **Industrial Attachment**

This module assists students gain practical experience from the industry in order to enhance their knowledge and skills preferably in the hospital maintenance unit of the central hospital and in a district hospital in Malawi or equivalent as may be approved.

MEC-END-4-2 **Engineering Design**

This module instils in students a critical attitude towards engineering design and equips them with knowledge of good design procedure embodying correct use of materials, processes and analysis of machine elements. Topics covered include design methodology, product design specifications, techniques which assist creativity, ergonomics, factors affecting design, fatigue, stress concentration, creep and shock loads, design data sheets, 3d modelling using solid works and simulation, reverse engineering and project work.

ELE-REM-4-2 **Research Methods and Presentation**

This module deals with the following issues: Research methods: necessity, types and levels of researches; problem formulation, modelling and experimentation; data collection/generation and processing; presentation skills: research and project proposals; oral presentations formats; applications of audiovisual equipment; management aspect of Research and Development (R&D) works and outputs: discussion forums; intellectual property rights and management of R&D works.

BBE-BIP-4-2 **Bio-Image Processing**

The module introduces bio image processing using examples from various branches of medical imaging. Topics covered include point operators, filtering in the spatial and frequency domains image enhancement, image restoration techniques, image segmentation, image compression and morphological image processing.

ELE-CTR-4-2 **Control Systems**

This module provides students with the theory and methods of control and their application to engineering systems. Topics covered are introduction to control engineering, system modelling, feedback systems, systems stability and performance analysis.

ELE-COA-4-2 **Computer Applications**

This module provides students with knowledge on how to apply computing principles to solve engineering problems. Topics covered include solving problems using C/C++ and MatLab, simulation of systems using SIMULINK, Digital circuit simulation with FPGAs, and analogue circuit analysis.

MEC-FLM-4-2 **Fluid Mechanics**

This course lays the basic foundation of fluid mechanics and its applications. A generalised approach to fluid statics is used as an introduction to calculating the forces exerted by fluids on surfaces. Fluid dynamics is approached using a control volume formulation and basic pipe flow is introduced. Potential flow is applied to calculate the velocity and pressure fields over basic shapes.

Year Five

BBE-MIN-5-1 **Medical Informatics**

This module provides comprehensive ideas about multimedia applications in the medical field to develop educational/ training packages. The combination of lectures and laboratory work helps students to understand the component of virtual reality and virtual reality applications in medicine.

FOE-FYP-5-1/2 **Final Year Project**

The final project is the central course of the undergraduate programme where students have the opportunity to integrate and apply skills and knowledge acquired in various academic activities in a design project, manufacturing of tools or design experiment in a research project or theoretical investigation of a specific problem. Each student is required to undertake a project on a topic appropriate to their degrees (pathways) which may or may not be industrially based. This is an in-depth study of an engineering problem requiring a degree of initiative and an individual written report. Students have to present their findings or results in a seminar and final oral examination as a requirement for the undergraduate degree.

BBE-DDS-5-1 **Computer-aided drug design and delivery systems**

The aim of this module is to introduce students to the principles of drug design and delivery and application of computers in drug design and delivery systems some of the topics covered are, introduction to computer aided drug design, drug delivery systems, pharmacokinetics and pharmarcodynamics in drugs.

BBE-HTM-5-1 **Healthcare Technology and Management**

This module provides students with basic knowledge on how computers and information technology are used in the area of medicine. Through laboratory sessions, students cover the following topics: hospital information system, computerised patient database management and computerised patient record.

ELE-FLI-5-1 **Fiber Optics and Laser Instruments**

The aim of this module is to equip students with knowledge and skills in the application of optical fibre and laser technology to sophisticated modern telecommunication systems in the medical field. Topics covered include optical fibres: structures, wave guiding and signal degradation; fibre optic sensors; optical sources; industrial application of laser; and holography and medical application.

BBE-PMR-5-1 **Plant Maintenance and Reliability**

The module introduces students to principles of maintenance management. Some of the topics covered include equipment life-cycle, concepts of in-house maintenance vs outsourcing, procurement and contract management, types of maintenance techniques, establishing biomedical maintenance unit in a hospital, different maintenance techniques and safety standards use in medical equipment.

Year Five

BBE-BAO-5-2 **Biomaterials and Artificial organs**

The module aims to provide students with advanced knowledge of properties of bio-compatible materials and the different types of biomaterials. The module further covers how artificial organs are made using these tissue materials. Through practical classes, students will be able learn and further improve their skills in artificial organs fabrication.

MEC-ENS-5-2 **Engineering and Society**

This module provides students with an understanding of their role and responsibilities as engineers in society.

FOE–BME–5–2 **Business Management and Entrepreneurship**

This module gives students a clear understanding of characteristics and operations of a business entity and introduces them to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include people and organisation, finance and

accounting for engineering managers, dynamics of business, marketing and sales as well as entrepreneurship.

ELE-MPT-5-2 **Microprocessors Technology**

This module provides students with working knowledge on the architectures and operation of microprocessors and microcomputer systems. Topics covered are structure of a microprocessor, microcomputer interfacing, single chip microcomputers, assembly language programming, ADCs and DACs.

BBE-EPR-5-2 **Environmental Protection**

The module introduces students to the role of a biomedical engineer in environmental management through exposing the students to the effects of contaminant to the environment. The module discusses natural chemical cycles, eco-system, green-house effect, climate change, ozone layer, environmental degradation, water treatment processes and various ways of solid waste segregation and disposal in the hospital setting and community setting, air and water pollutants, allowable BOD level. The module also challenges students to develop contamination removal strategies from natural and engineered systems.

Postgraduate Programmes

Master of Science Degree Programme in Infrastructure Development & Management

Module Code	Module Name and Descriptor
PGS-RMS-6-1:	**Research Methodology**

The aim of this module is to develop students' intellectual skills and knowledge required to understand and undertake research in the area of physical infrastructure development and management and to present and interpret findings in a suitable manner. It covers qualitative, quantitative and mixed research approaches, strategies, and methods. It considers the contexts in which different methods are useful and how they should be applied in practice.

PGS-ESD-6-1: **Environment and Sustainable Development**

This module aims to provide an understanding of key principles, concepts and theories of sustainable development and environment management in the context of infrastructure development and management. Some of the areas covered are sustainable development principles, concepts and theories; current global issues; sustainability metrics and

assessment methodologies; development of environment assessment and management; the goals of environment assessment and management and their role in infrastructure development; approaches, principles, processes, practices and techniques of environment assessment and management.

PGS-PMT-6-1: **Project Management**

The module aims to equip students with knowledge and skills of project management in the context of infrastructure development and management. The module coverage includes: general aspects of project management; project control: work content and scope, time scheduling and phasing, resource management, budgeting and cost control, change management, information management, procurement, and legal awareness; and organisational management: organisational structures and roles, communication, teamwork, leadership, conflict management and negotiation.

PGS-IAM-6-1: **Infrastructure Assets Management**

The module aims to equip students with advanced knowledge and skills of infrastructure assets management in the context of physical infrastructure. It covers organisation, communication and decision support systems, budgeting for managing infrastructure assets, financial management for infrastructure, and operations and maintenance strategies for physical infrastructure.

PGS-WSS-6-2: **Water and Sanitation Systems**

The aim of this module is to equip students with knowledge to understand the concepts and principles used in integrated planning and management of water resources and appropriate technical alternatives of water supply, wastewater management and sanitation infrastructure and services. It covers water resources, integrated water resources management (IWRM); water supply: principles, technologies, processes for water collection, delivery and storage, quality measurement and parameters, operation and maintenance of water supply infrastructure; wastewater treatment; and sanitation.

PGS-SES-6-2: **Sustainable Energy Systems**

This aim of this module is to provide advanced knowledge of sustainable energy technologies focusing on production, delivery and consumption; and the tools needed to evaluate and appraise each technology for a given community. The coverage includes: solar power, fuel cell, wind, bio-fuels and biogas, hydro-electric power, wave energy and nuclear power

technologies focusing on production/generation, delivery, consumption, efficiency, conservation, economics, policy and regulation frameworks.

PGS-ICT-6-2: **Information and Communication Technology**

The aim of this module is to provide advanced knowledge of information and communication technology (ICT) as a vehicle for development and the tools needed to evaluate and appraise ICT development solutions for a given community. Coverage of this module includes: ICT in development, ICT policy and regulation; ICT technologies: public switched telephone network, fibre optical networking, packet-switched networks, wireless networks (fixed-wireless, mobile and satellite), broadcasting (television and radio) and Internet; and ICT applications in development: e-Government, e-Health and Telemedicine, e-Commerce, e-Agriculture and e-Learning.

PGS-PWS-6-2: **Public Works Systems**

This module provides advanced knowledge of public works systems in the context of physical infrastructure development and management. It covers technologies, concepts, principles, policies and regulatory frameworks in the provision of public works facilities such as roads, bridges, railways, harbours and ports, waterways, buildings and airports.

PGS-TRS-6-2: **Transportation Systems**

The aim of this module is to provide students with advanced knowledge of transportation systems available in communities and the technical tools needed to evaluate each system for a given circumstance. It covers transportation systems and modes, travel demand characterisation, traffic management, highway/roads planning, economic analysis of transport systems, and transportation systems legislation.

PGS-LPM-6-2: **Land Planning and Management**

This module provides students with an understanding of key concepts, techniques and trends associated with land planning and development in the context of physical infrastructure development and management. Some topics covered are evolution of land tenure systems, global framework for land management and land tenure; institutional and policy frameworks of regional planning, urban growth management, land policy, conflict management, land access and tenure reforms, land use planning and registration, land administration and dispute settlement and community planning in informal settlements.

PGS-DIS-6-3/4: **Dissertation**

This module provides students with an opportunity to engage in a substantial piece of scholarly research work in an appropriate area of specialisation under suitable supervisory guidance. The module, therefore, covers critical literature review, selection of an appropriate research topic, methodologies, methods and data analysis techniques, analysing and presentation of qualitative and quantitative data, preparing research proposal and dissemination of research finding through papers, dissertation and oral presentations.

Master of Science in Sustainable Engineering Management: Facilities Mining and Water Management (Msc Eng-Mgt.)

The programme is offered on block release (one–two weeks), non-residential basis and it is divided into two parts: course work (taught modules) and research study resulting into a research and development output/thesis report. Students are required to take four (4) pathway modules specific to each specialisation (Facilities, Mining and Water) and four (4) core modules in the first and second year respectively and conduct research study in their specialised fields in the third year. Individual modules are also available as short modules. The modules offered under the programme are:

Master of Science in Sustainable Engineering Management:Facilities Management

Module Code	Module Name and Descriptor
PGS-FMS-6-1:	**Facilities Management Strategy and Procurement**
	This module is intended to enable students to evaluate the role of facilities in support of core business operations and to develop provision by; developing an awareness of the range of operations available for the delivery of effective facilities management provision and the processes appropriate to their effective procurement. The module coverage include: Facilities management strategy, evaluating service requirements and legal considerations.
PGS-MPA-6-1:	**Managing the Property Asset**
	This module is intended to enable students synthesise theoretical, financial and legal knowledge in order to formulate and evaluate strategies for corporate real estate management. The module encompasses property as an operational and a strategic asset. Students are empowered to direct the property life-cycle, from feasibility study to commissioning and evaluating designs, to occupation, to post-occupation evaluation, through to disposal strategies.

PGS-CFM-6-2: **Commercial and Financial Management**

This module is designed to equip students with various tools, techniques and theories to help them in senior management roles and enable them to direct corporate policies in property related areas. Particular emphasis is placed on financial management and managing people.

PGS-FIO-6-2: **Facilities information and Operations Management**

This module is intended to enable students develop in-depth understanding of the scope of facilities operations management and support within an organisation and its contribution to core business. The module examines the concepts and techniques which underpin this area of activity, enabling participants to evaluate facilities operations systems. The module mainly focuses on facilities operations, operations design, planning and control: Improvement; and information management.

MINING

PGS-MEI-6-1 **Mining Systems and Environmental Impacts**

This module aims to familiarise students with the basics of the different forms of mining, target metals and minerals and host rocks; mining methods, impacts and environmental contexts; specific environmental issues; EIA methodology; and mine site rehabilitation.

PGS-SEI-6-1: **Social and Economic Impacts of Mining**

This module aims to enable students understand and consider the impact of mining projects on society—positive and negative effects on local communities, culture, income and employment and the economic implications locally, nationally and regionally. The module covers socio economic baseline conditions, utilities, facilities and infrastructure; economy; social capital; and stakeholder engagement plan (SEP).

PGS-MWM-6-2: **Mining Waste Management**

This module aims to give students comprehensive knowledge of all mine wastes, their potential impact and the tools to manage them. The module focuses on rock dumps and tailings disposal, waste characterisation, acid mine drainage, rehabilitation and re-vegetation; and alternative management methods.

PGS-TRU-6-2: **Total Resource Utilisation and total Project Development (15 Credits)**

This module aims to expose students to a new approach to traditional mining impact problems and to think "outside the box". The module covers assessment of mining products, characterization, potential mine utilisations, water applications and extending the benefits of mining projects.

Master of Science in Sustainable Engineering Management: Water Management

Module Code	Module Name and Descriptor
PGS-IWR-6-1:	**Integrated water Resource Management**
	Water resources are increasingly becoming scarce due to, among other reasons, population growth, pollution of the available resources and economic growth. The aim of this module is to equip students with knowledge to understand the concepts and principles used in integrated planning and management of the scarce water resources. It covers challenges, principles and pillars (enabling environment, institutional roles, and management instruments) of IWRM, economic and financial instruments in IWRM and Gender and HIV and AIDS mainstreaming in IWRM.
PGFAS-WQM-6-1:	**Waterr Quality Management**
	This module is intended to provide students with fundamentals of water quality characteristics/criteria (biological, chemical and physical characteristics), pollution sources and public health impacts, measurements and effects of poor quality; water quality monitoring (physio-chemical and bio-monitering); monitoring programmes - quality assurance and assessment; aquatic ecosystems and bio-monitering, impacts of pollution on aquatic ecosystems; fate and transport of pollutants in surface and groundwater and modelling approaches; defused pollution of water resources: sources and characteristics in urban and rural areas and abatement measures.
PGS-WSS-6-2:	**Water Supply Systems**
	The aim of this module is to provide students with the knowledge, skills and methods for sustainable and optimal design, operation and maintenance of water supply systems. The module mainly covers basic principles and definitions: water conveyance systems, water demand management, water treatment systems and water safety plans.
PGS-WWS-6-2:	**Wastewater and Storm Water systems**
	This module aims at providing students with the knowledge, skills and methods for sustainable and optimal design, operation and maintenance of wastewater/storm water systems. Major topics covered include water

system, sewerage, wastewater treatment, water reuse, storm water management and climate change.

Core Generic Modules

Module Code	Module Name and Descriptor
PGS-RMS-6-4:	**Research Methodology**
	The aim of this module is to develop students' intellectual skills and knowledge required to understand and undertake research in an area related to their chosen pathway and to present and interpret findings in a suitable manner. It covers qualitative, quantitative and mixed research approaches, strategies, and methods and considers the contexts in which different methods are useful and how they should be applied in practice.
PGS-ESD-6-3	**Environment and Sustainable Development**
	This module aims to provide an understanding of key principles, concepts and theories of sustainable development and environment management in the context of engineering activities. It covers sustainable development principles, concepts and theories; current global issues; sustainability metrics and assessment methodologies; development of environment assessment and management; the goals of environment assessment and management their role in engineering projects; approaches, principles, processes, practices and techniques of environment assessment and management; environment impact assessment and environmental monitoring and post-assessment processes.
PGS-PMT-6-3:	**Project Management**
	The module aims to equip students with knowledge and skills of project management in the context of engineering based activities. The module coverage includes general aspects of project management; project control: work content and scope, time scheduling and phasing, resource management, budgeting and cost control, change management, information management, procurement, and legal awareness; and organisational management: organisational structures and roles, communication, teamwork, leadership, conflict management and negotiation.
PGS-DIS-6-4:	**Information Commiunication & Dissemination**
	This module is designed to help students communicate effectively and disseminate their research findings. Particular emphasis is placed on the various forms of dissemination to achieve maximum impact. The module

covers publications in journals/conference proceedings, presentation skills - oral presentations, postal displays, debates, funding bodies & writing proposals - the peer review process, copyright and patents, and how to handle the media.

PGS-DIS-6-5/6: **Research and Development Output**

This module provides students with an opportunity to engage in a substantial piece of scholarly research work in an appropriate area of specialisation under suitable supervisory guidance. The module, therefore, covers critical literature review, selection of an appropriate research topic, methodologies, methods and data analysis techniques, analysing and presentation of qualitative and quantitative data, preparing research proposal and dissemination of research finding through papers, dissertation and oral presentations.

Department of Mechanical Engineering

Over the recent years, the Mechanical Engineering Department has undergone an extensive restructuring process that saw its former general Degree in Mechanical Engineering transforming into Honours Degree Programmes, namely:

Undergraduate Programmes

Bachelor of Mechanical Engineering

First Year

Module Code	Module Name and Descriptor
MAT-ALT-1-1	**Algebra and Trigonometry**
	This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.
LAN-ELS-1-1	**English language skills**
	This module is designed to develop in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

PBS-PHY-1-1 **Physics**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of physics. Topics covered include units and dimension, mechanics, oscillations and waves, ray and wave optics, and nuclear physics.

PBS-CHE-1-1 **Chemistry**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of chemistry. Topics covered include matter, periodicity, polymerisation and metals.

CIT-ITC-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using microsoft word, microsoft excel, spreadsheets **M**icrosoft Powerpoint, microsoft access, methods of data protection and the internet.

MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

ELE-ELE-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, electromagnetic induction and electromagnetic waves, DC and AC electrical circuits, Network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-MES-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

FOE-DRW-1-1 **Engineering Drawing I**

This module is an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements, assembly drawing and exploded view, among other topics.

FOE-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

CIV-CTE-1-2 **Civil Technology**

This course offers knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows, and drainage and sanitary systems.

LAN-CSE-2-1 **Communication Skills for Engineers 1**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non verbal communication, visual communication, barriers to effective communication and business writing.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

LAN-CSE-2-1 **Communication Skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-ENP-2-1 **Engineering Practice I**

This module develops in students basic workshop skills in welding and fitting as well as introduces them to workshop safety. Topics covered include workshop technology, welding technology and practice.

MEC-PFE-2-1 **Programming for Engineers**

This module equips students with the knowledge and skills in computer programming using the C programming language. Topics covered include fundamentals of structured programming, basic concepts in C programming, input/output, functions, arrays and conditional/control statements.

MEC-ENM-2-1 **Engineering Materials**

This course introduces students to the basics of engineering materials and standards of materials, products and material testing. Topics include classification of materials, material properties: mechanical, physical, chemical, technological, material standards; product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography, metal bonding, alloying, ferrous alloys, Fe-Fe3C diagram and phase transformation.

MEC-THF-2-2 **Thermofluids**

This module provides students with the basic concepts in thermodynamics and fluids mechanics and equips them with theories that will enable them solve engineering problems in thermo-fluids. Topics covered include definition and properties of a fluid, gas laws, heat capacities, polytropic processes, energy and momentum conservation principles, 1st law of thermodynamics, fluid flow, shear stress in fluid flow and Reynolds number.

MAT-LAL-2-2 **Linear Algebra**

This module is designed to equip students with methods for solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

MEC-STD-2-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles, kinematics of rigid bodies, machines; mechanical advantage, velocity ratios and law of machines, angular momentum and its conservation, moments of inertia, parallel and perpendicular axes theorem.

MEC-ETC-2-2 **Electrical Technology**

The aim of this module is to equip students with fundamental knowledge and skills necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered include circuit theorem, AC circuit analysis, and Transient.

MEC-CAD-2-2 **Computer Aided Drawing**

This course provides students with basic skills in computer-aided drawing using licensed software (Autodesk Inventor). Course description includes introduction to geometrical modelling, introduction to Computer Aided Design (CAD), and computer laboratory drawing assignments.

MEC-MPT-2-2 **Manufacturing Technology & Processes**

This course familiarises students with the basics of manufacturing processes and technologies involved in industrial activities. Topics covered include fundamentals of materials, machining processes and machine tools, material treatment techniques, rolling, forging, extrusion, sheet forming and moulding, joining and welding and surface techniques (Metrology).

MEC-INS-2-2 **Industrial Studies**

This module provides students with the basic knowledge of supervisory skills necessary in the industry. It also provides students with fundamentals of business management, and how resources such as humans, materials and machinery are employed in a project to convert raw materials into finished products in a production process while applying engineering skills learned in other co-requisite modules. This module prepares students to face 'head-on' and 'hands-on' challenges in industry during attachment.

Year Three

MAT-PRS-3-1 **Probability and Statistics**

This module provides students in engineering with the fundamental concepts and methods of statistics which will help them develop critical judgement and decision-making abilities through the use of quantitative methods in their areas of study. Topics of study include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions and linear regression and correlation.

MEC-STM-3-1 **Strength of Materials**

This course discusses stress calculation due to loads. Topics include stress-strain concept, tensile test, stress and strain due to axial loading, statically indeterminate case related to axial loading, introduction to plasticity and residual stress, stress and strain due other loads, such as torsion, bending moment, and shear force, Mohr's circle of stress, failure theory, deflection, statically indeterminate structures, and energy method.

MEC-FLM-3-2 **Fluid Mechanics I**

This course lays the basic foundation of fluid mechanics and its applications. A generalised approach to fluid statics is used as an introduction to calculating the forces exerted by fluids on surfaces. Fluid dynamics is approached using a control volume formulation and basic pipe flow is introduced. Potential flow is applied to calculate the velocity and pressure fields over basic shapes.

MEC-ELE- 3-1 **Electronics**

The aim of this course is to introduce students to the theory and applications of electronic components and devices. Topics covered include diodes and applications, transostors and their applications, digital electronics, and power electronics.

FOC-ENM-3-1 **Engineering Management**

This module introduces students to the key principles of management. Topics covered include nature of management, organisation, jobs and roles, human resource management and economics.

MEC-ENT-3-2 **Engineering Thermodynamics 1**

This course deals with basic concepts of thermodynamics and its applications in the analysis of simple thermodynamics systems. Coverage includes definition and basic concepts of thermodynamics, energy definition and the first law, p-v-T relationship and properties of simple compressible pure substance, ideal gas concept, incompressible substance, energy analysis for mass and control volume, entropy definition and the second law, exergy definition and exergy balance in thermo-mechanical systems.

MEC-EPM-3-1 **Electrical Power and Machines**

This module equips students with theories of electrical power and machines. Topics of study include transformers, generation of three phase voltage, non sinusoidal waves, complex numbers and their application to ac circuit analysis, single line diagram and per unit system, direct current machines, induction machines and synchronous machines.

FOE-GRP-3-1 **Group Project**

This module provides a forum for students to work in small groups of normally two to design and build practical working engineering solutions.

MEC-MAI-3-1 **Measurements & Instrumentation**

This course deals with measurement techniques ranging from the basic principles, sensors to data acquisition. Coverage includes definition/ terminologies, calibration, standards, sensors and transducers, signal conditioning, data presentation and design of measurement systems.

MEC-DYN-3-2 **Dynamics**

This module introduces students to the basic principles underlying the dynamics of rigid bodies. Topics covered include 2D and 3D kinematics and kinetics of particles, kinematics of rigid bodies, Coriolis acceleration, plane motion of rigid body, forces and accelerations, energy and momentum for plane motion of rigid bodies, kinetics of rigid bodies in 3d and Euler equations.

MAT-NUM-3-2 **Numerical Methods**

This module enables students understand numerical methods of solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Topics covered include solution of equations, interpolation and numerical differentiation, systems of linear equation, ordinary differential equations, numerical integration and numerical solutions of partial differential equations (Elliptic PDEs).

MEC-MED-3-2 **Machine Elements Design**

This course is an introduction to machine elements, selection, and sizing to satisfy certain requirements. Topics include design process, review of stress analysis, failure analysis, safety factor, design of shaft, connection: pin, spline shaft, key, fixed coupling, bolted, riveted, and welded joints, bearing: roller bearing, bearing housing, journal bearing, springs: coil and leaf springs, flexible transmission elements: belt and chain.

Year Four

FOE-IND-4-1 **Industrial Attachment**

This one semester module provides students with an opportunity to work as apprentices in the industry. In order to complete the course, students have to work in companies whose scope is relevant to mechanical engineering. In addition to learning about the working environment, students have to find and solve a specific case study. The case study might be analysis, synthesis, programming, etc., as long as it is relevant to the mechanical engineering field. Students have to write a report and pass an oral review in front of an industrial attachment committee.

MEC-PRM-4-1 **Project Management**

This module gives students an understanding and skills required for successful project implementation and enhances project management competence through case studies. Topics covered include introduction to project, project appraisal, project financing, implementation of projects, constraints and problems of project implementation, graphic representation of project activities, network analysis, management information system, group dynamics, project management and business development.

MEC-END-4-2 **Engineering Design**

This module instils in students a critical attitude towards engineering design and equips them with knowledge of good design procedure

embodying correct use of materials, processes and analysis of machine elements. Topics covered include design methodology, product design specifications, techniques which assist creativity, ergonomics, factors affecting design, fatigue, stress concentration, creep and shock loads, design data sheets, 3d modelling using solidworks and simulation, reverse engineering and project work.

MEC- SOM-4-2 **Solid Mechanics**

This module is designed to impart in students the theoretical knowledge of solid mechanics. Topics covered include plasticity and elasticity.

MEC-COS-4-2 **Control Systems**

The aim of this module is to equip students with principles of control and its application to engineering systems. Topics covered include introduction to control engineering, feedback systems, system modelling, and system performance and stability analysis.

MEC-FLM-4-2 **Fluid Mechanics II**

This module is concerned with more advanced topics in fluid mechanics and its applications. Topics include viscous flow in ducts (internal flow), flow in pipes, laminar, turbulent, transition, fully-developed flow concept, Moody diagram, minor losses, flow in noncircular ducts, flow measurements, external flow, characteristics, lift and drag, boundary layer theory, Prandtl/Blassius solution and momentum integral approach to boundary layer equation.

MEC-ENT-4-2 **Engineering Thermodynamics II**

This module is the continuation of Engineering Thermodynamics I, and deals with more advanced topics on thermodynamics and its applications. Topics include vapor power system, power of gas, refrigeration and heat pump, thermodynamics relations for simple compressible substance, non-reacting ideal gas mixture, psychrometric chart, reacting mixture and combustion, chemical exergy concept, and phase and chemical balance.

Year Five

MEC-EMA- 5-1 **Energy Management and Audit**

This module equips students with tools for energy needs assessment, utilisation and monitoring at local, regional and global levels. Topics covered include global and Southern Africa energy market, need and importance of energy conservation and management, load management,

energy auditing: methodology, analysis and reporting, boilers, steam distribution, electric system and lighting.

MEC-PPE-5-1 **Power Plant Engineering**

This module enables students understand the operating principles behind the hardware in power plants. Topics covered include layout of power plants, steam boiler and cycles, fuel and ash handling, combustion chamber, draught, air pollution, instrumentation, testing of boilers, power plant economics, nuclear power generation and power plant economics and environmental considerations.

MEC-HMT-5-2 **Heat and Mass Transfer**

This module forms basic understanding in heat transfer and its applications. Coverage includes heat transfer analysis, thermal properties of materials, steady one-dimensional heat conduction in flat plate and radial systems, conduction with heat source, heat transfer from fins, analytical solution of steady two-dimensional conduction, graphical and finite difference solutions, transient conduction on flat wall, radial system, semi-infinite solid, three-dimensional objects and convection boundary layer.

MEC-FEA-5-1 **Finite Element Analysis**

This module introduces basic aspects of finite element technology and familiarises students with professional-level finite element software. Topics covered include introduction to the use of finite element procedures, basic mathematical methods, basic concepts of engineering analysis and the finite-element method, formulation of the fem-linear analysis in solid and structural mechanics, formulation of isoparametric finite element matrices and solution of equilibrium equations in static analysis.

MEC-BME-4-2 **BusinessManagement & Entrepreneurship**

This module gives students a clear understanding of characteristics and operations of a business entity and introduces them to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include people and organisation, finance and accounting for engineering managers, dynamics of business, marketing and sales as well as entrepreneurship.

FOE-FYP-5-1 **Final Year Project**

The final project is the central course of the undergraduate programme where students have the opportunity to integrate and apply skills and

knowledge acquired in various academic activities in a design project, manufacturing of tools or design experiment in a research project or theoretical investigation of a specific problem. Each student is required to undertake a project on a topic appropriate to their degrees (pathways) which may be or may not be industrially based. This is an in-depth study of an engineering problem requiring a degree of initiative and an individual written report. Students have to present their findings or results in a seminar and final oral examination as a requirement for the undergraduate degree.

MEC-EIS-5-2 **Engineering and Society**

This module gives students awareness of their responsibilities to society as professional engineers and equips them with a working understanding of non-technical issues such as social responsibility, health and safety, sustainability and intellectual property. Topics covered include ethics in engineering practice, industrial relations, health and safety issues, the engineer's role in disaster relief, contract law, non-contract law, patent law, and environmental law.

MEC-PMM-5-2 **Production & Manufacturing Management**

This module equips students with knowledge and understanding of production engineering techniques and principles. Topics covered include nature and scope branch of production management and its sub-areas (the foundations and principles of strategic and tactical management, standardisation and information base for planning, operational planning, standardisation and information base for planning, methods of spatial and temporal structure of production.

MEC-COA-5-1 **Computer Applications**

This course introduces students to the methods of computer interfacing of industrial or scientific instruments and data processing for monitoring and control of engineering processes by using state-of-the-art virtual instrumentation software. Areas covered include MATLAB and SIMULINK.

MEC-PMR-5-1 **Plant Maintenance and Reliability**

This course presents to students the fundamentals of maintenance and reliability engineering, and maintenance management. Topics covered include modern trends in maintenance technology, maintenance types, maintenance management information systems, maintenance engineering, maintenance practice and procedures, machine diagnostics, machine condition monitoring and signature analysis.

MEC-VIB-5-2 **Mechanical Vibrations**

This course lays the foundation in mechanical vibration by discussing the theory and some relevant engineering applications. Coverage includes classification of vibration, single degree of freedom (D.O.F.) undamped free vibration, damped vibration, single D.O.F. forced vibration, resonance, vibration sensors, transient vibration (Laplace transform), and two D.O.F vibration systems.

Bachelor of Industrial Engineering

Year One

Module Code	Module Name and Descriptor
MAT-ALT-1-1	**Algebra and Trigonometry**

This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LAN-ELS-1-1 **English language skills**

This module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

PBS-PHY-1-1 **Physics**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of physics. Topics covered include units and dimension, mechanics, oscillations and waves, ray and wave optics, and nuclear physics.

PBS-CHE-1-1 **Chemistry**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of chemistry. Topics covered include matter, periodicity, polymerisation and metals.

CIT-ITC-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using microsoft word, microsoft excel, spreadsheets Microsoft Powerpoint, Microsoft Access, methods of data protection and the internet.

MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

ELE-ELE-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, electromagnetic induction and electromagnetic waves, DC and AC electrical circuits, Network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-MES-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

FOE-DRW-1-1 **Engineering Drawing I**

This module is an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements, assembly drawing, exploded view and drawing symbols. In addition to classroom instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer aided drawing.

FOE-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

CIV-CTE-1-2 **Civil Technology**

This course offers knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows, and drainage and sanitary systems.

LAN-CSE-2-1 **Communication Skills for Engineers 1**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

LAN-CSE-2-1 **Communication Skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-ENP-2-1 **Engineering Practice I**

This module seeks to develop in students basic workshop skills in welding and fitting as well as introduce them to workshop safety. Topics covered include workshop technology, welding technology and practice.

MEC-PFE-2-1 **Programming for Engineers**

This module equips students with the knowledge and skills in computer programming using the C programming language. Topics covered include fundamentals of structured programming, basic concepts in C programming, input/output, functions, arrays and conditional/control statements.

MEC-ENM-2-1 **Engineering Materials**

This course develops in students a basic understanding of engineering materials and standards of materials, products and material testing. Topics include classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography and metal bonding.

MEC-THF-2-2 **Thermofluids**

This module provides students with the basic concepts in thermodynamics and fluids mechanics and equips them with theories that will enable them solve engineering problems in thermo-fluids. Topics covered include definition and properties of a fluid, gas laws, heat capacities, polytropic processes, energy and momentum conservation principles, 1st law of thermodynamics, fluid flow, shear stress in fluid flow and Reynolds number.

MAT-LAL-2-2 **Linear Algebra**

This module equips students with methods for solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

MEC-STD-2-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams and analysis of simple machine elements and trusses.

MEC-ETC-2-2 **Engineering Labs/Electrical Technology**

The aim of this module is to equip students with fundamental knowledge and skills necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered include circuit theorem, AC circuit analysis, and transient.

MEC-CAD-2-2 **Computer Aided Drawing**

This course provides students with basic skills in computer aided drawing using licensed software (Autodesk Inventor). Course content includes introduction to geometrical modelling, introduction to Computer Aided Design (CAD), and computer laboratory drawing assignments.

MEC-MPT-2-2 **Manufacturing Technology & Processes**

This course familiarises students with the basics of manufacturing processes and technologies involved in industrial activities. Topics covered include fundamentals of materials, machining processes and machine tools, material treatment techniques, rolling, forging, extrusion, sheet forming and moulding, joining and welding and surface techniques (Metrology).

Year Three

Probability and Statistics

This module provides students in engineering with the fundamental concepts and methods of statistics which will help them develop critical judgement and decision-making abilities through the use of quantitative methods in their areas of study. Topics of study include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions and linear regression and correlation.

MEC-STM-3-1 **Strength of Materials**

This course discusses stress calculation due to loads. Topics include stress-strain concept, tensile test, stress and strain due to axial loading, statically indeterminate case related to axial loading, introduction to plasticity and residual stress, stress and strain due other loads, such as torsion, bending moment, and shear force.

MEC-ELE- 3-1 **Electronics**

The aim of this course is to introduce students to the theory and applications of electronic components and devices. Topics covered include diodes

and applications, transostors and their applications, digital electronics, and power electronics.

FOE-GRP-3-1 **Group Project**

This module provides a forum for students to work in small groups of normally two to design and build practical working engineering solutions.

MEC-IQC-3-2 **Industrial Quality Control**

This module familiarises students with quality control techniques, quality assurance issues and quality management methods. Topics covered include introduction to quality control, total quality management, quality improvement techniques, statistical concepts, control charts for variables, control chart interpretation and analysis, other variable control charts, fundamentals of probability, control charts for attributes, reliability, quality costs, quality systems: ISO 9000, six sigma, benchmarking and auditing.

MEC-MAI-3-1 **Measurements & Instrumentation**

This course deals with measurement techniques ranging from the basic principles, sensors to data acquisition. Coverage includes definition/ terminologies, calibration, standards, sensors and transducers, signal conditioning, data presentation and design of measurement systems.

MEC-AUT-3-2 **Automation**

This module introduces students to types of automation widely used in the industry. The module also provides reasons for automating, arguments for and against automation. Topics covered include hydraulic system elements, hydraulic actuators, control elements, hydraulic circuits and their applications, pneumatics, pneumatic system control elements, pneumatic circuits, hydro pneumatic systems and combinational logic circuits.

MEC-OPM-3-2 **Operations Management**

This module provides students with an understanding of concepts of operations management, and skills and techniques for effective management of transformation systems which convert inputs into goods and services. Topics covered include systems design, materials handling, job design and work organization, productivity and competitiveness, basic planning and control techniques, inventory management and problem solving and decision making.

MEC-ENT-3-2 **Engineering Thermodynamics 1**

This course deals with basic concepts of thermodynamics and its applications in the analysis of simple thermodynamics systems. Coverages include definition and basic concepts of thermodynamics, energy definition and the first law, p-v-T relationship and properties of simple compressible pure substance, ideal gas concept, incompressible substance, energy analysis for mass and control volume, entropy definition and the second law, exergy definition and exergy balance in thermo-mechanical systems.

MEC-IPD-3-2 **Industrial Product Design**

This module is designed to further industrial engineering students' understanding of product design management. Topics covered include competitive design management, industrial design, investing in product development, design process and industrial design cad skills.

MEC-ENP-4-2 **Engineering Processes**

This module introduces process approach to innovation, product development, manufacturing and service applications for application in food processing, plastics and similar production set-ups. Topics covered include characterisation of particles; comminution, screening and classification; filtration, sedimentation, centrifugal separations and fluidisation; thermal operations including evaporation and crystallisation.

Year Four

FOE-IND-4-1 **Industrial Attachment**

This one semester module provides students with an opportunity to work as apprentices in the industry. In order to complete the course, students have to work in companies whose scope is relevant to mechanical engineering. In addition to learning about the working environment, students have to find and solve a specific case study. The case study might be analysis, synthesis, programming, etc., as long as it is relevant to the mechanical engineering field. Students have to write a report and pass an oral review in front of an industrial attachment committee.

MEC-PRM-4-1 **Project Management**

This module gives students an understanding and skills required for successful project implementation and enhances project management competence through case studies. Topics covered include introduction to project, project appraisal, project financing, implementation of projects, constraints and problems of project implementation, graphic

representation of project activities, network analysis, management information system, group dynamics, project management and business development.

IWM-3-1 **Industrial Waste Management**

This module is designed to introduce students to sources, effects, and control measures of industrial waste. Topics covered include solid waste management, principles of industrial waste treatment, waste reduction alternatives for raw materials, a review of the methods adopted for the removal of suspended colloidal and dissolved organic solids removal of in organic dissolved solids and manufacturingprocesses.

MEC-REM-4-2 **Research Methods**

This course focuses on helping students develop appropriate research designs and proposals, analysis of problems and use of scientific research as a problem-solving tool. This encompasses the understanding and application of appropriate research designs, research statistics, and the use of the computer for data analyses, and report writing and presentation.

MEC-EIL-4-2 **Ergonomics & Industrial Law**

This course provides students with knowledge of ergonomics and enhances their understanding of labour law. Topics covered include ergonomics and systems design, physical ergonomics, anthropometry, biomechanics, human information processing, person-machine interface design, displays and controls, the visual environment and visual performance.

MEC-DAC-4-2 **Dynamics and Control**

This module imparts in students the ability to analyse the dynamics and controls of machine systems. Topics covered include introduction to control engineering, feedback systems, system modelling, system performance and stability analysis, and system simulation.

Year Five

FOE-FYP-5-1 **Final Year Project**

The final project is the central course of the undergraduate programme where students have the opportunity to integrate and apply skills and knowledge acquired in various academic activities in a design project, manufacturing of tools or design experiment in a research project or theoretical investigation of a specific problem. Each student is required

to undertake a project on a topic appropriate to their degrees (pathways) which may be or may not be industrially based. This is an in-depth study of an engineering problem requiring a degree of initiative and an individual written report. Students have to present their findings or results in a seminar and final oral examination as a requirement for the undergraduate degree.

MEC-PMR-5-1 **Plant Maintenance and Reliability**

This course presents to students the fundamentals of maintenance and reliability engineering, and maintenance management. Topics covered include modern trends in maintenance technology, maintenance types, maintenance management information system, maintenance engineering, maintenance practice and procedures, machine diagnostics, machine condition monitoring and signature analysis, maintenance job planning and scheduling total quality maintenance.

MEC-BME-4-2 **BusinessManagement & Entrepreneurship**

This module gives students clear understanding of characteristics and operations of a business entity and introduces them to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include people and organisation, finance and accounting for engineering managers, dynamics of business, marketing and sales as well as entrepreneurship.

MEC-EMA- 5-1 **Energy Management and Audit**

This module equips students with energy needs assessment, utilisation and monitoring at local, regional and global level. Topics covered include global and southern Africa energy market, need and importance of energy conservation and management, load management, energy auditing-methodology, analysis and reporting, boilers, steam distribution, electric system and lighting.

MEC-OPR-5-1 **Operations Research**

This module equips students with knowledge and understanding of quantitative techniques. Topics covered include introduction to operational research, linear programming, duality theory and sensitivity analysis, transportation models, network models, queuing models, markov analysis, dynamic programming (deterministic/probabilistic) and game theory.

MEC-MAS-5-2 **Manufacturing Systems**

This module provides an introduction to the design, analysis and control of manufacturing systems. Topics covered include manufacturing enterprise, product and process technology, lean and agile manufacturing and automated and manual systems.

MEC-LSM-5-1 **Logistics and Supply Chain Management**

This module provides students with the knowledge and skills for optimisation of physical flows of goods and material from acquisition through production and movement through channels of distribution. Students develop an understanding of logistics and supply chain management within the context of the manufacturing and service environment, as well as within the economy as a whole. Customer service and its association with warehouse management are emphasised.

MEC-SME-5-2 **Strategic Management for Engineers**

This module enables students appreciate, formulate and implement the broad strategic issues that affect operations of an organisation in a competitive market environment. Topics covered include introduction to strategic management, the nature of competitive advantage and strategies.

MEC-FIM-5-2 **Financial Management**

This module imparts knowledge in students on how to properly evaluate the economic potential of investments. Topics covered include interest formulations, time value of money, equivalent value and rate of return, project analysis and evaluation, cost analysis, break even point, economic life and replacement analysis, depreciation and taxes consideration, sensitivity analysis, and risk and uncertainty.

MEC-ROB-5-1 **Robotics**

This module gives students an introduction to the field, historic background, development and current cutting edge research points, as well as a practical introduction how to move and control robots. Topics covered include fundamentals of robotics, dynamic modelling of rigid manipulators, dynamics of flexible structures, conventional sensors and actuators for robots, smart sensors and actuators for robots and control of robots.

Calendar 2016-2018

Bachelor of Automobile Engineering

First Year

Module Code	Module Name and Descriptor
MAT-ALT-1-1	**Algebra and Trigonometry** This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.
LAN-ELS-1-1	**English language skills** This module develops in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. The topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.
PBS-PHY-1-1	**Physics** The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of physics. Topics covered include units and dimension, mechanics, oscillations and waves, ray and wave optics, and nuclear physics.
PBS-CHE-1-1	**Chemistry** The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of chemistry. Topics covered include matter, periodicity, polymerisation and metals.
CIT-ITC-1-1	**Introduction to Computers** This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using microsoft word, microsoft excel, spreadsheets Microsoft Powerpoint, microsoft access, methods of data protection and the internet.
MAT-CAL-1-2	**Calculus I** This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. The topics covered include differentiation, integration and their applications.

MEC-MES-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

FOE-DRW-1-1 **Engineering Drawing I**

This module is an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements (bolts, threads, gears, etc.), assembly drawing, exploded view, drawing symbols. In addition to classroom instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer aided drawing.

FOE-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

LAN-CSE-2-1 **Communication Skills for Engineers 1**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non-verbal communication, visual communication, barriers to effective communication and business writing.

1 MEC-VEE-1-2 **Vehicle Electrical and Electronic Systems**

This module introduces students to basic electrical systems in motor vehicles. It also provides students with the understanding of the technological advances of electrical systems in vehicles. Students appreciate the use of electrical systems and their contribution to the overall operation and performance of the vehicle. The module provides students with basic skills to handle vehicle electrical systems.

MEC-VTP-1-2 **Vehicle Technology and Practice 1**

This module equips students with basic knowledge of general vehicle layout, engine construction and operation. The module covers different

vehicle and engine types. It is designed to enable students to develop practical skills to work on engines and understand the processes involved. It helps students to appreciate the basic engine design features and considerations. The module covers different engine systems and how they contribute to the overall operation of the engine in power production.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provide students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

LAN-CSE-2-1 **Communication Skills for Engineers II**

This module is designed to equip students with interpersonal, recruitment and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal communication, conflict management and communication, advanced oral communication, advanced writing, recruitment communication and corporate communication.

MEC-PFE-2-1 **Programming for Engineers**

This module equips students with the knowledge and skills in computer programming using the C programming language. Topics covered include fundamentals of structured programming, basic concepts in C programming, input/output, functions, arrays and conditional/control statements.

MEC-ENM-2-1 **Engineering Materials**

This course develops in students the basic understanding of engineering materials and standards of materials, products and material testing. Topics include classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding and basics of crystallography.

MEC-THF-2-2 **Thermofluids**

This module provides students with the basic concepts in thermodynamics and fluids mechanics and equips them with theories that will enable them solve engineering problems in thermo-fluids. Topics covered include definition and properties of a fluid, gas laws, heat capacities, polytropic processes, energy and momentum conservation principles, 1st law of thermodynamics, fluid flow, shear stress in fluid flow and Reynolds number.

MAT-LAL-2-2 **Linear Algebra**

This module equips students with methods for solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

MEC-STD-2-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles, kinematics of rigid bodies and machines.

MEC-CAD-2-2 **Computer Aided Drawing**

This course provides students with basic skills in computer aided drawing using licensed software (Autodesk Inventor). Course description includes introduction to geometrical modelling, introduction to Computer Aided Design (CAD), and computer laboratory drawing assignments.

MEC-MPT-2-2 **Manufacturing Technology & Processes**

This course familiarises students with the basics of manufacturing processes and technologies involved in industrial activities. Topics covered include fundamentals of materials, machining processes and machine tools, material treatment techniques, rolling, forging, extrusion, sheet forming and moulding, joining and welding and surface techniques (Metrology).

MEC-VEE-3-1 **Vehicle Electrical and Electronic Systems 2**

This module covers an in-depth application of electronics in vehicles systems and the departure from conventional systems. It covers application

of electronics in charging, ignition, fuel injection, braking, transmission, climate control, suspension and steering systems. It provides students with knowledge in construction and operating principles of electronic devices, among other areas.

MEC-VTP-2-1 **Vehicle Technology and Practice 2**

This module provides in-depth knowledge of engine and vehicle systems. It covers use of latest and advanced technologies in vehicles, diagnosis and analysis of systems. The module also enables students to develop practical skills in the use of diagnostic equipment. The module exposes students to latest technologies, thereby adequately preparing them for the industry.

MEC-WRG-2-2 **Workshop Organisation**

Since students would mostly be working in vehicle workshops, they need to have organisational skills specifically for a workshop. These skills would be required to improve existing workshops or set up new ones. Thus, the module provides students with knowledge to organise vehicle workshops to efficiently and effectively use the labour, financial and material resources to deliver quality service.

Year Three

MAT-PRS-3-1 **Probability and Statistics**

This module provides students in engineering with the fundamental concepts and methods of statistics which will help them develop critical judgement and decision-making abilities through the use of quantitative methods in their areas of study. Topics of study include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions and linear regression and correlation.

MEC-STM-3-1 **Strength of Materials**

This course discusses stress calculation due to loads. Topics include stress-strain concept, tensile test, stress and strain due to axial loading, statically indeterminate case related to axial loading, introduction to plasticity and residual stress, stress and strain due other loads, such as torsion, bending moment, and shear force, Mohr's circle of stress, failure theory, deflection, statically indeterminate structures, and energy method.

MEC-FLM-3-2 **Fluid Mechanics I**

This course lays the basic foundation of fluid mechanics and its applications. A generalised approach to fluid statics is used as an introduction to calculating the forces exerted by fluids on surfaces. Fluid dynamics is approached using a control volume formulation and basic pipe flow is introduced. Potential flow is applied to calculate the velocity and pressure fields over basic shapes.

FOE-GRP-3-1 **Group Project**

This module provides a forum for students to work in small groups of normally two to design and build practical working engineering solutions.

MEC-MAI-3-1 **Measurements & Instrumentation**

This course deals with measurement techniques ranging from the basic principles, sensors to data acquisition. Coverage includes definition/ terminologies, calibration, standards, sensors and transducers, signal conditioning, data presentation and design of measurement systems.

MEC-ENT-3-2 **Engineering Thermodynamics 1**

This course deals with basic concepts of thermodynamics and its applications in the analysis of simple thermodynamics systems. Coverage includes definition and basic concepts of thermodynamics, energy definition and the first law, p-v-T relationship and properties of simple compressible pure substance, ideal gas concept, incompressible substance, energy analysis for mass and control volume, entropy definition and the second law, exergy definition and exergy balance in thermo-mechanical systems.

MAT-NUM-3-2 **Numerical Methods**

This module enables students understand numerical methods of solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Topics covered include solution of equations, interpolation and numerical differentiation, systems of linear equation, ordinary differential equations, numerical integration and numerical solutions of partial differential equations (Elliptic PDEs).

MEC-MED-3-2 **Machine Elements Design**

This course deals with the introduction of machine elements (bolts, nuts, gears, couplings, etc.), selection, and sizing to satisfy a certain

requirement. Topics include design process, review of stress analysis, failure analysis, safety factor, design of shaft, connection: pin, spline shaft, key, fixed coupling, bolted, riveted, and welded joints, bearing: roller bearing, bearing housing, journal bearing, springs: coil and leaf springs, flexible transmission elements: belt and chain.

MEC-DYN-3-2 **Dynamics**

This module introduces students to the basic principles underlying the dynamics of rigid bodies. Topics covered include 2D and 3D kinematics and kinetics of particles, kinematics of rigid bodies, Coriolis acceleration, plane motion of rigid body, forces and accelerations, energy and momentum for plane motion of rigid bodies, kinetics of rigid bodies in 3d and Euler equations.

MEC-CHE-3-1 **Chassis Engineering**

This module considers the overall vehicle operation and behaviour. It covers the vehicle behaviour when steering, braking, and accelerating. It also covers aerodynamics of road vehicles. This module provides a basis for understanding of design features and factors of vehicles for vehicle stability.

MEC-PTE-3-1 **Power Train Engineering**

This module covers power production and transmission to road wheels. It focuses on analysis of power losses and helps students to understand design efforts to reduce power losses during production and transmission. It also covers power consumed by auxiliary systems.

MEC-VTP-2-1 **Vehicle Technology and Practice 2**

This module provides in-depth knowledge of engine and vehicle systems. It covers use of latest and advanced technologies in vehicles, diagnosis and analysis of system. The module also allows students to develop practical skills in use of diagnostic equipment. The module exposes students to latest technologies, thereby adequately preparing them for the industry.

Year Four

FOE-IND-4-1 **Industrial Attachment**

This one semester module provides students with an opportunity to work as apprentices in the industry. In order to complete the course, students have to work in companies whose scope is relevant to mechanical

engineering. In addition to learning about the working environment, students have to find and solve a specific case study. The case study might be analysis, synthesis, programming, etc., as long as it is relevant to the mechanical engineering field. Students have to write a report and pass an oral review in front of an industrial attachment committee.

MEC-FCT-4-2 **Fuels and Combustion Technology**

This module discusses combustion process in energy conversion machineries. Coverage includes combustion theory, types of fuels: solid, liquid, gas, application in common energy conversion machineries such as: internal combustion engines, gas turbine, burner, furnace, etc., combustion processes: internal, external, premixed flames, diffusion flames, detonation, fixed-bed, and fluidized-bed combustion.

MEC-END-4-2 **Engineering Design**

This module instils in students a critical attitude towards engineering design and equips them with knowledge of good design procedures embodying correct use of materials, processes and analysis of machine elements. Topics covered include design methodology, product design specifications, techniques which assist creativity, ergonomics, factors affecting design, fatigue, stress concentration, creep and shock loads, design data sheets, 3d modelling using solidworks and simulation, reverse engineering and project work.

MEC-COS-4-2 **Control Systems**

The aim of this module is to equip students with principles of control and its application to engineering systems. Topics covered include introduction to control engineering, feedback systems, system modelling, and system performance and stability analysis.

MEC-FLM-4-2 **Fluid Mechanics II**

This module is concerned with more advanced topics in fluid mechanics and its applications. Topics include viscous flow in ducts (internal flow), flow in pipes, laminar, turbulent, transition, fully-developed flow concept, Moody diagram, minor losses, flow in noncircular ducts, flow measurements, external flow, characteristics, lift and drag, boundary layer theory, Prandtl/Blassius solution and momentum integral approach to boundary layer equation.

MEC- SOM-4-2 **Solid Mechanics**

This module is designed to impart in students theoretical knowledge of solid mechanics. Topics covered include plasticity and elasticity.

MEC-HYP-4-2 **Hydraulics and Pneumatics**

This module introduces students to hydraulics and pneumatics as forms of power transmission and control. It covers systems overview, components, symbols and circuits. It also covers material on diagnosis and maintenance of hydraulic and pneumatic systems.

Year Five

FOE-FYP-5-1 **Final Year Project**

The final project is the central course of the undergraduate programme where students have the opportunity to integrate and apply skills and knowledge acquired in various academic activities in a design project, manufacturing of tools or design experiment in a research project or theoretical investigation of a specific problem. Each student is required to undertake a project on a topic appropriate to their degrees (pathways) which may be or may not be industrially based. This is an in-depth study of an engineering problem requiring a degree of initiative and an individual written report. Students have to present their findings or results in a seminar and final oral examination as a requirement for the undergraduate degree.

MEC-EIS-5-2 **Engineering and Society**

This module gives students awareness of their responsibilities to society as professional engineers and equips them with a working understanding of non-technical issues such as social responsibility, health and safety, sustainability and intellectual property. Topics covered include ethics in engineering practice, industrial relations, health and safety issues, the engineer's role in disaster relief, contract law, non-contract law, patent law, and environmental law, the impact of globalisation on engineering, product liability, intellectual property and copyright.

MEC-COA-5-1 **Computer Applications**

This course introduces students to the methods of computer interfacing of industrial or scientific instruments and data processing for monitoring and control of engineering processes by using state-of-the-art virtual instrumentation software. Areas covered include MATLAB and SIMULINK.

MEC-PMR-5-1 **Plant Maintenance and Reliability**

This course presents to students the fundamentals of maintenance and reliability engineering, and maintenance management. Topics covered include modern trends in maintenance technology, maintenance types, maintenance management information system, maintenance engineering, maintenance practice and procedures, machine diagnostics, machine condition monitoring and signature analysis, maintenance job planning and scheduling total quality maintenance, reliability centred maintenance, maintenance of electrical, mechanical drives and systems.

MEC-VIB-5-2 **Mechanical Vibrations**

This course lays the foundation in mechanical vibration by discussing the theory and some relevant engineering applications. The coverage includes classification of vibration, single degree of freedom (D.O.F.) undamped free vibration, damped vibration, single D.O.F. forced vibration, resonance, vibration sensors, transient vibration (Laplace transform), and two D.O.F vibration systems.

MEC-FEA-5-1 **Finite Element Analysis**

This module introduces basic aspects of finite element technology and familiarises students with professional-level finite element software. Topics covered include an introduction to the use of finite element procedures, basic mathematical methods, basic concepts of engineering analysis and the finite-element method, formulation of the fem-linear analysis in solid and structural mechanics, formulation of isoparametric finite element matrices and solution of equilibrium equations in static analysis.

MEC-LSM-5-1 **Logistics and Supply Chain Management**

This module provides students with the knowledge and skills for optimisation of physical flows of goods and material from acquisition through production and movement through channels of distribution. Students would develop an understanding of logistics and supply chain management within the context of the manufacturing and service environment, as well as within the economy as a whole. Customer service and its association with warehouse management are emphasised.

MEC-BME-4-2 **Business Management & Entrepreneurship**

This module gives students clear understanding of characteristics and operations of a business entity and introduces them to the culture of entrepreneurship and the process of converting dreams into business

ventures. Topics covered include people and organisation, finance and accounting for engineering managers, dynamics of business, marketing and sales, entrepreneurship.

MEC-RAC-5-2 **Refrigeration and Air Conditioning**

This module gives students fundamental knowledge on refrigeration and air conditioning so that they can size/design, operate and maintain household and industrial systems. Topics covered include introduction to refrigeration, air refrigeration, vapour compression refrigeration, performance, use of p-h charts to solve problems, system components, refrigerants, vapour absorption system, steam jet refrigeration system, introduction to air conditioning, requirements of human comfort and concept of effective temperature, comfort chart, comfort air conditioning, requirements of industrial air conditioning, air conditioning load calculations and air conditioning systems.

MEC-FLE-5-2 **Fleet Management**

This module equips students with skills to manage fleet competently. It focuses on maximising vehicle usage and reducing operating costs. It also covers material on regulatory and legislative issues. It deals with the management of drivers and handling of accidents. Issues of procurement of a fleet and disposal are also covered.

MEC-ETI-5-1 **Engine Testing**

The module equips students with skills to design test procedures on an internal combustion engine. The module covers material on test parameters, equipment, procedures and test bench technologies used testing internal combustion engines.

Bachelor of Energy Engineering

First Year

Module Code	Module Name and Descriptor
MAT-ALT-1-1	**Algebra and Trigonometry**

This module introduces students to the basics of elementary algebra, trigonometry and analytic geometry necessary for the study of calculus of functions of one variable.

LAN-ELS-1-1 **English language skills**

This module is designed to develop in students basic cognitive academic language proficiency, writing and interpersonal skills necessary for effective communication. Topics covered include introduction to communication studies, study skills, introduction to academic report writing, the writing process – the academic essay and oral presentation.

PBS-PHY-1-1 **Physics**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of physics. Topics covered include units and dimension, mechanics, oscillations and waves, ray and wave optics, and nuclear physics.

PBS-CHE-1-1 **Chemistry**

The aim of this module is to inculcate a scientific orientation in students and develop scientific attitudes relevant to the discipline of engineering in the area of chemistry. Topics covered include matter, periodicity, polymerisation and metals.

CIT-ITC-1-1 **Introduction to Computers**

This course introduces students on how to use computers and a variety of software packages. Topics covered include data management, creating professional looking documents using microsoft word, microsoft excel, spreadsheets microsoft Powerpoint, Microsoft Access, methods of data protection and the internet.

MAT-CAL-1-2 **Calculus I**

This course introduces the basic ideas of elementary calculus, the derivative and integral of functions of one variable necessary for all further studies in engineering. Topics covered include differentiation, integration and their applications.

ELE-ELE-1-2 **Electrical Science**

This course introduces students to basic concepts, laws and units of electricity and magnetism in preparation for further work in machines, electronics and electrical power. Topics include electrostatics, current electricity and magnetostatics, Electromagnetic induction and electromagnetic waves, DC and AC electrical circuits, Network theorems, and analysis of single phase AC circuits using the "j" notation (complex numbers).

MEC-MES-1-2 **Mechanical Science**

This module introduces students to basic principles of mechanical science. Topics covered include fundamental qualities and units, vectors, forces, work and energy, velocity and acceleration, angular motion, power, machines and hydrostatics.

FOE-DRW-1-1 **Engineering Drawing I**

This module provides an introduction to mechanical drawing, standards (ISO), drawing tools, synthesis of geometry, types of lines and usage, projection (isometric, American system, European system), sketches, auxiliary view, sectioning, dimensioning and tolerance, simplified drawing of machine elements (bolts, threads, gears, etc.), assembly drawing, exploded view, drawing symbols. In addition to class room instructions, students have to complete laboratory drawing assignments consisting of manual drawing (using traditional drawing machine) and computer aided drawing.

FOE-DRW-1-2 **Engineering Drawing II**

This course extends the knowledge of draughting for the production of clear and precise drawings. Topics covered include assembly drawing, detail drawings, limits and fits, isometric projection – more difficult examples (not using the isometric scale). loci, electrical symbols B.S. 3939, welding symbols, auxiliary views and surface development.

CIV-CTE-1-2 **Civil Technology**

This course offers knowledge and understanding of the principles of construction technology associated with building and civil works. Topics covered include building team, preliminary site works, setting out and excavations, subsoil investigations, types of foundations, walls and walling materials, floors and floor finishes, roofs, doors and windows, and drainage and sanitary systems.

LAN-CSE-2-1 **Communication Skills for Engineers 1**

This module equips students with skills required for effective professional communication. Topics covered include technical writing, report writing, research communications, application of oral communication skills, non verbal communication, visual communication, barriers to effective communication and business writing.

Year Two

MAT-CAL-2-1 **Calculus II**

This course completes the study of elementary calculus of functions of one variable and provides students with mathematical foundations in calculus of two variables for their further work in engineering. Topics covered include further integration, elementary ordinary differential equations, functions of two variables, differential calculus of functions of several variables.

LAN-CSE-2-1 **Communication Skills for Engineers II**

This module equips students with interpersonal, recruitment, and corporate communication skills that will enable them communicate effectively. Topics covered include organisational communication, interpersonal, conflict management and communication, advanced oral, advanced writing, recruitment communication and corporate communication.

MEC-ENP-2-1 **Engineering Practice I**

This module is designed to develop in students basic workshop skills in welding and fitting as well as introduce them to workshop safety. Topics covered include workshop technology, welding technology and practice.

MEC-PFE-2-1 **Programming for Engineers**

This module equips students with the knowledge and skills in computer programming using the C programming language. Topics covered include fundamentals of structured programming, basic concepts in C programming, input/output, functions, arrays and conditional/control statements.

MEC-ENM-2-1 **Engineering Materials**

This course develops students' understanding of the basics of engineering materials and standards of materials, products and material testing. Topics include classification of materials, material properties: mechanical, physical, chemical, technological, material standards, product standards, testing of materials: mechanical testing and its interpretation, tensile, impact, hardness, fatigue, torsion, creep, atomic bonding, basic of crystallography and metal bonding.

MEC-THF-2-2 **Thermofluids**

This module provides students with the basic concepts in thermodynamics and fluids mechanics and equips them with theories that will enable them

solve engineering problems in thermo-fluids. Topics covered include definition and properties of a fluid, gas laws, heat capacities, polytropic processes, energy and momentum conservation principles, 1st law of thermodynamics, fluid flow, shear stress in fluid flow and Reynolds number, fluid momentum and reaction forces on moving and fixed solids.

MAT-LAL-2-2 **Linear Algebra**

This module equips students with methods for solving problems in analysis and linear algebra. Topics covered include sequences and series, vectors in 2 and 3 dimensions, matrices and vectors analysis.

MEC-STD-2-2 **Statics and Dynamics**

This module introduces students to basic principles of statics and dynamics in preparation for further work in machines, tools and their operating principles. Topics covered include static equilibrium, equivalent systems of forces, centroids and centres of gravity, reaction forces, joints and forces in beams, analysis of simple machine elements and trusses – statically determinate only, friction, particle kinematics, work, energy and momentum for particles.

MEC-ETC-2-2 **Electrical Technology**

The aim of this module is to equip students with fundamental knowledge and skills necessary for analysing and synthesising electrical circuits and solving practical electrical engineering problems. Topics covered include circuit theorem, AC circuit analysis, and transient.

MEC-CAD-2-2 **Computer Aided Drawing**

This course provides students with basic skills in computer aided drawing using licensed software (Autodesk Inventor). Course description includes introduction to geometrical modelling, introduction to Computer Aided Design (CAD), and computer laboratory drawing assignments.

MEC-MPT-2-2 **Manufacturing Technology & Processes**

This course familiarises students with the basics of manufacturing processes and technologies involved in industrial activities. Topics covered include fundamentals of materials, machining processes and machine tools, material treatment techniques, rolling, forging, extrusion, sheet forming and moulding, joining and welding and surface techniques (Metrology).

MEC-INS-2-2 **Industrial Studies**

This module provides students with the basic knowledge of supervisory skills necessary in industry. It also provides students with fundamentals of business management and how resources such as humans, materials and machinery are employed in a project to convert raw materials into finished products in a production process while applying engineering skills learned in other co-requisite modules. This module prepares students to face 'head-on' and 'hands-on' challenges in industry during attachment.

Third Year

Probability and Statistics

This module provides students in engineering with the fundamental concepts and methods of statistics which will help them develop critical judgement and decision making abilities through the use of quantitative methods in their areas of study. Topics of study include frequency distribution and summary measures, introduction to probability, discrete and continuous random variables and probability distributions, sampling and sampling distributions and linear regression and correlation.

MEC-STM-3-1 **Strength of Materials**

This course discusses stress calculation due to loads. Coverage includes stress-strain concept, tensile test, stress and strain due to axial loading, statically indeterminate case related to axial loading, introduction to plasticity and residual stress, stress and strain due other loads, such as torsion, bending moment, and shear force, Mohr's circle of stress, failure theory, deflection, statically indeterminate structures, and energy method.

MEC-REE-3-2 **Renewable Energy I**

This module introduces students to sources of renewable energy and their harnessing concepts and environmental impacts of renewable energy systems. Topics covered include introduction to renewable energy, renewable energy resource assessment concepts, harnessing concepts for solar thermal, application of concepts for solar thermal, solar PV, biogas, bio-diesel, wind and fuel cell renewable energy systems and environmental consequences of renewable energy.

MEC-FLM-3-2 **Fluid Mechanics I**

This course lays the basic foundation of fluid mechanics and its applications. A generalised approach to fluid statics is used as an

introduction to calculating the forces exerted by fluids on surfaces. Fluid dynamics is approached using a control volume formulation and basic pipe flow is introduced. Potential flow is applied to calculate the velocity and pressure fields over basic shapes.

FOC-ENM-3-1 **Engineering Management**

This module introduces students to the *key principles of management. Topics covered include* nature of management, organisation, jobs and roles, human resource management and *economics.*

MEC-ELE- 3-1 **Electronics**

The aim of this course is to introduce students to the theory and applications of electronic components and devices. Topics covered include diodes and applications, transostors and their applications, digital electronics, and power electronics.

MAT-NUM-3-2 **Numerical Methods**

This module enables students understand numerical methods of solving problems in analysis and linear algebra as an alternative to analytical methods, and to appreciate the strengths and weaknesses of different methods. Topics covered include solution of equations, interpolation and numerical differentiation, systems of linear equation, ordinary differential equations, numerical integration and numerical solutions of partial differential equations (Elliptic PDEs).

MEC-ENT-3-2 **Engineering Thermodynamics 1**

This course deals with basic concepts of thermodynamics and its applications in the analysis of simple thermodynamics systems. Coverage include definition and basic concepts of thermodynamics, energy definition and the first law, p-v-T relationship and properties of simple compressible pure substance, ideal gas concept, incompressible substance, energy analysis for mass and control volume, entropy definition and the second law, exergy definition and exergy balance in thermo-mechanical systems.

FOE-GRP-3-1 **Group Project**

This module provides a forum for students to work in small groups of normally two to design and build practical working engineering solutions.

MEC-MAI-3-1 **Measurements & Instrumentation**

This course deals with measurement techniques ranging from the basic principles, sensors, up until data acquisition. Coverage includes definition/ terminologies, calibration, standards, sensors and transducers, signal conditioning, data presentation and design of measurement systems.

MEC-MED-3-2 **Machine Elements Design**

This course deals with the introduction of machine elements (bolts, nuts, gears, couplings, etc.), selection and sizing to satisfy a certain requirement. Topics include design process, review of stress analysis, failure analysis, safety factor, design of shaft, connection: pin, spline shaft, key, fixed coupling, bolted, riveted, and welded joints, bearing: roller bearing, bearing housing, journal bearing, springs: coil and leaf springs, flexible transmission elements: belt and chain.

MEC-EPM-3-1 **Electrical Power and Machines**

This module equips students with theories of electrical power and machines. Topics of study include transformers, generation of three phase voltage, non-sinusoidal waves, complex numbers and their application to AC circuit analysis, single line diagram and per unit system, direct current machines, induction machines and synchronous machines.

Fluid Machinery

Year Four

FOE-IND-4-1 **Industrial Attachment**

This one semester module provides students with an opportunity to work as apprentices in the industry. In order to complete the course, students have to work in companies whose scope is relevant to mechanical engineering. In addition to learning about the working environment, students have to find and solve a specific case study. The case study might be analysis, synthesis, programming, etc., as long as it is relevant to the mechanical engineering field. Students have to write a report and pass an oral review in front of an industrial attachment committee.

MEC-FEM-4-1 **Fluid Energy Machinery**

This module introduces and consolidates the fundamentals of turbomachinery to students so that they can design fluid energy systems. Topics covered include basic principles of turbomachines, gas turbine system and propulsion, cascade theory, axial flow turbine and propulsion system, steam turbines, hydraulic turbines, pumps, fans and blowers.

MEC-PRM-4-1 **Project Management**

This module gives students an understanding and skills required for successful project implementation and enhances project management competence through case studies. Topics covered include introduction to project, project appraisal, project financing, implementation of projects, constraints and problems of project implementation, graphic representation of project activities, network analysis, management information system, group dynamics, project management and business development, project portfolio management and planning, project engineering approaches, business processes and basics of strategy formulation.

MEC-DAC-4-2 **Dynamics and Control**

This module imparts in students the ability to analyse the dynamics and controls of machine systems. Topics covered include introduction to control engineering, feedback systems, system modelling, system performance and stability analysis, and system simulation.

IWM-3-1 **Industrial Waste Management**

This module introduces students to the sources, effects and control measures of industrial waste. Topics covered include solid waste management, principles of industrial waste treatment, waste reduction alternatives for raw materials, a review of the methods adopted for the removal of suspended colloidal and dissolved organic solids removal of in organic dissolved solids and manufacturing processes.

MEC-FCT-4-2 **Fuels and Combustion Technology**

This module discusses combustion process in energy conversion machineries. Coverage includes combustion theory, types of fuels: solid, liquid, gas, application in common energy conversion machineries such as: internal combustion engines, gas turbine, burner, furnace, etc., combustion processes: internal, external, premixed flames, diffusion flames, detonation, fixed-bed, and fluidized-bed combustion.

MEC-ECC-4-2 **Energy and Climate Change**

This module provides students with knowledge on how energy is contributing towards climate change and how human beings should respond to negative effects of climate change. Topics covered include global warming, climate change mitigation and climate change adaptation.

Year Five

MEC-EMA- 5-1 **Energy Management and Audit**

This module equips students with energy needs assessment, utilisation and monitoring at local, regional and global levels. Topics covered include global and southern Africa energy market, need and importance of energy conservation and management, load management, energy auditing- methodology, analysis and reporting, boilers, steam distribution, electric system and lighting.

FOE-FYP-5-1 **Final Year Project**

The final project is the central course of the undergraduate programme where students have the opportunity to integrate and apply skills and knowledge acquired in various academic activities in a design project, manufacturing of tools or design experiment in a research project or theoretical investigation of a specific problem. Each student is required to undertake a project on a topic appropriate to their degrees (pathways) which may be or may not be industrially based. This is an in-depth study of an engineering problem requiring a degree of initiative and an individual written report. Students have to present their findings or results in a seminar and final oral examination as a requirement for the undergraduate degree.

MEC-PPE-5-1 **Power Plant Engineering**

This module enables students understand the operating principles behind the hardware in power plants. Topics covered include layout of power plant, steam boiler and cycles, fuel and ash handling, combustion chamber, draught, air pollution, instrumentation, testing of boilers, power plant economics, nuclear power generation and power plant economics and environmental considerations.

MEC-OPR-5-1 **Operations Research**

This module equips students with knowledge and understanding of quantitative techniques. Topics covered include introduction to operational research, linear programming, duality theory and sensitivity analysis, transportation models, network models, queuing models, markov analysis, dynamic programming (deterministic/probabilistic) and game theory.

MEC-HMT-5-2 **Heat and Mass Transfer**

This module forms basic understanding in heat transfer and its applications. Coverage includes heat transfer analysis, thermal properties of materials,

steady one-dimensional heat conduction in flat plate and radial systems, conduction with heat source, heat transfer from fins, analytical solution of steady two-dimensional conduction, graphical and finite difference solutions, transient conduction on flat wall, radial system, semi-infinite solid and three-dimensional objects.

MEC-BME-4-2 **Business Management & Entrepreneurship**

This module is designed to give students clear understanding of characteristics and operations of a business entity. The module also introduces students to the culture of entrepreneurship and the process of converting dreams into business ventures. Topics covered include people and organisation, finance and accounting for engineering managers, dynamics of business, marketing and sales, and entrepreneurship.

MEC-PET- 5-1 **Power Economics and Trade**

This module gives students an understanding of structure and energy pricing of electricity market, energy trading and use of system charges; power system economics and relevant regulatory structures. Topics covered include pricing, operation of restructured wholesale power markets, congestion management, use of system charges, regulatory issues and ancillary services and basic design principles, AC/DC systems, MV and LV network arrangements.

MEC-DNM- 5-2 **Distribution Networks and Machines**

This module introduces students to hierarchical level, configuration and operation of distribution networks as well as introduce the basic principles of management of load dispatch and reliability in the distribution networks. Topics covered include electric distribution network components and configuration, electric distribution line losses and voltage drops, electric distribution network reliability, harmonics in electrical distribution networks and distribution regulation.

MEC-RAC-5-2 **Refrigeration and Air Conditioning**

This module gives students fundamental knowledge on refrigeration and air conditioning so that they can size/design, operate and maintain household and industrial systems. Topics covered include introduction to refrigeration, air refrigeration, vapour compression refrigeration, performance, use of p-h charts to solve problems, system components, refrigerants, vapour absorption system, steam jet refrigeration system and introduction to air conditioning.

MEC-REE- 5-2 **Renewable Energy 2**

This module consolidates concepts for designing renewable energy systems. Topics covered include design of systems for typical application, energy demand analysis, system design, technologies for integrating energy systems to form a hybrid system and storage technologies for solar thermal, solar PV, biogas, bio-diesel, wind and fuel cell renewable energies.

MEC-REI- 5-2 **Rural Energy Interventions**

This module equips students with technical information and concepts that are geared at addressing the policy, market and sustainability aspects of defining and selecting technologies that will meet the demands for energy services by rural villages in a sustainable and reliable way. Topics covered include introduction to rural energy interventions, delivery options, financing energy supplies for rural communities, environmental and social-economic impacts, review of technical options, conventional technologies, renewables and key technology issues.

PhD and Mphil programmes in Engineering

The Faculty of Engineering offers Doctor of Philosophy (PhD) and Master of Philosophy (MPhil) degree programmes in the range of specialisations available in the Faculty. The aim of the research programmes is to develop specialist and high level engineering competences to enable students use their expertise as they engage with and contribute towards the country's development aspirations using engineering solutions. The programmes discussed below have rolled out.

PhD and MPhil in Engineering (Transport Systems)

Research areas include land use and transport systems, public works and transport systems, traveler information systems and urban/rural transport modes and services.

PhD and MPhil in Engineering (Sustainable Engineering Management)

Research areas include urban systems, transportation, health, energy systems, water and water systems and environment engineering.

PhD and MPhil in Engineering (Telecommunications)

Research areas include wireless mobile systems, wireless mobile networking simulation, protocols and bandwidth management, distributed computing and databases in wireless environments, RF Circuit design, active noise cancellation and e-Learning software development.

PhD and MPhil in Engineering (Power and Machines)

Research areas include power generation, transmission and distribution; electrical machines designs and operation; power system protection; stability studies; power flow studies; power system controls; power system faults; electrical energy storage and energy management.

PhD and MPhil in Engineering (Industrial Management)

Research areas include design methodologies and life cycle planning, maintenance systems, planning for public sector and logistics and production planning, gender and infrastructure, asset management, climate change, industrial safety and energy management.

Admission Criteria for PhD and MPhil Candidates

Admission criteria, supervision and the research process follow the guidelines outlined in the General Postgraduate Handbook 2013. Candidates are assessed based on academic qualifications and English language proficiency by the Faculty representative and College Postgraduate Committee. Candidates for PhD programmes must have relevant masters or MPhil degree from recognised institutions while for MPhil candidates must have an Honours degree in the First or Upper Second Division or a Bachelor's degree with at least credit or a strong pass backed by at least 2 years experience in a relevant discipline. Candidates with Bachelor's degrees will be required to take 60 credits of taught modules relevant to the selected research area. This includes compulsory modules of research methods and statistics.

Supervision of PhD and MPhil Candidates

The Faculty, in liaison with the Postgraduate Committee, appoints Principal and Secondary Supervisors to guide and mentor the PhD and MPhil candidates in their research work. The supervisors are selected from experienced and qualified individuals with a minimum of PhD as well as substantive research and publications in referred journals for PhD candidates as well as substantive research and publications in referred journals for MPhil candidates. It is expected that at least one of the supervisory team members must have successfully supervised an MPhil or PhD candidate. In order to ensure effective supervision, the supervisors' load will be restricted to a maximum of 5 candidates at a time.

Research and Publication

Both MPhil and PhD programmes are research-based degrees. As such, candidates are expected to undertake independent research efforts under the mentorship and guidance of the supervisory team. Candidates will actively participate in national research groups and dissemination forums, as well as publish in recognised peer reviewed journals. PhD candidates are required to publish a minimum of three (3) papers in peer-reviewed recognised journals and/or provide evidence of 3 prepared manuscripts 'awaiting submission/in press' during the time of their PhD research programme in order to be awarded the doctoral degree. MPhil candidates are required to publish a minimum of one (1) paper in a peer-reviewed journal and/or provide evidence of 1 prepared manuscript 'awaiting submission/in submission/in press' during the time of their MPhil research programme in order to be awarded the masters' degree.

Appendix

UNIVERSITY OF MALAWI ACT, (1974) INCORPORATING THE AMENDED ACT OF 1998

ARRANGEMENT OF SECTIONS

Section

PART I - PRELIMINARY

1. Short title and commencement
2. Interpretation

PART II – ESTABLISHMENT OF UNIVERSITY

3. Establishment of University of Malawi
4. Membership of the University
5. Objects of the University
6. Functions of the University
7. Training for public officers etc.

PART III – THE COUNCIL

8. Establishment and incorporation of the Council
9. Common seal of the Council
10. Functions and powers of the Council
11. Composition of the Council
12. Meeting and procedure of the Council

PART IV – OFFICERS OF THE UNIVERSITY

13. Chancellor
14. Functions and duties of the Chancellor
15. Vice-Chancellor
16. University Registrar

PART V – THE SENATE

17. Senate
18. Functions and powers of the Senate
19. Meetings of the Senate

PART VI – COLLEGES, FACULTIES AND SCHOOLS

20. Colleges
21. Principals
22. Faculties and Schools
23. Deans
24. Composition of Faculties and Schools

PART VIII – FINANCIAL PROVISIONS

25. Property of the University
26. Compliance with the provisions of the Finance and Audit Act and audit of accounts
27. Accounts
28. Borrowings

PART VIII – MISCELLANEOUS

29. The Statutes
30. Amendments to the Statutes
31. Senate Regulations
32. Service of process and other documents on the Council

PART IX – TRANSITIONAL PROVISIONS AND REPEAL

33. Transitional
34. Dissolution of Provisional Council of the University of Malawi
35. Repeal of Cap. 30:02

SCHEDULE

STATUTES OF THE UNIVERSITY

Statute

I Interpretation
II Congregations
III Degrees and other academic distinctions
IV The Vice Chancellor
V The Finance Officer
VI The Principals of Colleges

VII The Deans of the Faculties and Schools
VIII The University Registrar
IX The Librarian
X The Auditor
XI Honorary and Emeritus Professors
XII Procedure generally
XIII Finance Committee
XIV Powers and functions of the Senate
XV The Faculties and Schools
XVI Appointments Committee
XVII Procedure relating to contracts of appointment
XVIII Procedure to Statutory Committees
XIX Honorary Degrees
XX Elections to Deanships and to the Senate
XXI Service of Notices and Documents

THE UNIVERSITY OF MALAWI (Amended) ACT 1998

An Act to provide for the establishment of the University of Malawi and for the conduct and management thereof; for the establishment and incorporation of the Council of the University of Malawi as a body corporate and as the governing body of the University; for the establishment of a Senate thereof; for the repeal of the University of Malawi (Provisional Council) Act, and for matters incidental to and connected with the foregoing.

ENACTED by the Parliament of Malawi as follows-

PART I – PRELIMINARY

1. This Act may be cited as the University of Malawi Act, 1998 and shall come into operation on such date as the Minister may, by notice published in Gazette, appoint.

2. In this Act and in the Statutes, unless the context otherwise requires:

"Chairperson" means the Chairperson of the Council appointed pursuant to section II;

"Chancellor" means the person who is for the time being the Chancellor of the University under section 13;

"College" means a college within the University established under section 20;

"Committee" includes sub-committees;

"Council" means the Council of the University established and incorporated by section 8;

"**Date of commencement**" means the date upon which this Act comes into operation pursuant to section 1;

"Dean" means the Dean of a Faculty or School elected under the Statutes pursuant to section 23; **"Deputy Dean"** means the Deputy Dean of a Faculty elected under the Statutes pursuant to section 23; "**Faculty"** means a part or section of the academic administration of the University which offers courses leading to a degree;

"Financial year" means the period commencing on the date of the commencement and ending on the 31st August next following such date and thereafter means the period of twelve months ending on 31st August in each year;

"Librarian" means the Librarian of the University appointed under section 16A;

"organization" means any company, association or body of persons, corporate or incorporate wherever established or incorporated, but does not include any such association or body established or incorporated under this Act;

"Principal" means the Principal of a College appointed pursuant to section 21 and includes a person who is for the time being performing the functions of a Principal;

"Pro-Vice-Chancellor" means the Pro-Vice-Chancellor appointed under section 15;

"property of the University" means any property, real or personal, of every description vested in or held by the Council under any right of ownership or possession; and any property held by the Council in trust for the furtherance of any of the objects of the University;

"Registrar" means the Registrar of the University appointed Pursuant to section 16;

"Senate" means the Senate of the University established under section 17;

"Senate Regulations" means Senate Regulations made under section 31;

"Statutes" means the Statutes set forth in the schedule, as from time to time amended under section 30;

"University" means the University of Malawi established by Section 3;

"Vice-Chairperson" means the Vice-Chairperson of the Council appointed pursuant to section 11(8); **"Vice-Chancellor"** means the Vice Chancellor of the University appointed pursuant to section 15;

"Vice-Principal" means the Vice-Principal of a college appointed under section 21.

PART II – ESTABLISHMENT OF UNIVERSITY

3. There is hereby established a University by the name and style of the University of Malawi.

4. (1) The University shall consist of the following members:-

   1. the Chancellor;
   2. the Vice-Chancellor;
   3. the Registrar;
   4. members of Council;

5. members of Senate;
6. all graduates of the University;
7. all holders of Honorary Degrees from the University;
8. all members of the administrative and academic staff of the University;
9. all persons for the time being registered as students of the University;
10. such other persons as the Council may by name or office declare to be members of the University.

(2) Any person who is a member of the University solely by virtue of being possessed of any qualification shall continue to be a member as long as he/she possesses such qualification.

(3) The Registrar shall keep and maintain a Register of Members of the University, which shall be available for scrutiny by the general public at all reasonable times.

5. The objects of the University shall be to advance knowledge and to promote wisdom and understanding by engaging in teaching and research and by making provision for the dissemination, promotion, and preservation of learning; by engaging in such university education and research as is responsive to the needs of Malawi and the whole world; and by offering, within the limits of its resources, to persons suitably qualified academically and who, in the opinion of the Council, are able and willing to benefit from the facilities offered by the University, an education of high university standard.

6. The functions of the University shall be:-

a. to encourage the advancement and dissemination of learning and research;

b. to engage in such university education and research as is responsive to the needs of Malawi and the whole world;

c. to provide facilities for higher education, for research and for the advancement of knowledge in such branches of learning and study and for such persons, whether members of the University or not, as the Council may from time to time determine;

d. subject to this Act and the Statutes, to award and confer Degrees and Diplomas, and other academic distinctions, including Honorary Degrees and distinctions.

7. The University may, as determined by the Council from time to time, provide specialist training in such subjects as may be deemed desirable for such purposes as the Council may determine.

PART III – THE COUNCIL

8. There is hereby established the Council of the University of Malawi, which, under that name, shall be a body corporate with perpetual succession and a common seal and shall be capable by that name, of:-

(a) suing and being sued in all courts;

(b) acquiring by purchase, gifts, devise bequest, operation of law, or otherwise, real or personal property wherever situate, or any right to interest, therein, and holding the same in any capacity including that of trustee;

(c) granting, selling, mortgaging, hypothecating, alienating, assigning, leasing or letting real or personal property; and

(d) subject to this Act, doing and performing all such acts and things as a body corporate may by law do or perform or such as are incidental or appertain to a body corporate.

9. (1) The common seal of the Council shall be kept in such custody as the Council directs, and shall not be used except upon the order of the Council

(2) ll courts, judges, and other persons acting judiciary shall take judicial notice of the common seal of the Council affixed to any document and shall presume that it was duly affixed.

(3) The common seal of the council shall be authenticated by the signature of two members of the)Council, or alternatively, by the signature of one such member of the Council and of the Registrar, or of some other person nominated in that behalf by the Council.

10. (1) The Council shall be the governing body of the University and shall be responsible for the management and administration of the University and of its property and revenues, and, shall exercise general control and supervision over all the affairs of the University including its relations with the public, and, without prejudice to the generality of the foregoing, the functions and powers of the Council shall include the following powers and functions:-

(a) to govern, maintain, administer, dispose of and, hereinafter provided, to invest all the property, money, assets, and rights of the University, to manage the business and all other affairs whatsoever of the University, and to enter into engagements and to accept obligations and liabilities without any restriction whatsoever, in the same manner in all respects as an individual may manage his own affairs. (b) Provided that, before determining any question relating to the matters aforesaid which affects the academic policy of the University, the Council shall refer such matters to the Senate if it has not previously been considered, and shall take into consideration any recommendations or report thereon by the Senate;

(c) to demand and receive fees, subscriptions, deposits, fines and such other payments, and to effect payments of any money obligation;

(d) to take such steps as it thinks fit for the purpose of procuring and receiving contributions to the funds of the University to further the objects of the University, and, for this purpose, to raise money in such a manner as it thinks fit;

(e) o borrow money on behalf of the University and for that purpose, if it thinks fit, to mortgage or charge all or any part of the real property of the University, unless the conditions of any will, deed or gift or other similar instrument are hereby contravened, and to give such other security, whether upon real or personal property or otherwise, as it thinks fit;

(f) to invest any moneys of the University, including any unapplied income, in such stocks, debentures, funds, shares, or other securities as the council may from time to time determine, whether within Malawi or not, or in the purchase of real or personal property, with the like power or varying such investments from time to time by sale or reinvestment or otherwise;

(g) to sell, buy, exchange, lease, rent, grant or take on lease or rent, real or personal property or portions thereof on behalf of the University, and acquire any easement over any property held by other persons or to consent to any easement whether public or private over any property of the University.

(h) To undertake and execute any trust, the undertaking whereof may seem desirable to the Council for the attainment or fulfilment of any of the objects of the University, and to hold, invest, manage or distribute, in furtherance of and in accordance with any trust direction, discretion, obligation or permission, any property, or the income of any property, held by it as trustee subject to such trust;

(i) To enter into, vary, carry out or cancel contracts on behalf of the University, to compound or compromise any action, suit or proceedings or any debt or claim, and to refer any matter or arbitration; (j) For the aforesaid purposes, to appoint bankers, and any other officers or agents whom it may deem expedient to appoint, to determine any matters relating to the selection and period, terms and conditions of appointment of such persons, to determine and control all matters relating to the opening, use and closing of any such bank accounts as it thinks fit to have, and to cause proper books of accounts to be kept and audited for all sums of money received and expended by the University and for the assets and liabilities of the University so that books give a true and fair view of the state of the University's affairs and explain its transactions;

(k) After consultation with the Senate, to establish, institute or discontinue Colleges, Faculties, Schools or such other academic sections of the University, in accordance with this Act, and to assign each such Faculty, School or academic section to specified college;

(l) After consultation with the Senate, to determine terms of service and general conditions relating to the employment of academic staff, and to establish or otherwise make or discontinue financial provision for appointments to such posts;

(m) After consideration of any recommendation or report thereon from the Vice-Chancellor, to determine the terms of service and general conditions relating to the employment of administrative, clerical, technical and support staff, and establish, disestablish, or otherwise make or discontinue financial provisions for appointment to such posts;

(n) To determine the salary scales and general rates of payment for all categories of staff appointed by the University and for other persons commissioned to give services to the University, and to appoint and employ such persons, pay their salaries, wages or fees , and, subject to the provisions of Statute XVII, terminate the appointments;

(o) To make provision, so far as it thinks fit, for schemes of insurance, superannuation, pensions or retirement benefits for persons in the employment of the University and the wives, widows and dependants of such persons, to subscribe to benevolent and other such funds for the benefit of such persons, and make such payments as it thinks fit to such persons;

(p) To take such steps as it thinks fit for furthering the objects and interests of the University by making provision for teaching and research, for printing and publication of research and other works which may be issued by the University, and for the welfare of the staff and the students of the University; such steps to include the provision and maintenance of grounds, recreation facilities, buildings, premises, furniture, equipment and other means required for carrying on the work of the University and maintaining its efficiency and well-being;

(q) To call for reports from the Vice-Chancellor or the Senate, and to review the work of the University in the light of such reports;

(r) To make provision for payments to external examiners and to such other persons to whom it thinks fit to make payments to further the objects of the University, and for scholarships, prizes, grants and such other payments to students of the University;

(s) After consideration of any recommendation or report thereon from the Senate, to determine fees to be charged to students;

(t) To determine to whom the award of Honorary Degrees of the University shall be made in accordance with the procedure prescribed therefore by the Statutes;

(u) To decide, after consultation with the Vice-Chancellor, whether or not any donation, gift, grant, devise, bequest or other bounty to the University should be accepted;

(v) To enter into agreements and other relationships with other institutions or bodies, whether academic or otherwise, for such purposes as the Council may determine, including the embodiment within the assumption of the property, rights, privileges and liabilities of such other institution or body; (w) To select persons for entry as students of the University on the recommendation of the Selection Committee established in accordance with the Statutes.

(2) The Council shall consider any recommendation made by the Senate for the amendment or alteration of Statutes relating to the academic administration of the University and for taking any other action in respect of academic matters, and shall either accept, refer back or reject any such recommendation: Provided that it may not be rejected unless the Senate has previously been informed of the Council's reasons for wishing to reject it and has been given an opportunity thereon to the Council.

(3) The Council shall not discriminate against any person because of race, ethnic origin, political affiliation or opinion, religion, or sex whether in respect of:-

(a) The appointment of any person to the academic or other staff of the University; or

(b) The registration of any person as a student of the University; or

(c) The right of any person to hold any advantage or privilege of the University, and the Council shall ensure that such discrimination shall not be practiced, in any instance, by the Senate, any Statutory Committee, committee thereof or officer of the University.

(d) The Chairperson shall keep the Chancellor fully informed on matters concerning the general conduct of the affairs of the University.

11. (1) The Council shall consist of the following members:-

(a) The Chairperson of the Council, appointed by the President;

(b) The Vice-Chancellor;

(c) The Principals of Colleges

(d) The Secretary for Education or his designate representative, ex-officio;

(e) The Secretary to the Treasury or his designate representative, ex-officio;

(f) Two members appointed by the Chancellor;

(g) Four members appointed by the Senate from among its members;

(h) One member elected by the University of Malawi Ex-students Association;

(i) One member appointed by the Council from a panel of three persons distinguished in University affairs in Malawi, nominated by the Vice-Chancellor;

(j) One female member and one male member elected by the University of Malawi Students Union;

(k) Such other members, not exceeding four, as the Council may co-opt, pursuant to subsections (3) and (4).

(2) Ex-officio members of the Council shall remain members for so long as they hold office, or the nomination, by virtue of which they have become members.

(3) Co-opted members of the Council shall be elected from a panel nominated jointly by the Chairperson and the Vice-Chancellor. The panel nominated shall consist of not less than eight persons engaged in the professions and in industrial, agricultural and commercial occupations in Malawi.

(4) Of the co-opted members elected, at least one shall be a woman and one a practicing member of the teaching profession. No member of the fulltime academic or administrative staffs of the University may be elected to the Council as a co-opted member.

(5) Every member of the Council, except the Vice-Chancellor, the Principal and ex-officio member, shall hold office for two years from the date of appointment, and shall be eligible to be reappointed a member of the Council for further periods of two years.

(6) The Council shall appoint, from among the members appointed under paragraphs (f), (I) and (i) of subsection (l), a member of the Council to be Vice-Chairperson thereof, who shall perform all the functions and duties for any reason.

(7) The Registrar shall act as Secretary to the Council.

12. (1) The Council shall meet at such times and places as may be necessary or expedient for the transaction of business, and such meetings shall be held at such times and places and on such dates as may be provided by the Statutes, or otherwise as the Council may determine.

(2) Provided that the Chairperson may at any time call a meeting of the Council and shall do so on the request in writing made to him/her in that behalf by any five members.

(3) One-third of the members of the Council shall constitute a quorum thereof.

(4) If the Chairperson and Vice-Chairperson are for any reason absent from any meeting of the Council, the members present may elect one of their number to preside at such a meeting.

(5) Any matter for decision by the Council shall be determined by a majority vote of the members present and voting, and where there is an equality of votes the Chairperson, or, in his/her absence, the Vice Chairperson or other member presiding, shall have a casting vote in addition to his/her deliberative vote.

(6) Subject to this Act and the Statutes, the Council may determine its own procedure.

PART IIIA - STUDENTS LOAN SCHEME

12A. (1) Where is exercise of its powers and functions under section 10, the Council requires students admitted to the University to pay fees, the Council may establish and operate a scheme to be known as the Students Loan Scheme which shall consist of funds out of which loans may be granted to students to enable them pay such fees.

(2) Every loan under the students Loan Scheme shall be granted under an agreement in writing (hereafter referred to as a "loan agreement ") to be entered into between the Council and the student seeking the grant of the loan.

(3) Every loan agreement and the provisions, terms and conditions thereof shall be in the form prescribed by the Statutes.

12B. A loan agreement under the Students Loan Scheme shall bind the student who is a party to it and shall be enforced against him/her in accordance with its provisions, terms and conditions notwithstanding any written or other law whatsoever to the contrary respecting the capacity of a minor to enter into an agreement and to be bound thereby.

12C. (1) In administering the student Loan Scheme, the Council shall have power, subject to the general or special directions of the Minister, to determine –

(a) the criteria is in accordance with which a student may be considered eligible for a loan;

(b) the amount of loan repayment instalments and the interest chargeable thereon

(c) the time when, and the period during which, a loan, including interest thereon, may be repaid.

(d) the manner in which the loan repayment may be made to the Council

(e) all such matters and questions as the Council may consider proper for the administration of the Students Loan Scheme.

(2) The Council may enter into an arrangement with any employer of a former student for the recovery of any outstanding indebtedness owed by that student to the Council under the Students Loan Scheme by which arrangements the employer might agree to deduct from the salary or other emoluments payable to the employee concerned the amounts of

the repayment instalments agreed under the loan agreement and to remit such amounts directly to the Council.

(3) Where the Council enters into the arrangement referred to in section (2), the arrangement shall be deemed to be a term of the loan agreement and the former student shall be bound by it as if it had been a term of the agreement at the time it was entered into.

12D. (1) For the proper administration and management of the Students Loan Scheme the Council may appoint a committee and assign to it such functions as the Council may consider appropriate; and without derogation from the generality of the foregoing, functions of such committee may include-

(a) Consideration of applications for loans by students;

(b) Recommending to the Council the names of students who, in accordance with the eligibility criteria, may be granted loans and the amounts to be granted to such students;

(c) Making recommendations to the Council on all aspects of the administration and operations of the Students Loan Scheme

(2) The committee appointed under subsection (1) may consist of persons who are or are not members of the Council and shall include a representative of the Ministry of Education appointed from amongst serving senior officers in the Ministry.

12E. (1) The Council shall cause a separate set of proper books and a record of account to be opened and maintained in respect of any money appropriate or otherwise received for the purpose of the Students Loan Scheme and shall furnish to the Minister, within six months after the end of each financial year, a report of the audited accounts of the funds of the Students Loan Scheme together with a general report on the administration thereof in respect of that year.

(2) The books of account relating to the Student Loan Scheme shall at all reasonable times during normal business hours be open to inspection by any officer in the public service duly authorized by the Minister in that behalf, any donor to the Student Loan Scheme and the auditors to the University.

12F. The Council may invest, on interest bearing accounts with commercial banks or other financial institutions in Malawi or in such other securities available in Malawi as the Minister may generally or specially approve, such sums out of the funds appropriate or otherwise received for the purposes of the Students Loan Scheme as are not immediately required for such purposes."

PART IV – OFFICERS OF THE UNIVERSITY

13. (1) There shall be a Chancellor of the University who shall be the head of the University.

(2) The Chancellor of the University shall be the Head of State.

(3) Subsequent to the present Chancellor, the next Chancellor shall be appointed by the President after consultation with the Council.

(4) The office of Chancellor shall be vacated by him/her-

(a) upon the submission of his resignation there from, in writing, to the Council;

(b) if he becomes mentally or physical incapable of performing his duties as Chancellor.

(5) The office of the Chancellor held by any person appointed pursuant to subsection (3) shall be vacated by him/her provided by the subsection (4) or-

(a) if he/she is absent from Malawi for continuous period of six months or more without permission of the President and the Council;

(b) if, for any offence against any written law, he/she is sentenced to a term of imprisonment of, or exceeding six months, otherwise than as an alternative to, or in default of, the payment of a fine.

14. (1) The Chancellor, whenever present shall preside at all ceremonial and other congregations of the University and shall in the name of the University confer all degrees, diplomas and certificates of the University.

(2) The Chairperson and the Vice-Chancellor shall keep the Chancellor fully informed concerning the general conduct of the affairs of the University and shall furnish the Chancellor with such information as he/she may request on any particular matter relating to the affairs of the University.

(3) The Chancellor shall exercise such other functions and duties in relation to the University as are conferred upon him/her, from time to time upon the Statutes.

15. (1) There shall be a Vice-Chancellor of the University, who shall be the principal academic and administrative officer of the University.

(2) The Vice-Chancellor shall be appointed by the Council after considering recommendations in writing on the suitability of various candidates submitted to the Council by a committee of seven members, appointed for that purpose and consisting of-

(a) the Chairperson – who shall be chairperson of such committee;

(b) three members of the Council, not being members of the Senate, appointed by the Council; the Council;

(c) three members of the Senate appointed by the Senate:

Provided that the appointment of the Vice Chancellor shall be subject to the approval of the Chancellor.

(3) The Vice-Chancellor shall-

(a) hold office for such period of four years and on such terms and conditions as may, from time to time, be prescribed by or under this Act and the Statutes, and shall be eligible to be re-appointed Vice Chancellor for further period of four years;

(b) exercise such powers and functions, as may, from time to time, be prescribed by or under this Act or the Statutes.

(4) There shall be a Pro-Vice-Chancellor of the University who shall assist the Vice-Chancellor in the performance of his/her functions.

(5) The provisions of subsection (2) and (3) shall apply mutatis mutandis to the appointment and term of office of the Pro-Vice Chancellor.

16. (1) There shall be a Registrar of the University appointed by the Council who shall be the chief administrative officer of the University under the Vice-Chancellor and shall exercise such powers and perform such duties in relation to the administration of the University as are assigned to him/her by this Act, by the Statutes and by the Council, or as are delegated to him/her by the Vice Chancellor.

(2) The Registrar shall be under the immediate supervision and control of the Vice-Chancellor.

(3) The terms and conditions of employment of the Registrar shall be determined, from time to time, by the Council.

16B. (1) There shall be a Librarian of the University appointed by the Council who shall be the principal officer of the University Library and of other libraries of the Colleges and who shall exercise such powers and perform such duties as are assigned by this Act or Statute, or by the Council or as delegated to him/her by the Vice-Chancellor;

(2) The Librarian shall be under the immediate supervision and control of the Vice-Chancellor;

(3) The terms and conditions of employment of the Librarian shall be determined, from time to time, by the Council.

PART V – THE SENATE

17. (a) There is hereby established a senate of the University which shall consist of the following members-

(b) The Vice-Chancellor, who shall be chairperson;

(c) The Principals;

(d) The Deans;

(e) One member from each Faculty and School, elected, in accordance with the relevant Statutes, from and by the full-time academic staff holding posts allocated to the Faculty or school;

(f) Other members representing each of the various Colleges, elected, in accordance with the relevant Statutes, from, and by the full-time academic staff holding posts allocated to such College; the number of such representatives elected for each such College being as prescribed for such College by the relevant Statutes;

(g) Such other members as may be co-opted, from time-to time by the senate, for periods not exceeding twelve months and on such conditions as the Senate may determine.

(h) One member elected by the University of Malawi Students' Union.

(1) Every elected member of the Senate shall serve until the end of the second year following his/her election and shall be eligible for reelection.

(2) An elected member shall cease to be an elected member of the Senate and his/her membership thereof as such shall become vacant-

(a) upon his becoming a member of the Senate, ex-officio;

(b) upon the post he/she holds on the academic staff being allocated to another College, Faculty or School, as the case may be;

(c) upon his/her resignation from the full-time academic staff or from membership of the Senate.

(3) The Registrar shall act as a Secretary to the Senate.

18. The Senate shall perform such functions and exercise such powers as are prescribed by this Act or by the Statutes to be performed or exercised by the Senate.

19. The Senate shall be convened, from time to time, and meetings thereof shall be held, in accordance with the relevant provisions of the Statutes.

PART VI – COLLEGES, FACULTIES AND SCHOOLS

20. (1) Subject to subsection (2), there shall be within the University such Colleges as the Council may, after consultation with the Senate and with the approval of the Minister, establish.

(2) The Colleges within the University shall be-

(a) Bunda College of Agriculture;

(b) Chancellor College;

(c) The Polytechnic;

(d) Kamuzu College of Nursing; and

(e) College of Medicine.

(3) The Colleges shall be under the general administrative supervision of the Council and under the general academic supervision of the Senate.

21. (1) The Council shall, subject to the relevant provisions of the Statutes appoint, on such terms and conditions as it deems fit, a Principal of each College, from amongst suitably qualified persons recommended to the Council by a committee of five members of Senate, three of whom shall come from the College which the Principal shall be assigned.

(2) A Principal shall-

(a) hold office for a period of four years and shall be eligible to be re-appointed Principal for further periods of four years; and

(b) perform the functions and duties prescribed by the Statutes. (3) The Council shall, on the recommendation of the Principal of a College, appoint a Vice-Principal of a College on such terms and conditions as it deems fit.

(4) The Vice-Principal shall-

(c) hold office for a period of two years and shall be eligible to be reappointed Vice-Principal for further periods of two years; and

(d) assist the Principal in the performance of his/her functions and duties.

22. (1) There shall be within the University such Faculties and Schools as the Council may, on the recommendation of the Senate, institute.

(2) The Council shall, on the recommendation of the Senate, assign each Faculty and School at a stated College, and may from time to time as it deems it to be expedient, after consultation with the Senate, remove any such Faculty and School from any College and re-assign it to another or may discontinue any such Faculty or School.

23. (1) There shall be Dean of each Faculty and School, who shall be ex-officio chairperson of the Faculty or School and who shall, under the general direction and control of the Principal of the College to which such Faculty or School is assigned, perform such other functions and exercise such other duties as may be prescribed by the Statutes.

(2) The Dean shall be elected, in accordance with the relevant Statutes, from and by the full-time academic staff holding posts assigned to the Faculty or School concerned, and shall hold office from such date as the Senate shall determine until the end of the second year following that date, or until such earlier date as the Senate may in each case determine.

(3) A Dean may, by notice in writing given to the Senate, resign his/her post of Dean, but such resignation, unless expressly so stated, shall not entail his/her resignation from any other academic post he/she holds in the University.

(4) A Dean shall be eligible for re-election for further periods of office.

(5) A Faculty may, by resolution of at least two-thirds of all members of the Faculty, remove from office the Dean of the Faculty.

(6) There shall be a Deputy Dean who shall assist the Dean in the performance of his/her functions.

(7) The provisions of subsection (2), (3) and (4) shall apply, mutatis mutandis, to the election, and removal from office of the Deputy Dean.

24. (1) Each Faculty and School shall consist of-

(a) the Dean of that Faculty or School, who shall be Chairperson;

(b) the Vice-Chancellor:

(c) the Principal of the College to which the Faculty or School is assigned;

(d) all members of the full-time and part-time academic staff holding posts allocated to the Faculty or School; and

(e) such other members of the full-time or part-time staff of the University as may be co-opted by that Faculty or School as associate members for such period on such terms as the Faculty or School may, in each case, determine.

(2) Associate members shall have the right to attend all meetings of the Faculty or School by which they have been co-opted, and take part in its deliberations, but shall have no right to vote thereon.

24A. (1) There shall be within every Faculty, a Department to be headed by a Head of Department who shall be ex-officio chairperson of the Department.

(2) The Head of Department shall, in academic matters, be under the direction and control of the Dean of Faculty to which the Department is assigned, and shall exercise powers and perform duties as may, from time to time, be determined by the Senate.

(3) The Head of Department shall be elected-

(a) at a meeting of the Department and convened and chaired by the Dean in accordance with Statutes; and

(b) from full-time academic staff holding posts assigned to the department concerned, and shall hold office from such date as the Senate shall determine until the expiry of the second year following that date, or until such later date as the Senate may determine, in respect of each Head of Department, on a case by case basis.

(4) The Head of Department may, by notice in writing to the Principal of the College and submitted through the Dean, resign from his/her office, but such resignation shall not affect any other academic post which the Head of Department holds in the University.

(5) A Head of Department shall be eligible for re-election to his/her post for such further term of office as the Senate may determine.

24B. (1) Each Department shall consist of-

(a) The Head of Department;

(b) The Principal of the College to which the Department is assigned;

(c) The Dean of the Faculty to which the Department is assigned:

(d) All members of the full-time academic staff holding posts allocated to the Department; and

(e) Such other members of the full-time or part-time staff of the University as may be co-opted by the Department for such period and on such terms as the Department may determine.

(2) A co-opted member of the Department shall have the right to attend all the meetings of the Department and to take part in deliberations, but shall have no right to vote on any matter.

PART VII – FINANCIAL PROVISIONS

25. (1) The property of the University shall consist of –

(a) Such sums as may, from time to time, be payable to the University from moneys appropriate therefore by Parliament;

(b) Such sums of money or other property, real or personal, as may be acquired, purchased or received by, or transferred to, the University, whether by way of gift, devise, bequest, purchase or otherwise howsoever ;

(c) Such sums of money or other property, real or personal, as may accrue to the University in the exercise of its powers or the performance of its functions under this Act;

(d) such sums of money or other property, real or personal as may accrue to, or be received by, the University by way of fees, grants, subsidies, contributions, donations, subscriptions, rents, interest or royalties from the Government or from any person.

(e) Such sums of money or other property, real or personal, as may be donated to the University by anybody or person situated or resident outside Malawi.

(2) Where, under the terms of any written instrument, any light, title or interest in real or personal property is expressed to be disposed, granted or conveyed to the University, the said instrument shall subject to law, have effect as disposition, grant or conveyed of such property to the council and shall vest such property in the Council to the extent of the right, title or interest therein expressed to be so disposed, granted or conveyed.

(3) The property of the University shall be payable to, vested in, held, managed and controlled by the Council, under this Act.

26. (1) The Council shall at all times comply with the provisions of the Finance and Audit Act.

(2) The accounts of the University shall be audited at the end of each financial year by an auditor or auditors appointed by the Council, in accordance with Statute X.

(3) The Council shall pay, in respect of any audit held under this part, such fees, costs and expenses as may be appropriate.

(4) The auditor may by writing under his/her hand require production of all books, deeds, contracts, vouchers, receipts and other documents relating to the accounts or investments of the University which may seem necessary for the purpose of audit, and he/she may summon in writing all such persons, having knowledge of the affairs of the University, as he/she may think proper, to appear before him/her personally at the offices of the Council, at a time to be fixed in such summons, for examination in connection with any document or matters relating to the audit.

(5) Any person who without just cause, fails or refuses to produce any document the production of which has been duly required by the auditor, or who, having been so summoned-

(a) Without just cause neglects or refuses to comply with the said requirement or summons; or

(b) Having appeared before the auditor, without just cause, refuses to be examined; or

(c) Without just cause refuses to answer such questions pertaining to the audit as are put to him/her by the auditor, shall be liable to fine of one hundred Kwacha for every such refusal or neglect. In default of payment, such persons shall be liable to imprisonment for three months:

Provided that any conviction under this section shall not operate or be taken to exempt the person convicted from the liability to do or perform the act, matter or thing required of him/her.

(6) After completion of the audit of the accounts of the University, the auditor shall report thereon in writing to the Council about the audit generally and on such specific matters in relation thereto as the Council may direct. The Council shall take the report under consideration within two months after the date of the receipt thereof.

27. (1) All the moneys of the University shall be held in the name of the Council and shall be paid into one or another of the following accounts-

(a) the Endowment Fund

(b) the Special Account

(c) the Capital account

(d) the Revenue Account

(e) the Students Loan Scheme account

(2) There shall be paid into Endowment Fund all such moneys as are received by the Council and declared specifically to be payable into that Fund.

(3) The Council shall not, save with the prior approval of the President, expend any capital moneys of the Endowment Fund and shall pay into the revenue account all interest received from the investment of the Fund.

(4) There shall be paid into the special account all such moneys as are donated to and received by the Council for special purposes and which are not payable into the Endowment Fund or any other account. 5. The capital moneys, and the interest therefrom, of the special account shall be used and applied for the special purposes for which such moneys were donated in accordance with the conditions of such donation:

Provided the Council shall not be obliged to accept a donation for particular purpose unless it approves of the terms and conditions attaching such donation.

(6) There shall be paid into the capital account all such moneys as are received by the Council for the purpose of capital expenditure for the construction and improvement of the University.

(7) The capital moneys and the interest therefrom, of the capital account shall be used and applied by the Council on capital expenditure for the construction and improvement of the University.

(8) There shall be paid into the revenue account-

(a) Interest received from the investment of moneys in the Endowment Fund;

(b) All fees, charges, dues and other amounts payable by or in respect of students;

(c) All revenue grants made by the Government of Malawi or by any other government or by any person or organization to the Council for the purposes of the University;

(d) All sums transferred under this Act from the Endowment Fund or any other accounts to the revenue account;

(e) All other sums received by the Council and not payable into the Endowment Fund or any other account;

(9) The moneys standing to the credit of the revenue account shall be used and applied by the Council for the management and working of the University in such manner and for such purposes as, in the opinion of the Council, are suited to promote the interests of the University.

(10) Act to the provisions of Part IIIA, there shall be paid into the Students Loan Scheme account-

(a) Such sums as may be appropriate by Parliament for the purposes of the Students Loan Scheme;

(b) Interest accrued to any investment undertaken pursuant to section 12F;

(c) Such sums as may be received by way of donations, subscriptions, bequests, or gifts considered acceptable by the Council for the purpose the Students Loan Scheme.

28. Subject to the provision of this Act and of the Finance and Audit act, the Council may borrow, either by way of overdraft from a banker or otherwise, such sums as it may from time to time require for the carrying out of its functions and powers.

PART VIII – MISCELLANEOUS

29. Subject to this Act, the University shall be governed and administered in accordance with the provisions of the Statutes set forth in the schedule.

30. (1) The Statutes may, pursuant to and in accordance with this section, be amended, from time to time, for the better carrying out of the purposes, and more efficient administration, of this Act, and without prejudice to the generality of the foregoing, any such amendment may be made by way of alteration, addition, repeal or replacement and may make provision for-

(a) Any matter which is required by this act to be prescribed by the Statutes;

(b) The creation of permanent committees of the Council or of the Senate, as the case may be, the membership of such committees, and the powers, functions or duties to be delegated thereto;

(c) The functions, duties and terms of office of any officer of the University or member of the Academic or administrative staff, to the extent that such functions or duties or term of office are not prescribed by this Act;

(d) The creation of new offices and posts within the University, the functions and duties attaching to such offices and posts, the duration thereof, and the manner of appointment thereto;

(e) Such other matters, including matters of procedure and discipline, as may be deemed expedient or proper by the Council for regulation by Statute.

(2) The Council may by special resolution adopt any proposal to amend the Statutes.

(3) Upon the adoption by the Council of any proposal to amend the Statutes under subsection (2), the Vice Chancellor shall, as soon as it is practical thereafter, submit to the Minister for his/her approval a certified copy of the proposal as adopted by the Council.

(4) If the Minister does not approve the proposal he/she shall notify the Council, in writing, of his/her non-approval.

(5) If the Minster approves the proposal, he/she may, by Order published in the Gazette, amend the Schedule in accordance with the terms of the said proposal.

(6) For the purposes of this section, the expression “special resolution” means a resolution-

(a) notice of which has been given to each member of the Council, not less than thirty days before the date of the meeting of the Council at which it is intended to be moved; and

(b) which is moved at a meeting of the Council with not less than one-half of the total membership of the Council being present at the time such resolution is moved and voted upon; and

(c) which is passed by a majority of not less than two-thirds of the members of the Council present at such meeting.

31. (1) Subject to this Act and to the Statutes and to the approval of the Council, the Senate may, by Senate Regulations made by notice published as provided in subsection (2), prescribe for the better carrying out of its functions and powers under this Act and under the Statutes, and without prejudice to the generality of the foregoing, such Senate Regulations may make provisions for-

(a) Matters relating to teaching within the University, or to the teaching of any specified subject, periodic reports from professors and lectures on the progress of students in any subject, Faculty, School, or College, and other like matters,

(b) Schemes of study and research, and the conditions under which persons may be permitted to embark upon or to continue any such schemes;

(c) The terms and conditions under which students or other persons may use the library or the University, or any College library;

(d) The conduct and supervision of examinations;

(e) The award of degrees, diplomas or other academic honours and distinctions, other than honorary degrees or distinctions.

(f) Dealing with general academic disciplinary matters.

(2) Any notice made pursuant to subsection (1) shall be published by the Registrar causing copies thereto to be posted for not less than seven days-

(a) In a prominent place outside his/her office, and also-

(b) On boards provided for such purpose in each of the Colleges and public halls of the University.

32. Any writ or other process, notice or document may be served upon the council by serving the same upon the Registrar.

PART IX – TRANSITIONAL PROVISIONS AND REPEAL

33. (1) Upon the commencement of this Act-

(a) All property, real and personal, and all rights to and over property and liabilities arising out of the ownership, possession or occupation of property and all liabilities in tort and all statutory liabilities which were

(b) Subsisting immediately prior to such commencement and which were vested in, held, enjoyed, incurred, imposed upon or suffered by the Provisional Council of

the University of Malawi established under the University of Malawi (Provisional Council) Act, shall, by virtue of this paragraph be transferred and assigned to and vested in the Council in the same manner and to a like extent as if the said property and rights were vested in, held, enjoyed, or incurred to the benefit of, and as if the said liabilities were incurred, imposed upon or suffered by, the said Council.

(c) The benefit of all deeds, contracts, bonds, securities, mortgages or things in action, or of any right of action for tort which were subsisting immediately prior to such commencement and which were vested in, held or enjoyed by, the Provisional Council of the University of Malawi shall, by virtue of this paragraph be cap.30:02 transferred and assigned to and vested in, and shall inure too the benefit of the Council in the same manner and to a like extent as they were held and enjoyed by the said Provisional Council of the University of Malawi and as if the Council has been contracted with instead of the said Provisional Council of the University of Malawi and as if the Council has been party to all such deeds, contracts, bonds, securities, or mortgages instead of the said Provisional Council of the University of Malawi, and in the same manner and to a like extent as if the Council had at all times been entitled to the benefit of all such things in action, and of all such rights of action for tort, instead of the Provisional Council of the University of Malawi.

(d) All subsisting or future liabilities or obligations arising out of any deed, contract, bond, security, mortgage, or thing, in action imposed upon, suffered or incurred by the Provisional Council of the University of Malawi, shall, by virtue of this paragraph, be transferred to, imposed upon, suffered and incurred by, the Council in the same manner and a like extent as if the Council has been party of each and such deed, contract, bond, security or mortgage instead of the said Provisional Council of the University of Malawi, and in the same manner to a like extent as if the Council has been, at all times, the party bound or obliged by or under each thing in action instead of the said Provisional Council of the University of Malawi ;

(e) Where there are pending any legal proceeding or application to any authority to which the Provisional Council of the University of Malawi is a party, the Council shall be substituted in such proceeding or application for the said Provisional Council of the University of Malawi, and such proceeding or application shall not abate by reason of such substitution;

(f) The Provisional Council of the University of Malawi shall deliver to the Council or as the Council may order, all personal property therefore owned and possessed by the said Provisional Council of the University of Malawi and transferred to and assigned to the Council pursuant to paragraph (a), and shall, further, deliver to the Council all deeds, contracts, bonds, securities, mortgages, books, papers and documents appertaining to the said Provisional Council of the University of Malawi and to its operations.

(2) In the case of any property transferred to and vested in the Council under subsection (1) in respect of the transfer of which any written law provides for registration, the Council shall, within one year from the commencement of this part, make written application to

the proper officer of the appropriate registration authority for registration of each transfer and it shall be the duty of that officer to make such entries in the proper register as shall give effect to such transfer, and where appropriate to issue to the Council a Certificate of Title, or other statutory evidence of ownership in respect of the said property or to make the necessary amendments to the register, as the case may be, and, if presented therefore, to make endorsements on the deeds or other registration of other fees, stamp, or other duties, shall be payable in respect thereof.

34. Upon the commencement of this Act, the Provisional Council of the University of Malawi shall be dissolved and shall cease to exist for all purposes except for the purpose of performing any act or executing all purposes the Minister may, by order, nominate any person to perform any such act or to execute any such document on behalf of and in the name of the said dissolved Provisional Council of the University of Malawi, and such act or document so performed or so executed by such person shall be deemed to be the act or document of the said dissolved Provisional Council of the University of Malawi.

35. The University of Malawi (Provisional Council) Act is hereby repealed.

SCHEDULE

STATUTES OF THE UNIVERSITY

Statute

I. Interpretation
II. Congregations
III. Degree and other academic distinctions
IV. The Vice Chancellor
V. The Finance Officer
VI. The Principal of Colleges
VII. The Deans of Faculties and Schools
VIII. The Registrar
IX. The Librarian
X. The Auditor
XI. Honorary and Emeritus Professors
XII. Procedure generally
XIII. Finance Committee
XIV. Powers and Functions of the Senate
XV. The Faculties and Schools
XVI. Appointments Committee
XVII. Procedure relating to contracts of appointment
XVIII. Procedure to Statutory Committees

XIX. Honorary Degrees

XX. Elections to Deanship and to the Senate

XXI. Service of Notices and Documents

STATUTE I – INTERPRETATION

In these Statutes, unless the context otherwise requires-

"Academic staff" means all persons for the time being holding appointments, whether full-time, under contract with the Council, as professors, senior lecturers, lecturers, or assistant lecturers of the University, or so holding any other post declared by the Senate by category or title to be academic post;

"Academic year" means such period not exceeding twelve months and "term" and "academic term" means such part of an academic year, as the Senate may from time to time determine: Provided that the Senate may, at any time, extend any academic year beyond the period of twelve months, and, on such event, such a period so extended shall, for all purposes, constitute such academic year.

"Administrative staff" means all persons for the time being holding appointments, whether full-time or part-time, under contract with the Council, in the administration of the affairs of the University;

"hall" means a residential or non-residential hall;

"lecturer" includes an assistant lecturer;

"Statutory Committees" means the Senate, the Faculties, the Schools, the Appointments Committee, and the Finance Committee;

"Students" means an undergraduate or graduate of the University, or other person, who is currently registered for a Degree or Diploma or Certificate of the University, or a person who is in a category of persons classified by the Council as students for any purpose.

STATUTE II – CONGREGATIONS

1. The time, place and procedure of the Congregations of the whole University shall be determined by the Chancellor.
2. Degrees, Diplomas, Certificates and other academic distinctions shall be conferred, in the presence of the Congregation.
3. The Chancellor, or in his/her absence the Vice-Chancellor, or in the absence of both, the Acting Vice-Chancellor, a member of the Council appointed for the purpose by the Council, shall preside at all Congregations.
4. At least one Congregation shall be held in each academic year.

STATUTE III – DEGREES AND OTHER ACADEMIC

Distinctions

1. The University may confer any of the following Degrees-

   1. Bachelor of Arts (Journalism)

2. Bachelor of Arts (Public Administration)
3. Bachelor of Arts (Theology)
4. Bachelor of Arts with Honours
5. Bachelor of Arts
6. Bachelor of Business Information Systems
7. Bachelor of Accountancy
8. Bachelor of Business Administration
9. Bachelor of Education (Technical)
10. Bachelor of Education
11. Bachelor of Information Technology
12. Bachelor of Laws with Honours
13. Bachelor of Medicine, Bachelor of Surgery
14. Bachelor of Pharmacy
15. Bachelor of Science in Agribusiness Management
16. Bachelor of Science in Agriculture
17. Bachelor of Science in Architecture
18. Bachelor of Science in Aquaculture and Fisheries Sciences
19. Bachelor of Science in Extension
20. Bachelor of Science in Civil Engineering
21. Bachelor of Science in Electrical Engineering
22. Bachelor of Science in Mathematical Science Education
23. Bachelor of Science in Mechanical Engineering
24. Bachelor of Science in Nursing
25. Bachelor of Science in Mid-wifery
26. Bachelor of Science in Aquaculture and Fisheries Sciences
27. Bachelor of Science in Environmental Health
28. Bachelor of Science in Environmental Science and Technology
29. Bachelor of Science in Environmental Science
30. Bachelor of Science in Forestry
31. Bachelor of Science in Horticulture
32. Bachelor of Science in Irrigation Engineering
33. Bachelor of Science in Land Surveying
34. Bachelor of Science in Natural Resources Management

35. Bachelor of Science in Quantity Surveying
36. Bachelor of Science with Honours
37. Bachelor of Science
38. Bachelor of Social Science with Honours
39. Bachelor of Social Science
40. Master of Arts in Theatre and Media Communications
41. Master of Arts in English
42. Master of Arts in Economics
43. Master of Arts in History
44. Master of Arts in Sociology (Women in Development)
45. Master of Arts in Philosophy
46. Master of Business Administration
47. Master of Economics
48. Master of Education
49. Master of Laws
50. Master of Medicine in Anaesthetics
51. Master of Medicine in Medicine
52. Master of Medicine in Obstetrics and Gynaecology
53. Master of Medicine in Ophthalmology
54. Master of Medicine in Paediatrics
55. Master of Medicine in Public Health
56. Master of Medicine in Surgery
57. Master of Medicine in Orthopaedics
58. Master of Science in Agricultural Economics
59. Master of Science in Agriculture
60. Master of Science in Applied Chemistry
61. Master of Science
62. Master of Science in Agribusiness Management
63. Master of Science in Agricultural Extension and Rural Development
64. Master of Science in Agricultural Economics
65. Master of Science in Agronomy
66. Master of Science in Animal Science
67. Master of Science in Biology

68. Master of Science in Chemistry
69. Master of Science in Crop Protection
70. Master of Science in Environmental Science
71. Master of Science in Family Sciences
72. Master of Science in Food Science and Human Nutrition
73. Master of Science in Forestry Science
74. Master of Science in Geography
75. Master of Science in Mathematical Science
76. Master of Science in Plant Breeding
77. Master of Science in Social Forestry
78. Master of Science in Soil Sciences
79. Master of Science in Tissue Culture
80. Master of Science in Human Anatomy
81. Master of Science in Agriculture
82. Master of Science in Agricultural Economics
83. Master of Science in Agronomy
84. Doctor of Philosophy
85. Doctor of Letters
86. Doctor of Laws

2. The University may award any of the following Diplomas and Certificates:-

1. Diploma in Theatre and Media Communication in Development
2. Diploma in Nursing
3. University Certificate in Computer Science
4. University Certificate in Education
5. University Certificate in Midwifery
6. Postgraduate Diploma in Management Studies
7. Postgraduate Diploma in Transport Operations Management
8. Postgraduate Diploma in Seed Technology 9. Postgraduate Diploma in Social Forestry

3. Subject to paragraph 6, the University may award such other academic distinctions of honour or merit as the Council may, from time to time, determine.

4. Degrees shall be conferred by the Chancellor, or in his absence by the Vice-Chancellor, or in his/her absence of both of them by the Acting Vice-chancellor, at Congregations of the whole University; Provided that where the Chancellor, Vice-chancellor and Acting Vice chancellor are not available, the council may appoint a member of the Council to confer the Degrees at any such Congregation.

5. No person shall be allowed to proceed to any Degree except an *aegrotat* Degree without examination or other adequate test, but Honorary Degrees may be conferred as the Chancellor thinks fit on the recommendation of the Council, as advised by the Honorary Degrees Committee.

6. No new Degree shall be established or other distinction of honour or merit adopted by the Council save to the recommendation, or with the approval, of the Senate.

STATUTE IV – THE VICE-CHANCELLOR

1. The Vice-chancellor shall be a member of every committee of the Council and Senate and of every Statutory Committee but shall not be a member of the committee established under subsection (2) of section 15 of the Act.

2. The Vice-chancellor shall have power to appoint a person to act as the Principal of a College, as the Dean of a Faculty or School, as the Head of a department, as the Director of a Centre or Unit, as a Registrar, as the Finance Officer, or as the Librarian, during a temporary vacancy in such a post or the temporary absence from duty or inability of the holder of such a post. The person so appointed may exercise all or any of the powers, perform all or any of the duties, and have such of the privileges of the holders of the post to which he/she is appointed to act, as the Vice-Chancellor may determine. 3. The Vice-Chancellor-

   (a) shall exercise general appellate disciplinary powers in non-academic matters in respect of students; and

   (b) may appoint standing ad hoc committees to advise him/her on course of action or to inquire into matters, and report to him/her with recommendations as to possible course of action.

STATUTE V – FINANCE OFFICER

1. The Finance Officer shall be appointed by the Council.

2. The Finance Officer shall be the principal fiscal officer and treasurer of the University and shall be responsible to the Registrar for the keeping of all University accounts and such inventories as the Council may determine.

3. The Finance Officer shall exercise his/her powers and duties under the general or special direction of the Finance committee.

4. The Finance Officer shall be entitled, at any time, to report directly to the Council on any matter involving the finances, revenue or expenditure or financial policy of the University, and shall be entitled to be heard by the Council on any such matter.

5. The Finance Officer shall extend to the auditor or auditors such co-operation as the auditor or auditors deem necessary for the auditing of the accounts and the preparation of any auditors report.

6. The Finance Officer may, at any time, resign by written notice addressed to the Council.

7. The Council may appoint a Deputy Finance Officer, Senior Assistant Finance Officers and Assistant Finance Officers to assist the Finance Officer in the performance of his/her duties.

STATUTE VI – THE PRINCIPALS OF COLLEGES

(a) The Principal of each College shall be responsible to the Vice-Chancellor for maintaining and promoting the efficiency and good order of the College of which he is Principal.

(b) The Principal of each College shall, within such College, exercise such disciplinary control over the students as is, from time to time, assigned to him/her by these Statutes or by any regulations made thereunder, or determined from time to time by resolutions to the Council, or such as may be delegated to him/her from time to time by the Vice-Chancellor.

(c) Subject to the Act and these Statutes, and the general or special directions of the Council, the Principal of each College shall be responsible to the said Council for the selection of persons to be registered as students engaging in schemes of study or research assigned to the College of which he is Principal.

(d) The Principal of each College, shall, within such College, exercise and discharge such other duties in connection with student affairs as may be determined by the Council.

(e) In the execution of his responsibilities and duties, every Principal shall, to such extent as he may deem necessary for the satisfactory running of the College, consult with the Deans of the various Faculties and Schools and with the Heads of Department and with other members of the academic staff assigned to the College of which he/she is Principal and may appoint standing or ad hoc committees to advise him/her or her on any aspect of his or her responsibilities.

STATUTE VII – THE DEANS OF THE FACULTIES AND SCHOOLS

1. The Dean of each Faculty and School shall be responsible to the Principal of the College to which the Faculty or School is assigned for the overall co-ordination of all matters relating to the welfare of the students within such Faculty or School.
2. The Dean of each Faculty or School shall discharge such duties in connection with students' studies, attendance at lectures, and other academic matters as may be determined by the Senate.
3. Subject to the Act, Statutes and the general or special direction of the Council, the Dean shall be responsible for the selection of persons to be registered as students engaging in schemes of study or research assigned to the Faculty of which he is Dean.
4. The Dean shall be responsible to the Principal for maintaining and promoting the academic efficiency of the Faculty of which he/she is Dean.

STATUTE VIII – THE REGISTRAR

1. The Registrar shall be custodian of all of the records of the University.
2. The Registrar shall keep a register of all members of the University under their respective qualifications, as specified in section 4 (3) of the Act.
3. The Registrar shall exercise such powers and perform such duties as are assigned or delegated to him/her under section 4 (3) of the Act.
4. The Council may appoint a Deputy Registrar, a Senior Assistant Registrar and Assistant Registrars to assist the Registrar in the performance of his/her duties.

5. In the absence of the Registrar through illness or otherwise the Deputy University Registrar shall be entitled to exercise all the powers and perform all of the duties of the Registrar.

6. The Deputy Registrar, the Senior Assistant Registrar and Assistant Registrar shall perform such duties, including the duties of College Registrar, as are assigned to them by the Registrar.

STATUTE VIIIA – HEAD OF DEPARTMENT

1. The Head of Department shall be responsible to the Dean of the Faculty to which the Department is assigned for the overall co-ordination of all academic matters of the Department, and to the Principal for all administrative matters of the Department.

2. The Head of Department shall discharge such other duties with lecturer timetables, studies, attendance at lectures, examinations and such other matters in his/her department as may be determined by the College.

STATUTE IX – THE LIBRARIAN

1. The Librarian to the University shall be appointed by the Council.

2. The Librarian shall be the principal officer in charge of the University Library and of the libraries of the various colleges.

3. The Librarian shall discharge such duties as may be determined from time to time by the Council.

4. In the exercise of his/her duties the Librarian shall be immediately responsible to the Vice-chancellor, and shall perform such duties under the general supervision and control of the Vice-chancellor.

5. The Librarian may delegate his/her authority in respect of any College Library to any Assistant Librarian, who shall be immediately responsible to the Librarian for the management and control of such College Library.

6. The provisions of paragraph 4 to 6 of Statute VIII shall apply, mutatis mutandis, to the Librarian.

STATUTE X – THE AUDITOR

Subject to the Act –

(a) the auditor or auditors to the University shall be appointed by the Council among persons or firms practicing as public accountants in Malawi;

(b) the following persons shall be ineligible for appointment as auditors- (i) any member of the Council or Senate or of any committee of the Council or Senate, (ii) any business or professional partner of any member of the Council or Senate or of any member of any committee of the Council or Senate, (iii) any firm of which any partner is a member of the Council or the Senate or of any committee of the Council or Senate, (iv) any member of the staff of the University;

(c) no person or firm shall be appointed as auditor to the University if he/she or any member of the firm of accountants of which he/she is a partner, or, in the case of a firm, if any member of the firm, is a member of the Council, the Senate;

(d) auditors shall be appointed for one year, but shall be eligible for reappointment.

STATUTE XI – HONORARY AND EMERITUS PROFESSORS

1. Upon the recommendation of the Senate, the Council may appoint honorary professors and may confer the title of Emeritus Professor upon any professor who has retired from office.
2. An Honorary or Emeritus Professor shall not ex officio be a member of the Council, the Senate or of any Faculty and School but may, on invitation, attend the meetings of the Council, the Senate and any Statutory Committee and take part in the deliberations of such meetings but shall not have the right to vote in such meetings.

STATUTE XII – PROCEDURE GENERALLY

1. Save as provided in these Statutes, the Council, Senate, Faculties, Schools and any committees thereof shall determine and make rules for the time, place and procedure of their respective meetings.
2. The minutes of all meetings of every committee held since the last preceding meeting of the parent body of such committee shall be laid on the table at each meeting of that body, whether it be the Council, the Senate or one of the Faculties or Schools.
3. The minutes of all meetings of the Faculties and Schools held since the last preceding meeting of the Senate shall be laid on the table at each meeting of the Senate.
4. The minutes of all meetings of the Senate shall be sent to the Council.
5. In the event of any equality of votes on any question, motion or resolution at a meeting of the Council, Senate, Faculties, Schools or of any committee, the chairperson or person presiding at such meeting shall have a casting vote in addition to his/her deliberative vote.

STATUTE XIII – FINANCE COMMITTEE

1. There shall be appointed pursuant to paragraph 13 a Finance Committee which shall make recommendations to the Council upon the following matters, and to which the Council may delegate any or all of its executive functions with regard to such matters as, subject to the general policy, control and guidance of the Council:-
   (a) the investment and management of the University's funds;
   (b) the incurring of, or the authorization of persons or bodies in the University to incur, expenditure from University funds, including any income accruing to any section of, or body in, the University;
   (c) the annual budget of the University;
   (d) the control of expenditure from budgetary allocations by means of financial regulations and such other conditions;
   (e) the preparation and presentation of annual accounts of the University.

2. The Council shall appoint, from among those members of the Council nominated by the Chancellor, or by the University of Malawi ex-Students Association, or co-opted by the Council, hold office until the end of the third year following his/her appointment or until such earlier date as the Council may in his/her case determine, and who shall be eligible for re-appointment.

3. The Finance Committee shall consist of the Chairperson of the Finance Committee, the Chairperson of the Council, the Vice-Chancellor or in the absence of the Vice-Chancellor, the Pro-Vice-Chancellor, Principals, two senate representatives who are not Principals, the Secretary to the Treasury or his/her nominee, the Secretary for Education, Science and Technology or his/her nominee, and one person appointed by the Council from among the four members of the council nominated from and by the Senate. The Finance Committee shall have power to co-opt, with the consent of the Council, further persons to membership thereof for such period and on such terms as it may in each case determine.

4. The Member of the Finance Committee appointed by the Council from among the four members of the Council nominated from and by the Senate shall, subject to his remaining member of the Council and of the Senate, serve until the end of the third year following his/her appointment or until such earlier date as the Council may in each case determine, and shall be eligible for re-appointment.

STATUTE XIV – POWERS AND FUNCTIONS OF THE SENATE

Subject to the Act and to any other powers or functions prescribed by these Statutes, the powers and functions of the Senate shall include the powers and functions:-

(a) to determine the subjects to be pursued in each College, Faculty, School, Department or other such academic section of the University; to determine what schemes of study and research the University shall offer (whether leading to a qualification or not) and to assign each such scheme to one Faculty or School and accordingly to allocate each post on the academic staff of the University to one such post to one Faculty or School; and at any time to change such assignments of schemes and allocations of posts on the same terms;

(b) to keep under review the academic organisation and development of the University with special reference to the effectiveness of the University's work in relation to the objects and functions of the University as set out in sections 5 and 6 of the Act;

(c) to make recommendations to the Council for the institution of new Colleges, Faculties, Schools or other such academic sections; for establishment of additional posts on the academic staff, and for the provisions of any other new academic development;

(d) to appoint consultative committees on subjects in which the University engages in teaching or research, consisting of members of the academic staff and persons outside the University with a special interest in and responsibility for the subject of concern to such consultative committee. Such committees shall seek and obtain from the Government and other bodies reports on their policy and needs in the various fields of research or employment involving the relevant subjects, and shall also obtain reports from the Principals and Deans concerned, on the teaching or research being carried out in the subject in the University and on any proposed academic developments therein. Each such committee shall, with regard to the subject concerned, advise the Senate on the relevance of the curricula to the national need, on employment requirements, and on aspects thereof in which further teaching or research is required;

(e) subject to the powers of the Council, to determine matters concerning academic staff, including the subjects in which academic staff carry out teaching or research in the University; (f) to control all matters relating to content and methods of teaching and to control methods of assessment by examination or otherwise for the award of Degrees, Diplomas and other academic distinctions other than Honorary Degrees or distinctions;

(f) On the recommendation of the College, to consider the performance of students in examinations and decide which of those students shall pass, or be referred, or repeat or not to be re-registered;

(g) to appoint, with such duties and under such conditions as it may determine, external examiners and academic consultants for examinations for Degrees and Diplomas; to appoint internal examiners and to terminate the appointment of any external or internal examiners;

(h) to call meetings of academic and administrative staff or groups of such staff, under such arrangements as it shall determine, in order to consider and report upon matters which it wishes to refer to such bodies;

(i) to review, amend, refer back or disallow any act of a College, Faculty, School or such other academic body in the University, and to give guidance and direction to any such body;

(j) with the approval of the Council, to determine what formalities and conditions shall attach to the conferment of Degrees, Diplomas and other academic distinctions, and to determine all matters relating to academic ceremonies, including academic dress;

(k) to determine dates of terms;

(l) to recommend to the Council the conferring of the title of Emeritus Professor Registrar, honorary lecturer or professor, or such other academic title; and with the consent of the Council, recommend to the Appointments Committee appointments to personal chairs and to make recommendations as to the terms and conditions of such appointments;

(m) on what it deems to be good cause, to recommend to the Council the deprivation of persons of any Degrees, Diplomas or any other academic distinctions, or any academic titles, conferred upon or awarded to them by the University;

(n) within available resources, to institute, control, regulate, award or discontinue, under terms and conditions determined by it (but subject to any conditions acceptable to it that may be made by donors), fellowships, studentships, scholarships, exhibitions, bursaries, prizes and other such awards to students for the encouragement of study and research;

(o) to determine general policy matters relating to library and laboratory facilities, teaching/learning aids services, workshops and such other academic services which are in its view necessary to the furtherance of the academic objects of the University;

(p) to determine and control the terms and conditions under which any research or any other activity may be conducted or carried out in the University or by members of the staff of the University, or under the sponsorship of or collaboration with the University or with members of its staff;

(q) to determine the conditions under which, and the extent, if any, to which, periods and courses of study followed and examinations passed at other institutions may be regarded as equivalent to periods and courses of study followed and examinations passed in the University;

(r) to enter into relations, subject to the powers of the Council, with other bodies, whether academic or otherwise, for the furtherance of the objects of the University, with special regard to the advancement of education or research in Malawi;

(s) subject to the Act and these Statutes, to take such steps as it thinks fit to give advice, guidance and directions regarding the constitutions, functions and activities of any organisation of members of the University eligible to receive and expend University funds;

(t) to discuss and express an opinion on any matter whatsoever relating to the University.

STATUTE XV – THE FACULTIES AND SCHOOLS

1. Subject to the Act and these Statutes, the functions of each Faculty or School shall, without prejudice to any other functions expressly prescribed therefore, include the following:-

   (a) to consider and make recommendations to the Senate upon all matters relating to teaching and research in the subjects of the Faculty or School including curricula and examinations;

   (b) to consider and make recommendations to the Senate upon all matters relating to the progress of students following schemes of study or research assigned to the Faculty or School;

   (c) to make recommendations to the Senate, for making of regulations for schemes of study and research;

   (d) to make recommendations to the Senate, in a manner prescribed by the Senate, for the award of Degrees, Diplomas and other academic distinctions in the subjects of the Faculty or School;

   (e) to submit proposals to the Senate, in a manner prescribed by the Senate for academic developments;

   (f) to put before the Senate any matter of concern to the Faculties and Schools upon which the Senate is empowered to act;

   (g) to deal with and, if requested, to report on any matters referred to it by the Senate;

2. Recommendations and proposals issuing from any faculty or School to the Senate shall be presented to the Senate by the Principal of the College to which such Faculty or School is assigned, together with his comments and those of the relevant Dean thereon.

STATUTE XVI – APPOINTMENTS COMMITTEE

1. There shall be an Appointments Committee consisting of-

   (a) the Vice-Chancellor or his representative who shall be the chairperson of the Selection Committee;

   (b) the Deans of Faculties or Schools;

   (c) the Principals of Colleges, or their representatives; and,

   (d) the Registrar who shall be the Secretary of the Committee;

   (e) not more than three persons co-opted by the Vice-chancellor to membership of the Appointments Committee for each appointment to be made, having regard to the subject of the appointment.

2. There shall be in each College of the University, a Sub-Committee of the Appointments Committee to be known as the "Appointments and Disciplinary SubCommittee" consisting of-
   a. The Principal as Chairperson;
   b. The College Registrar, who shall be secretary of the Committee;
   c. The Dean; and d. One senior member of staff.
3. Council may delegate to the Appointments Committee its power of making appointments, other than that of making appointment to the posts of Principal, Registrar, Librarian, Finance Officer or Professor or other post at professorial level.
4. The Appointments Committee on behalf, and subject to the directions, if any, of the Council shall determine all matters relating to points of entry upon salary scales (subject to the powers of the Vice-Chancellor with regard to clerical, technical and support staff), incremental promotions within scales, promotions from one scale to another (other than promotions to posts of professorial level upon which the Appointments Committee shall make recommendations to the Council), renewal and extension of all contracts of appointment and the granting of allowances to staff.
5. The Appointments and Disciplinary Sub-Committee shall perform such functions as assigned to it by the Appointments Committee.

STATUTE XVIA – SELECTION COMMITTEE

1. There shall be a Selection Committee consisting of-
   (a) The Vice-Chancellor, or his representative who shall be the chairperson of the Selection Committee;
   (b) The Deans of Faculties or Schools;
   (c) The Principals of Colleges, or their representatives; and
   (d) The Registrar who shall be the secretary of Selection Committee.
2. The Selection Committee shall make recommendations to the Council in respect of the entry of persons as students of the University.

STATUTE XVII – PROCEDURE RELATING TO CONTRACTS OF APPOINTMENT

Subject to the Act and these Statutes, procedure relating to contracts of appointment, renewal of contracts and resignation, retirement and dismissal of academic and administrative staff shall be determined by the Council, and such procedure shall incorporate the following conditions:-

(a) that any member of the staff shall be at liberty to resign from his/her appointment and thereby to terminate his/her engagement with the University on giving in writing to the Registrar such notice as is stipulated in the terms of his/her appointment;

(b) that, save as may be provided otherwise by the Council in special cases, or as may, in such special cases relating to academic staff, be so provided by the Council on the recommendation of the Senate, a person appointed to the full-time staff of the University shall retire from his/her appointment, from any office he/she holds, and from membership of any Statutory Committee or any committee at such times as may be stipulated in the terms of his/her appointment;

(c) that the procedure for discontinuing the appointment of a member of the staff who would not, in the normal course of events, have made his/her appointment discontinued, shall be so framed that the member of the staff concerned shall have a right of appeal to the Council, whose decision thereon shall be final.

STATUTE XVIII – PROCEDURE OF STATUTORY COMMITTEES

1. Every Statutory Committee shall hold an ordinary meeting at least three times in each year at such date, time and place as shall be notified to the members at least one calendar month before the date of such meeting.

2. A special meeting of any Statutory Committee may be called by the Registrar for such date, time and place, and in such manner, as may be determined by its chairperson but subject to the following:-

   (a) (i) in the case of the Finance Committee, at the discretion of the Chairperson of the Finance Committee after consultation with the Vice-chancellor;

   (ii) in the case of the Senate, at the discretion of the Vice Chancellor; and

   (iii) in the case of a School, after consultation with the Principal of the College to which such Faculty or School is allocated; or

   (b) on requisition in writing to the Registrar, stating the purpose of the meeting, by at least a third of the number of members of that Statutory Committee.

3. No matter shall be considered at a special meeting of a Statutory Committee other than that for which the meeting was called unless the Statutory Committee unanimously otherwise decides.

4. It shall be open to any member of a Statutory body to raise any matter he/she wishes for consideration at any ordinary meeting of such Statutory Committee provided that, in view of the Chairperson, the matter comes within the functions of such Statutory Committee and that the matter is brought to the attention of the chairperson at least one week before the date of the ordinary meeting of the Statutory Committee at which the member wishes the matter raised.

5. The Registrar shall be responsible for sending to the members of a Statutory Committee and of the Council the agenda and documents (including minutes of the proceedings of committees of such Statutory Committee held since the last meeting of the said Statutory Committee) for any ordinary meeting of the Statutory Committee, at least three days before the meeting or tabled at the meeting shall be considered only if the Statutory Committee by a majority of its members present agrees to do so.

6. Every Statutory Committee may appoint such Committees thereof, including ad hoc committees, consisting persons it deems fit.

7. Every Statutory Committee may delegate any of its functions to such of its Committee or to such member of the Council as it deems fit.

8. Every Statutory Committee shall review annually the work of any committee it has appointed, and if a committee is to be re-appointed, shall, subject to these Statutes, review its terms of reference and membership.

9. The minutes of proceedings of all meetings of a committee of a Statutory Committee shall be put before the Statutory Committee which appointed it, and for this purpose the Faculties and Schools shall be regarded as committees of the Senate.

10. There shall be quorum at any meeting of a Statutory Committee or committee thereof when one-third of the total number of members of such Statutory Committee, or committee thereof, as the case may be, is present. In the absence of quorum no business other than the adjournment of the meeting shall be transacted.

11. In the absence of a person who is chairperson or vice-chairperson by appointment or ex officio, the members present at any Statutory Committee meeting or committee meeting provided there is a quorum, shall elect from among those present a member to preside at that meeting who shall, during that meeting, or until the meeting is adjourned, exercise all the functions of the chairperson

12. The decisions of the chairperson or other member presiding shall, on all procedural matters be final.

13. Pursuant to paragraph 9 of this Statute, the chairperson of a committee shall present the minutes of any meetings of that committee to the Statutory Committee which has appointed it, provided that recommendations and proposals from Faculties or Schools to the Senate shall be presented by the Principal of the College to which that School is assigned, or by the Dean if so requested by the Principal. In the absence of the chairperson of the said committee, or the Principal of the said College, as the case may be, any other member of the committee, or of the relevant Faculty or School, shall present such minutes to the Statutory Committee.

14. Whether specifically empowered to do so or not, the chairperson of any Statutory Committee or committee thereof shall have the power to take action on behalf of the Statutory Committee or committee, as the case may be, of which he/she is the chairperson, provided he/she reports any such action to the next meeting, and in his/her absence he/she may delegate such power to a person appointed as Vice chairperson of the Statutory Committee or committee. 15. Decisions at meetings of any Statutory Committee shall, except where otherwise provided, be taken by a consensus of agreement or, where, in the opinion of the chairperson, a vote needs to be taken, shall be determined by a simple majority of the members present and voting on the matter. In the case of an equality of votes, the chairperson shall have the power to exercise a casting vote in addition to his deliberative vote. Voting shall not be recorded in the minutes of proceedings.

16. The proceedings and decisions of any Statutory Committee or committee thereof shall not be invalidated by any vacancy in its number, nor by any defect in the election, appointment or qualification of any of the members whether present or absent, nor by any defect in the service of notices or documents, nor by any other administrative defect.

17. The chairperson of any Statutory Committee or committee thereof shall have the power to invite any person to attend any meeting for the whole or part of the meeting, subject to the approval of his action by the said Statutory Committee or committee, as the case may be, at the beginning of the meeting. Persons invited to attend meetings shall participate in the proceedings only when invited to do so by the chairperson and shall have no vote

18. The chairperson of, or the member presiding at a meeting of any Statutory Committee or committee thereof shall have the power to adjourn such meeting and to determine the date, time, place and means of re-convening the meeting.

19. Members of Statutory Committees or committees thereof, other than ex officio members, may resign from membership at any time by writing addressed to the chairperson of such Statutory Committee or committee thereof, as the case may be.

20. Except where the Act or Statutes provide otherwise, items of business of Statutory Committees or committees thereof may, at the discretion in each case of the chairperson of the Statutory Committee or committee thereof, as the case may be, be conducted by sending proposals to each member of the said Statutory Committee, or committee thereof, in writing in which case a decision shall be valid only if all members of the said Statutory Committee or committee thereof, having been given a reasonable time to reply, agree to the proposal sent to them.

21. Subject to its power to declare certain items or categories of business confidential, the minutes of all meetings of each Statutory Committee shall be available for consultation by members of the University by such means as the Statutory Committee may from time to time decide. All such minutes whether confidential or otherwise shall be available for consultation by any member of the Council.

22. Subject to those Statutes, Statutory Committees or committees thereof may make such further standing orders relating to their proceedings as they deem fit.

STATUTE XIX – HONORARY DEGREES

When and as often as the Council wishes to award Honorary Degrees pursuant to its powers under section 10 (s) the following procedures shall be followed:-

(a) The Council shall appoint a Committee consisting of the Chairperson of the Council as Chairperson, the Vice-Chancellor, and four other members of the Council; two of whom shall be members of the Senate, to propose persons for the award of Honorary Degrees which Committee shall be known as the Honorary Degrees Committee.

(b) The Honorary Degrees Committee shall invite the Chancellor, all members of the Council and the Senate, and the Registrar, to submit to the Vice-Chancellor in confidence proposals for the award of Honorary Degrees, and all such proposals shall be considered by the committee. It shall be open to those so invited to seek suggestions from other members of the University.

(c) The Committee having considered the proposals submitted to it, shall submit to the Council a list of those persons whom it recommends for the award of Honorary Degrees, listing the Honorary Degrees it considers appropriate for award in each individual case.

(d) The Council shall consider the recommendations of the Committee and shall determine to whom of those persons recommended by the Committee such Honorary Degrees shall be awarded, and the Degrees to be so awarded in each individual case.

(e) No person shall be approached regarding his/her willingness to accept conferment of an Honorary Degree until the Council has approved all the names, and the approved names shall be published only when all the persons named in the list have signified their willingness to accept conferment of an Honorary Degree.

(f) The Honorary Degree conferred shall be that deemed appropriate by the Council.

(g) An Honorary Degree shall not be conferred in the absence of the person on whom such Degree is to be conferred.

(h) Serving members of Statutory Committees, members of staff and students of the University shall not be eligible for the award of Honorary Degrees.

STATUTE XX – ELECTIONS OF DEANSHIPS AND TO THE SENATE

1. An election of a Dean and of elected members of the Senate, pursuant to section 23 and to paragraphs (d) and (e) of section 17 (1) of the Act, respectively, shall take place whenever there is a vacancy, provided that the whole process of the election is conducted during University term-time. All arrangements of such elections shall be the sole responsibility of the Registrar or his/her representative, who shall act as returning officer. The Registrar shall consult with the Vice-Chancellor and the Principal concerned, as often as he/she deems it necessary, on the election programme and on other matters relating to the election procedure.

2. It shall be open to a College, Faculty or School, as the case may be, if at least two-thirds of the entitled to vote in an election indicate their wish to do so, to carry out an election of elected members of the Senate at a meeting rather than by nomination and secret ballot.

3. The persons entitled to vote in an election of a Dean or of elected members of the Senate, and to be nominated and elected, shall be those persons whose names shall appear, as members of the full-time academic staff holding posts allocated to the College, Faculty or School concerned , in the master copy of the staff list kept in the Registrar's office.

4. (1) No election shall be invalidated by reason that only the administrative procedure relating to such election was defective.

   (2) Notwithstanding paragraph (1), the Registrar may, with the approval of the Vice-Chancellor and of the Principal, declare an election null and void on grounds of administrative or other defects.

5. If an elected member of the Senate is to be absent from the University for a period during which two or more ordinary meetings of the Senate will be held, the College, the Faculty or the School, as the case may be, may nominate a person to serve in his/her place during his/her said absence.

6. The number of members of the Senate elected under section 17(1) (e) as representatives of the various Colleges, shall, in respect of each College be as hereinafter stated:-

   (a) Chancellor College, four members;

   (b) The Polytechnic, three members;

   (c) Bunda College of Agriculture, two members;

   (d) Kamuzu College of Nursing, two members.

   (e) College of Medicine, two members

STATUTE XXI – SERVICE OF NOTICES AND DOCUMENTS

1. Any notice or documents required, by or for the purposes of the Act or the Statutes, to be given or sent to a member of the University, or of the Council or of any Statutory or other committee may be given to him/her personally or may be sent to him/her by post, to his/her last address of which the Registrar has cognisance.

2. Where a notice or other document is sent by post, pursuant to paragraph 1, service thereof shall be deemed to have been properly effected by properly addressing and posting a letter containing the notice or other document, and shall be deemed to have been effected at the time at which the letter would be delivered in the ordinary course of post.

Objects and Reasons

The objects of this Bill is to establish by Act of Parliament the University of Malawi and to make provisions for its membership, objects and functions, management and control.

The University will be an unincorporated body of persons with a governing body known as the Council of the University of Malawi. The Council will be a body corporate in which will be vested all the property of the University. It will be responsible for the management of the University and for the control of its finances and activities, subject to the express provisions of the Bill, and of the Statutes, which are set out in the Schedule.

Part IV provides for the appointment of the principal officers of the University. These are to be headed by the Chancellor and the Bill specifically provides that the Chancellor shall be the State President.

The Bill furthermore makes provisions for a Senate which, subject to the Council, will determine the various academic disciplines to be provided by the University and exercise immediate control over all professional and other teaching staff. The establishment of various Colleges within the University and various Schools within those Colleges is also provided for in the Bill.