Catholic University of Health and Allied Sciences

PROSPECTUS 2018/2019


MAULIZO / INQUIRIES

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HEALTH & ALLIED SCIENCES
CUHAS - BUGANDO
Welcome

MEMBERS OF BOARD OF TRUSTEES

	NAME	TITLE
1.	His Eminence Polycarp Cardinal Pengo	Archbishop of Dar es Salaam
2.	Most Rev. Jude Thaddeus Ruwa'ichi	Coadjutor Archbishop of Dar es Salaam
3.	Most Rev. Damian Denis Dallu	Archbishop of Songea
4.	Most Rev. Paul Ruzoka	Archbishop of Tabora
5.	Most Rev. Isaack Amani	Archbishop of Arusha
6.	Most Rev. Beatus Kinyaiya	Archbishop of Dodoma
7.	Rt. Rev. Gervas Nyaisonga	Bishop of Mpanda (President TEC/ Chancellor).
8.	Rev. Fr. Augustin Van Baelen, SDS	General Mission Secretary, Member

INVITED MEMBERS

9.	Rt. Rev. Augustine Shao	Bishop of Zanzibar
10.		Bishop of Moshi
11.	Rt. Rev. Desderius Rwoma	Bishop of Bukoba
12.	Rt. Rev. Titus Mdoe:	Bishop of Mtwara
13.	Rt. Rev. Salutarius M. Libena	Bishop of Ifakara
14.	Prof. Gabriel Mbassa	Vice Chancellor, SAUT
15.	Prof. Paschalis Rugarabamu	Vice Chancellor, CUHAS
16.	Rev. Dr. Philbert Vumilia	Vice Chancellor, MWECAU
17.	Rev. Dr. Cephas Mgimwa	Vice Chancellor, RUCU

18.	Rev. Dr. Francis Xaver Ng'atigwa	Principal, STEMMUCO.
19.	Prof. Kalaunjo M. Osaki	Principal, AMUCTA.
20.	Prof. Cassian Magori	Principal, SFUCHAS
21.	Rev. Fr. Bernard Witek SDC	Principal, JUCO
22.	Prof. Akim Mturi	Principal, AJUCO
23.	Prof. Beda M. Mutagahywa	Principal, CARUMUCO
24.	Prof. Stelyus L. Mkoma	Principal, MARUCO
25.	Prof. Haule Romuald	Director, SAUT-Mbeya Centre
26.	Sr.Dr. Hellen Bandiho	Director, SAUT-Arusha Centre
27.	Fr. Claudius Nkwera	Corporate Counsel (SAUT)

MEMBERS OF CUHAS- UNIVERSITY COUNCIL

1.	The Rt. Rev. Augustine Shao	Bishop of Zanzibar- Chairman
2.	Most Rev. Renatus Nkwande	Apostolic Administrator, Archdiocese of Mwanza
3.	The Most Rev. Paul Ruzoka	Archbishop of Tabora
4.	Prof. Gabriel Mbassa	Vice-Chancellor, SAUT
5.	Fr. Dr. Charles Kitima	General Secretary, TEC
6	Prof. Abel N. Makubi	Director General, BMC
7.		Director, Higher Education, MEVT
8.	Dr.Otilia Gowelle	Director, Human Resources Development, MoHCDGEC
9.	Balozi Dr. Pius Y. Ng'wandu	Representative of the Laity
10.	Prof. Apollinaria E. Pereka	Appointee, CUHAS Senate
11.	Dr. Fredrick Kigadye	Renowned Medical Doctor
12	Prof. Paschalis G. Rugarabamu	Vice Chancellor, CUHAS
13.	Ms. Olive Damian Luena	Female representative of the Laity

14.	Fr. Alphonce Raraiya	Executive Secretary (Education Department) , TEC
15.	Rev. Fr. Paul Nhindilo	Corporate Counsel CUHAS/Secretary

In Attendance:

1.	Prof. Stephen Mshana	Deputy Vice Chancellor (ARC)
2.	Rev. Dr. Agapit Mroso, OFMCap	Deputy Vice Chancellor (PFA)
3.	Mr. Boniface Kwiyeya	Bursar

MEMBERS OF THE CUHAS SENATE

1.	Prof. Paschalis G. Rugarabamu	Vice Chancellor/Chairman
2.	Rev. Fr. Paul Nhindilo	Corporate Counsel/Secretary.
3.	Prof. Stephen E. Mshana	Deputy Vice Chancellor (ARC)
4.	Rev. Dr. Agapit Mroso, OFMCap	Deputy Vice Chancellor (PFA)
5.	Prof. Erasmus Kamugisha	Dean, Weill Bugando School of Medicine
6.	Dr. Jeremiah Seni	Director, Postgraduate Studies
7.	Prof. Apollinaria E. Pereka	Appointee CUHAS Senate
8.	Mr. Kaspar Mapunda	Dean of Students
9.	Prof. Domenica Morona	Director, Research and Innovations
10.	Mr. Gratian R. Tibaijuka	Director IAHS
11.	Prof. Peter Rambau	Director of Quality Assurance
12.	Mr. Yanga. Machimu	Representing Director Library Services
13.	Mr. Ismael.M. Khangane	Director ICT
14.	Dr. Rose M. Laisser	Dean AAMSoN
15.	Prof. Gilbert W. Kongola	Dean School of Pharmacy
16.	Prof Zablon. E. Masesa	Appointee of the VC/Admissions Officer
17.		Undergraduate Students' representative
18.		IAHS Students representative
19.		Postgraduate Students representative
20.	Dr. Bahati Wajanga	Director of Hospital Services BMC

SENIOR OFFICERS OF CUHAS

The Chancellor

Rt. Rev. Gervas Nyaisonga	Bishop of Mpanda and President of Tanzania Episcopal Conference (TEC)

Vice Chancellor

Prof. Paschalis G. Rugarabamu	*DDS (UDSM); MDENT (Dental Public Health) (UDSM); MBA (ESAMI)*

Deputy Vice Chancellor Academics Research and Consultancy (ARC)

Prof. Stephen E. Mshana,	*MD (UDSM); MMed (Microbiology)(Makerere); PhD (SAUT), Fell. Med. Edu (SA)*

Deputy Vice Chancellor Finance, Planning and Administration (PFA)

Rev. Dr. Agapit Mroso, OFMCap	Licentiate in Dogmatic Theology (Gregorian- Rome), M. Spiritual Theology (Angelicum-Rome), PhD (Gregorian- Rome)

Dean: Weill Bugando School of Medicine

Prof. Erasmus Kamugisha,	*MD (UDSM); M.Sc. (Makerere), PhD (CUHAS)*

Associate Deans: Weill Bugando School of Medicine

Dr. Haruna Dika,	*MD (UDSM), M.Sc.(Makerere), PhD (Calgary)*
Dr. Semvua Kilonzo	*MD, MMED (CUHAS), PhD Fellow*

Dean, School of Pharmacy

Prof. Gilbert W.M Kongola,	*MD (UDSM), M.Sc. (Manchester), PhD (Manchester)*

Dean, Archbishop Anthony Mayala School of Nursing

Dr. Rose M. Laisser	*ADNE (MUHAS);M.Sc (Leeds Metropolitan University), PhD (University of Umea – Sweden)*

Director: Institute of Allied Health Sciences

Mr. Gration R. Tibaijuka *B.*	*B. Pharmacy (UDSM)*

Director: Postgraduate Studies

Dr. Jeremiah Seni,	*MD (UDSM); M.Med. (Makerere), PhD (Calgary)*

Associate Director: Postgraduate Studies

Dr. Dismas Matovelo, *MD (UDSM); M.Med. (SAUT)*

Ag.Dean: School of Public Health

Prof. Domenica Morona *M.Sc. (LSTMH), PhD*

Director: Research and Innovations

Prof. Domenica Morona *M.Sc. (LSTMH), PhD*

Associate Director: Research and Innovations

Dr. Benson Kidenya *MD (UDSM); M.Sc. (Makerere), M.Sc C. Clin .Epid (NY) PhD (CUHAS)*

Director: Quality assurance

Prof. Peter Rambau, *MD (UDSM), MMED (Makerere), PhD (Calgary)*

Dean of Students

Mr. Kaspar Mapunda *Dipl Educ (Chan'gombe), B.A. (Polit. Sc. & Publ. Admin.), MA_DS (UDSM)*

Warden:

Mrs. Christine Kabigiza *Dipl. Agr.Nutr. (Ilonga), Dipl. Gender Relat. & Agric (Netherland), B.A. Comm. Devel. (Daystar C.U. Nairobi), MA in Theol.Comm.Devel. (Wartburg Theological Seminary, USA)*

Bursar

Mr. Boniface M. Kwiyeya *ADCA (Mzumbe); CPA (NBAA)*

Internal auditor

Mrs Bahati Michael Kilungu *ADA (SAUT), CPA (NBAA)*

Chaplain

Rev. Fr. Christopher Matunda Dinho *BA in Theology (Rome), M.A in Theology (Rome)*

Corporate Counsel

Rev. Fr. Dr. Paul Nhindilo *Dipl. Philosophy B.A Theology (Pontifical Urbanian University) JCL (CUEA), JCD (PUL)*

ADDRESS/CONTACTS

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Chairman of Council Archdiocese of Zanzibar P.O. Box 3132 Zanzibar	**CUHAS Students' Organisation (CUHASSO)** Catholic University of Health and Allied Sciences P.O. Box 1464, Mwanza. Tanzania
University Bankers CRDB Bugando Branch P. O. Box 1330, Mwanza, Tanzania Tel: 255-28-2500053, 255-28-2500050 Fax: 255-28-2500040	**University Advocates** Nasimire & Company Advocates P. O. Box 261, Mwanza Tanzania. Tel: 028-2550048 Mobile: 0754 389820 Email: nasimire_advocates@yahoo.com
University Auditors Tax Pro and Associates P. O. Box 7550, Dar-es-Salaam Tanzania. Tel: +255-2111057/2125963; Fax+255-222111058 Email: taxprofessionals@taxprofessionals.co.tz Website: www.taxprofessionals.co.tz	

PREAMBLE

CUHAS takes seriously its pursuit to become an outstanding Tanzanian Catholic University, leading in health care, training and research which espouse moral and ethical values while responding to societal needs.

The University appreciates the role that it has committed itself to; which is to train human resources for health (HRH) as a contribution to increasing the much needed human capital in the health sector, while increasing research output and community services along the same lines.

The academic year 2018/2019 sets a high bar for us, in terms of improving the learning environment for our students. Our goal is not only to continue complying with regulatory standards as benchmarks, but also to set ourselves apart from our competitors by providing a modern, efficient and friendly learning envirnment, while retaining the learning experience that is unique to Bugando.

The University is preparing to introduce new Bachelor, Masters, and Super-specialized programmes, in order to increase opportunities for more students from around the Lake Zone, elsewhere in Tanzania and beyond, while we also address the identified professional gaps. This undertaking is part of the implementation of the University's five year rolling strategic plan (2016/17-2020/21). It is our hope that existing students and alumni will be good ambassadors in inspiring prospectives to seek out CUHAS, once the new programmes are launched.

CUHAS is a place where students are educated to become responsible and caring citizens, during and after training. All students should expect this as part and parcel of your everyday professional upbringing, as you diligently work to attain good grades. ***Discipline***, ***Diligence*** and ***Excellence*** should be aspirational qualities for every student who chooses to study at CUHAS.

We hope that your time at CUHAS will be a productive and positively memorable.

PROF. PASCHALIS G. RUGARABAMU

VICE CHANCELLOR

CUHAS

MISSION AND VISION OF THE CUHAS

Vision of the University

To become an outstanding Tanzanian Catholic University excelling in health care, training and research, that espouses moral and ethical values and are responsive to societal needs.

Mission of the University

Activities of the University will be guided by the following mission statements:

- *To provide skilled and competent human resources in the health sector that is vested with moral and ethical values,*
- *Search, discover and communicate the truth to advance the frontiers of knowledge and*
- *Provide quality services to the community".*

CUHAS Motto

Discipline, Diligence & Excellence

Core functions

Teaching, Research & Consultancy Services

CUHAS Values

In order to achieve its mission functions and transform the University into a respectable Tanzanian institution, the university management is committed to ensure that the following values will be observed and upheld at all times:

i) Equity and Justice

The CUHAS management through its operations will ensure equal opportunity and exercise social justice and non-discrimination on the basis of gender, race, religion, political affiliation, disability or any other form.

ii) Professional standards, Ethical and Moral norms

The University management, staff and students will uphold the highest professional standards, ethical practices, respect for persons and human dignity.

iii) Academic Excellence

Academic excellence will be a corner stone in all teaching, learning and advancement of frontiers of knowledge as well as by delivery of quality and relevant public services to communities in the country, region and globally.

iv) Academic Freedom

Academic freedom of expression, critical thought and enquiry through openness, transparency and tolerance will be upheld and emphasized.

v) Creativity

The University will work towards enhancing creativity by students and staff by enhancing entrepreneurial skills and capacity to work independently.

vi) Respect for and Abide to the Laws and Constitution of the Country

The University staff and students shall enhance citizenry through abidance to the Tanzanian Constitution and the law of the land.

vii) Foster its Catholic Identity

As a Catholic University, it will uphold catholic ideals, attitudes and principles in its teaching research and service.

ACADEMIC PROGRAMMES

The University offers courses and programmes leading to the award of certificates, diplomas, and degrees at both undergraduate and postgraduate levels. It also offers other programmes, consultancy services and seminars to clients who need them. The following are our academic programmes:

A) CURRENT PROGRAMMES

i. Diploma Programmes

Diploma in Pharmaceutical Sciences	3 years
Diploma in Medical Laboratory Science& Technology	3 years
Diploma in Diagnostic Radiography	3 years

ii. Undergraduate programme

Doctor of Medicine (MD)	5 years
Bachelor of Pharmacy (B.Pharm)	4 years
Bachelor of Science in Nursing Education (B.Sc.NED)	[2, 3, 4] years
Bachelor of Medical Laboratory Sciences	3 years
Bachelor of Science in Nursing (BSc.N)	[3, 4] years

iii. Postgraduate Programmes

Master of Medicine (M. Med) 3 years
[Internal Medicine, Obstetrics and Gynaecology, Surgery, Paediatrics, Anaesthesia, Orthopaedics and Trauma, ENT, and Urology]

Master of Public Health (MPH)	1year
Master of Science in Paediatric Nursing	2 years
Doctor of Philosophy (Ph. D)	3years

B) PROPOSED PROGRAMMES

i	Higher Diploma in Clinical Medicine (AMO)	2 years
	Higher Diploma in Ultrasounds	2 years
ii	Bachelor of Medical Imaging Sciences (BMIS)	3 years
iii	Master in Occupational and Environmental Health	3 years

IV: Master of Science in Clinical Micorbiology and Molecular Biology 2 years

Students' Admission Criteria

UNDERGRADUATE PROGRAMMES

DOCTOR OF MEDICINE (MD)

Entry Requirements

Direct Entry

Three Principal passes in PHYSICS, CHEMISTRY and BIOLOGY, at ADVANCED ("A") level with minimum entry of 8 points. Whereby one must have at least **C** grade in CHEMISTRY and BIOLOGY and at least D grade in Physics.

Equivalent qualifications

Certificate of Secondary Education Examinations (CSEE) with at least Five (5) passes including two credit passes in **Chemistry** and **Biology** and a D grade in Physics PLUS Diploma in Clinical Medicine with an **average of "B+" or GPA of 3.5 OR** BSc (lower second) majoring in Physics/Mathematics, Chemistry, Biology/Zoology.

BACHELOR OF MEDICAL LABORATORY SCIENCES (BMLS)

Entry Requirement

Direct Entry

Three Principal passes in PHYSICS, CHEMISTRY and BIOLOGY, at ADVANCED ("A") level with minimum entry of 6 points. Whereby one must have at least **C** grade in CHEMISTRY and at least a D in BIOLOGY and at least E grade in Physics.

Equivalent Qualifications

Certificate of Secondary Education Examinations (CSEE) with at least Five (5) passes including two credit passes in **Chemistry** and **Biology** and a D grade in Physics PLUS Diploma in Medical Laboratory Sciences **with an average of "B+" or GPA of 3.5 OR** BSc (lower second) majoring in Physics/Mathematics, Chemistry, Biology/Zoology.

BACHELOR OF PHARMACY (B. PHARM)

Entry Requirements

Direct Entry (Form Six)

Three Principal passes in PHYSICS, CHEMISTRY and BIOLOGY, at ADVANCED ("A") level with minimum entry point of 8 points. Whereby one must have at least **C** grade in CHEMISTRY and BIOLOGY and at least D grade in Physics

Equivalent qualifications:

(i) Certificate of Secondary Education Examinations (CSEE) with at least Five (5) passes including two credit passes in **Chemistry** and **Biology** and a D grade in Physics PLUS Diploma in Pharmaceutical Sciences with an **average of "B+" or GPA of 3.5 OR** BSc (lower second) majoring in Physics/Mathematics, Chemistry, Biology/Zoology.

BACHELOR OF SCIENCE IN NURSING EDUCATION (3 YRS COURSE)

Entry Requirements

Equivalent Qualifications

Certificate of Secondary Education Examinations (CSEE) with at least Five (5) passes including two credit passes in **Chemistry** and **Biology** and a D grade in Physics PLUS Advanced Diploma in Nursing Education with an **average of "B+" or GPA of 3.5 OR** BSc (lower second) majoring in Physics/Mathematics, Chemistry, Biology/Zoology.

BACHELOR OF SCIENCE IN NURSING (4 YRS. COURSE)

Entry Requirements

Three principal passes in **Chemistry, Biology** and either **Physics or Mathematics or Nutrition** with minimum of **6 points**. Whereby one must have at least **C** grade **in Chemistry** and at **least D grade in Biology and E** grade in **Physics or Mathematics or Nutrition**

BACHELOR OF SCIENCE IN NURSING (3 YRS. COURSE)

Entry Requirements

Certificate of Secondary Education Examinations (CSEE) with at least Five (5) passes including two credit passes in **Chemistry** and **Biology** and a D grade in Physics PLUS Diploma in Nursing with an **average of "B+" or GPA of 3.5 OR** BSc (lower second) majoring in Physics/Mathematics, Chemistry, Biology/Zoology.

POSTGRADUATE PROGRAMMES

CUHAS is currently offering Master of Medicine (MMED) programmes in the clinical disciplines of Internal Medicine, Surgery, Obstetrics and Gynaecology, Paediatrics and Anaesthesiology. The School also offers MPH programme. Master of Science in Paediatric Nursing, and PhD programmes in various specialties.

MASTER OF MEDICINE

Entry requirements

i) A holder of **MD degree** or **its equivalent** from a recognized institution of higher learning

ii) Must have scored (during the undergraduate final examinations) a grade of B or Higher in the specialty he/she wants to specialize.

iii) Must have successfully completed internship and obtained a grade of **B or Higher** in the specialty he/she wants to study.

iv) Must have completed at least **one year working experience** as a medical practitioner in a recognized hospital.

v) Must have a GPA of at least 2.7 during undergraduate training

MASTER OF PUBLIC HEALTH

Entry Requirements

i) Holders of MD degree or its equivalent with a pass of B grade or above in Community Medicine and at least one year of working experience.

ii) Holders of B. Sc. Nursing degree with a pass of B grade or above in Community Medicine and at least one year of working experience.

iii) Holders of first degree in health-related disciplines (Health officers, Environmental health, Pharmacy or Laboratory sciences) provided they passed with a lower second and have at least one year of working experience

iv) Holders of Master Degree in health-related disciplines with at least one year of working experience.

v) Must have a GPA of at least 2.7 during undergraduate training

MASTER OF SCIENCE IN PAEDIATRIC NURSING

Entry Requirements

i. A GPA of at least 2.7 in Bachelor of Science in Nursing (BScN), or Bachelor of Science in Nursing education (BScNE) or Bachelor of Science in Mental Health Nursing (BScM) or Bachelor of Science in Midwifery (BScMid) or Bachelor of Science in Nursing Management from a recognized University

ii. Graduates from the other recognized Universities with at least a GPA of 2.7 in their first degrees mentioned above are eligible for selection when **they have fulfilled the following criteria** specified under item iii. and iv, below.

iii. Graduates mentioned in item i. above should have a minimum of 2 years work experience

iv. Graduates should have a valid license to practice as registered nurses and midwives with the Tanzania Nurses and Midwives Council (TNMC) before their enrolment to the program

DOCTOR OF PHILOSOPHY

Requirement for PhD Registration

(i) The prospective candidate must demonstrate the capacity to carry out research independently and ability to pursue the proposed study programme.

(ii) A candidate for admission for a PhD must be a holder of a relevant Master Degree (MSc, or MMED) of CUHAS-Bugando or any other recognized institution of higher learning within or outside Tanzania.

DIPLOMA PROGRAMMES

The following diploma courses are offered by the Institute of Allied Health Sciences:

- Diploma in Medical Laboratory Sciences (DMLS)
- Diploma in Diagnostic Radiology (DDR)
- Diploma in Pharmaceutical Sciences (DPS)

Entry Requirements

i) A holder of form VI certificate ('A' Level) with one principal and two subsidiaries in the science subjects of Biology, Chemistry, Physics or Mathematics

OR

ii) A holder of form IV certificate ('O' Level) of Secondary School Education OR equivalent with three credits Biology, Chemistry, Physics or Mathematics

Equivalent qualification requirement:

1. Laboratory Assistant/Pharmaceutical Assistant/Radiographic Assistant from recognized institution with at least two years of experience in clinical Laboratory Practice/Pharmacy practice/Radiographic practice provided the applicant has two passes in science subjects in ordinary level secondary education.

STUDENTS ADMISSION REQUIREMENTS

For those who qualify and are selected

a) Payment of a Non-Refundable registration fee to be determined by the University from time to time.

b) Proof of ability to pay the Annual Fees set by the University. This may be through certified sponsorship or other written proof.

c) Compliance with any other conditions that the University may deem appropriate.

STUDENTS ADMISSION PROCEDURES

All candidates must complete the prescribed Registration forms, to which should be attached the required supporting documents, within the time specified by the University Announcement.

Financial Information

FINANCIAL INFORMATION

Fees and other financial obligations are the sole responsibility of the student and/or the sponsor or guardian. The fees are payable in full at the beginning of each academic year or in two instalments; at the beginning of each semester. Pay slip should **be submitted immediately** to the accounts department. **Failure of payment of Fees by the end of week two of the second semester will attract a penalty of 100,000/= Tshs**. ***The same penalty will be charged for late submission of deposit slip.*** All moneys payable to the University shall be paid directly into the University account presently with CRDB. No student will be allowed to carry forward part of the fee into the following academic year. Fees may be revised from time to time without prior notice. New fee structures will apply for new intake as well as for continuing students. Fees paid will not be refunded after the first four weeks of the academic year. **Any excess/extra fees paid will be carried forward to the next year.** ***Any refund if necessary will attract a processing fee of 50,000/= Tsh.***

It is envisaged that student can take advantage of scholarships offered by the Ministry of Education and Vocational Training, loans from the Higher Education Student Loan Board (HESLB) and Scholarships from The Ministry of Health and Social Welfare for postgraduate and students in the Institute of Allied Health Sciences.

The following fees will be applicable for the **2018/2019** academic year:

FEE STRUCTURE FOR NATIONALS UNDERGRADUATE PROGRAMMES (MD, B. PHARM, B.Sc. NED, AND BMLS, B.Sc. N)

Fees Payable to the University

Figures in TSh '000	*Year 1*	*Year 2*	*Year 3*	*Year 4*	*Year 5*
Tuition	4,300	4,300	4,300	4,150	4,150
Exam fee	160	160	160	160	160
Graduation Fee	0	0	0	0	50
Admission/Administrative fee	0	0	0	0	0
Sustainability Fund	30	30	30	30	30
TCU Quality Assurance Fee	20	20	20	20	20
Registration	15	15	15	15	15
ID card	10	0	0	0	0
Medical ***	100	100	100	100	100
Equipment/ Special Faculty Requirement	150	150	150	150	150
Caution Money	50	0	0	0	0
Accommodation	600	600	600	600	600
Student Union	20	20	20	20	20
Total Cost to University	5,455	5,395	5,395	5,245	5,295

NB: 1) *GRADUATION FEE (50,000/=) is payable by all finalist at the beginning of the year.*

2) *The University has limited accommodation. Accommodation will be charged as follows: 1,200,000/= per year for a single room, 600,000/= per year for each of two students sharing a room, and 480,000/= per year for each of three students sharing a room.* ***NOTE Full Payment should be done after consultation with the WARDEN to guarantee the availability of the rooms.***

3) ***** ***Medical Capitation****: Students* ***with recognized and valid Health Insurance Schemes will be refunded 50,400/=***

Moneys Payable to the Student (MD, B. Pharm, B.Sc. NED, BMLS, BScN) Courses

The amounts listed below are indicative moneys payable to the student to meet costs for meals, stationery, textbooks, field work and special faculty requirements.

CUHAS will not handle student's personal money. Any extra money included in the fees will be assumed to be prepayments for the subsequent year. All moneys meant for personal use should be paid directly to the student.

(A) Money payable to students doing MD Course

Student Cost (figures in Tsh, '000	*Year 1*	*Year 2*	*Year 3*	*Year 4*	*Year 5*
Stationery	100	100	100	100	100
Books	300	300	300	300	300
Elective &Research	0	0	0	560	0
Disertation	0	0	0	0	0
Fieldwork	0	280	280	280	0
Meals	750	750	750	750	750
Total Cost to Student	**1150**	**1430**	**1430**	**1990**	1150
GRAND TOTAL	6,605	6,825	6,825	7,235	6,445

(B) Money payable to students doing BMLS Course

Student Cost (figures in Tsh, '000	***Year 1***	***Year 2***	*Year 3*
Stationery	100	100	**100**
Books	300	300	**300**
Elective &Field	0	0	**560**
Fieldwork	0	0	**280**
Meals	750	750	**750**
Total Cost to Student	**1150**	**1150**	1990
GRAND TOTAL	6,605	6,545	7,385

(C) Money payable to students doing B.Pharm Course

Student Cost (figures in Tsh, '000	***Year 1***	***Year 2***	***Year 3***	*Year 4*
Stationery	100	100	100	**100**
Books	300	300	300	**300**
Elective &Field	0	0	0	**560**
Fieldwork	0	280	280	**0**
Meals	750	750	750	**750**
Total Cost to Student	**1150**	**1430**	**1430**	1710
GRAND TOTAL	6,605	6,825	6,825	6,955

(D) Money payable to students doing BSc. NED / BSc. Nursing

BSc. NED Conversion programme

Student Cost (figures in Tsh, '000	***Year 1***	*Year 2*
Stationery	100	**100**
Books	300	**300**
Elective &Field	0	**0**
Fieldwork	280	**280**
Meals	750	**750**
Total Cost to Student	**1430**	1430
GRAND TOTAL	6,885	6,825

BScNED 3 & 4-year programme

Student Cost (figures in Tsh, '000	***Year 1***	***Year 2***	***Year 3***	*Year 4*
Stationery	100	100	100	**100**
Books	300	300	300	**300**
Elective &Field	0	0	0	**0**
Fieldwork	0	280	560	**0**
Meals	750	750	750	**750**
Total Cost to Student	**1150**	**1430**	**1710**	1150
GRAND TOTAL	6,605	6,825	7,105	6,395

BSc. N 3-year programme

Student Cost (figures in Tsh, '000	***Year 1***	***Year 2***	*Year 3*
Stationery	100	100	**100**
Books	300	300	**300**
Elective &Field	0	0	**0**
Fieldwork	0	280	**560**
Meals	750	750	**750**
Total Cost to Student	**1150**	**1430**	1710
GRAND TOTAL	6605	6825	7105

BSc. N 4-year programme

Student Cost (figures in Tsh, '000	***Year 1***	***Year 2***	***Year 3***	*Year 4*
Stationery	100	100	100	**100**
Books	300	300	300	**300**
Elective &Field	0	0	0	**0**
Fieldwork	0	0	280	**280**
Meals	750	750	750	**750**
Total Cost to Student	**1150**	**1150**	**1430**	1430
GRAND TOTAL	6605	6545	6825	6675

FEE STRUCTURE FOR FOREIGN UNDERGRADUATE PROGRAMMES
(MD, B. PHARM, B.SC. NED, BMLS, BSC.N)
Fees Payable to the University

Figures in US$	***Year 1***	***Year 2***	***Year 3***	***Year 4***	*Year 5*
Tuition	3,500	3,500	3,500	3,500	3,500
Exam fee	75	75	75	75	75
Graduation fee	0	0	0	0	25
Admission/Administrative fee	0	0	0	0	0
Sustainability Fund	15	15	15	15	15
Registration	10	10	10	10	10
ID card	10	0	0	0	0
Medical	100	100	100	100	100
Caution Money	25	0	0	0	0
Equipment/ Special Faculty Requirement	75	75	75	75	75
Accommodation	400	400	400	400	400
Total Cost to University	4,210	4,175	4,175	4,175	4,200

NB: 1) GRADUATION FEE (25 US $) is payable by all finalist at the beginning of the year.

Moneys Payable to the Student MD course

Figures in US$	*Year 1*	*Year 2*	*Year 3*	*Year 4*	*Year 5*
Student Union	40	40	40	40	40
Stationery	200	200	200	200	200
Books	500	500	500	500	500
Elective &Field	0	0	0	1000	0
Fieldwork	0	700	700	0	0
Meals	1,250	1,250	1,250	1,250	1,250
Total Cost to Student	1,990	2,690	2,690	2,990	1,990

Total Costs

Figures in US$	*Year 1*	*Year 2*	*Year 3*	*Year 4*	*Year 5*
Money payable to the University	**4,210**	**4,175**	**4,175**	**4,175**	4,200
Money payable to Students	**1,990**	**2,690**	**2,690**	**2,990**	1,990
GRAND TOTAL	6,200	6,865	6,865	7,165	6,190

FEE STRUCTURE FOR POSTGRADUATE PROGRAMMES
MMED Fee Structure (National)
Fees Payable to the University

Figures in TSh '000	*Year 1*	*Year 2*	*Year 3*
Tuition	5,200	5,200	5,200
Exam fee	250	250	250
Graduation Fee	0	0	50
Admission/Administrative	0	0	0
Sustainability	30	30	30
TCU Quality Assurance Fee	20	20	20
Registration	25	25	25
ID card	10	0	0
Medical	0	0	0
Caution Money	50	0	0
Accommodation	1,200	1,200	1,200
Equipment/Special Faculty Requirement	200	200	200
Student union	20	20	20
Total Cost to University	7,005	6,945	6,995

NB: 1) GRADUATION FEE (50,000/=) is payable by all finalist at the beginning of the year.

NB: 2) There is limited accommodation at CUHAS at a cost of 1,200,000/= Tshs. without utility (electricity and water) charges. Utility can cost up to 500,000/= Tshs. per year.

Moneys Payable to the Student

Student Cost (Figures in TSh '000)	*Year 1*	*Year 2*	*Year 3*
Stationery	250	250	250
Books	600	600	600
Elective & Research	0	2,500	0
Dissertation	0	500	0
Fieldwork	0	0	0
Meals/ Stipend	9,600	9,600	9,600
Total Cost to Student	10,450	13,450	10,450

Total Costs

Total Cost (in TSh '000)	*Year 1*	*Year 2*	*Year 3*
Money Payable to University	**7,005**	**6945**	**6,995**
Money Payable to Students	**10450**	**13450**	**10450**
GRAND TOTAL	**17,455**	**20,395**	**17,445**

MMED Fee Structure (Foreign)

Fees Payable to the University

Figures in US$	*Year 1*	*Year 2*	*Year 3*
Tuition	4,500	4500	4,500
Exam fee	125	125	125
Graduation Fee	0	0	25
Administrative fee	0	0	0
Registration	20	20	20
Sustainability	**15**	**15**	15
ID card	**10**	**0**	0
Medical	0	0	0
Caution Money	25	0	0
Equipment/ Special Faculty Requirement	100	100	100
Accommodation	800	800	800
Total Cost to University	5,595	5560	5,585

NB: 1) GRADUATION FEE (25 US $) is payable by all finalist at the beginning of the year

Total Cost (US $)	*Year 1*	*Year 2*	*Year 3*
Money payable to University	**5,595**	**5560**	5,585
Money payable to students	**7,725**	**5,070**	5,070
GRAND TOTAL	13,320	10,630	10,665

Moneys Payable to the Student

Student Cost (US $)	*Year 1*	*Year 2*	*Year 3*
Student Union	35	20	20
Stationery	240	150	150
Books	750	400	400
Research	1,750	0	0
Dissertation	450	0	0
Fieldwork	0	0	0
Meals/ Stipend	4,500	4,500	4,500
Total Cost to Student	7,725	5,070	5,070

Master of Science in Paediatric Nursing (MSc.PN) Fee Structure (National)

Fees Payable to the University

Figures in TSh '000	*Year 1*	*Year 2*
Tuition	5,000	**5,000**
Exam fee	250	**250**
Graduation Fee	0	**50**
Admission/Administrative	0	**0**
Sustainability	30	**30**
TCU Quality Assurance Fee	20	**20**
Registration	25	**25**
ID card	10	**0**
Medical	0	**0**
Caution Money	50	**0**
Accommodation	1,200	**1,200**
Equipment/Special Faculty Requirement	200	**200**
Student union	20	**20**
Total Cost to University	6,805	6,795

NB: 1) GRADUATION FEE (50,000/=) is payable by all finalist at the beginning of the year.

NB: 2) There is limited accommodation at CUHAS at a cost of 1,200,000/= Tshs. without utility (electricity and water) charges. Utility can cost up to 500,000/= Tshs. per year.

Moneys Payable to the Student

Student Cost (Figures in TSh '000)	*Year 1*	*Year 2*
Stationery	250	**250**
Books	600	**600**
Research	0	**3000**
Dissertation	0	**500**
Fieldwork	0	**0**
Meals/ Stipend	9,600	**9,600**
Total Cost to Student	10,450	13,950

Total Costs

Total Cost (in TSh '000)	*Year 1*	*Year 2*
Money Payable to University	**6,805**	6,795
Money Payable to Students	**10,450**	13,950
GRAND TOTAL	17,255	20,745

MPH Fee Structure (National)

Fees Payable to the University

Figures in TSh '000	*Year 1*
Tuition	**7,050**
Exam fee	**350**
Graduation Fee	**50**
Admission/Administrative	**0**
Sustainability	**30**
TCU Quality Assurance Fee	**20**
Registration	**25**
ID card	**10**
Medical	**0**
Caution Money	**50**
Accommodation	**1200**
Equipment/Special Faculty Requirement	**200**
Student Union	**20**
Total Cost to University	9,005

NB: ***(i) Additional fee of 700,000/= is charged for evening program.***

(ii) There is limited accommodation at CUHAS at a cost of 1,200,000/= Tshs. without utility (electricity and water) charges. Utility can cost up to 500,000/= Tshs. per year.

Moneys Payable to the Student

B. Student Cost (Figures in TSh '000)	*Year 1*
Stationery	**250**
Books	**600**
Research	**2,500**
Dissertation	**500**
Fieldwork	**0**
Meals/ Stipend	**9,600**
Total Cost to Student	13,450

Total Costs

Total Cost (in TSh '000)	*Year 1*
Money Payable to University	9,005
Money Payable to Students	**13,,450**
GRAND TOTAL	22,455

MPH Fee Structure (Foreign)

Fees Payable to the University

Figures in US $	*Year 1*
Tuition	**5,000**
Exam fee	**125**
Graduation Fee	**25**
Admission/Administrative	**75**
Sustainability	**15**
Registration	**15**
ID card	**10**
Medical	**0**
Caution Money	**25**
Special faculty Requirements	**100**
Accommodation	**800**
Total Cost to University	6,190

Moneys Payable to the Student

B. Student Cost (Figures in US $)	*Year 1*
Student Union	**20**
Stationery	**150**
Books	**400**
Research	**1000**
Dissertation	**250**
Fieldwork	**0**
Meals/ Stipend	**2,700**
Total Cost to Student	4,520

Total Costs

Total Cost (US $)	*Year 1*
Money Payable to University	6,190
Money Payable to Students	**4,520**
GRAND TOTAL	10,710

PhD Fee Structure

Fees Payable to the University

Figures in Tshs '000'	*Year 1*	*Year 2*	*Year 3*
Tuition	6,250	6,250	6,250
Exam fee	250	250	250
Graduation Fee	0	0	50
Administrative fee	100	0	0
Registration	40	40	40
Sustainability	**40**	**40**	40
ID card	**10**	**0**	0
Medical	320	320	320
Caution Money	100	0	0
Equipment/ Special Faculty Requirement	325	325	325
Accommodation	1,200	1,200	1,200
Student Union	35	35	35
Total Cost to University	8,670	8,460	8,510

Moneys Payable to the Student

Student Cost (Tsh '000')	*Year 1*	*Year 2*	*Year 3*
Stationery	240	240	240
Books	750	750	750
Elective & Research	10,000	10,000	10,000
Dissertation	450	450	450
Fieldwork	0	0	0
Meals/ Stipend	9,600	9,600	9,600
Total Cost to Student	21,040	21,040	21,040

Total Costs

Total Cost (Tshs '000')	*Year 1*	*Year 2*	*Year 3*
Money payable to University	**8,670**	**8,460**	8,510
Money payable to students	**21,040**	**21,040**	21,040
GRAND TOTAL	29,710	29,500	29,550

IAHS Fee Structure

FEE STRUCTURE FOR NATIONALS DIPLOMA PROGRAMMES- IAHS (DDR, DMLS& DPS)

Fees Payable to the University

DDR, DMLS & DPS			
Figures in TSh '000	**Year 1**	**Year 2**	**Year 3**
Tuition	1,550	1,550	1,400
Exam fee	100	100	50

Graduation Fee	0	0	50
Admission Administrative fee	0	0	0
Sustainability Fund	30	30	30
NACTE Quality Assurance Fee	20	20	20
Registration	10	10	10
ID card	10	0	0
Medical	100	100	100
Equipment/ Special Faculty Requirement	150	150	150
Caution Money	50	0	0
Student Union	20	20	20
Total Cost to University	**2,040**	**1,980**	**1,830**

Moneys Payable to the Student

Figures in TSh '000	***Year 1***	***Year 2***	*Year 3*
Stationery	50	50	**50**
Books	150	150	**150**
Meals	600	600	**600**
Fieldwork	600	600	**600**
Accommodation	480	480	**480**
Total Cost to Student	1880	1880	1880

Total Costs

Total Cost	***Year 1***	***Year 2***	*Year 3*
Money payable to University	**2,040**	**1,980**	1,830
Money payable to students	**1880**	**1880**	1880
GRAND TOTAL	3,920	3,860	3,710

NB: *1) Limited accommodation is available at BMC at a cost of 480,000/= Tshs per year payable in full or in instalments at the beginning of the academic year.* ***NOTE Payment should be done after consultation with the WARDEN to guarantee the availability of the rooms.***

2) The University does not provide meals to students, however, there are several cafeterias within the compound for reasonable prices.

3) The cost of accommodation and meals is about 7,500/= Tshs. per day

Supplementary Examination Fees

Candidates appearing for supplementary examinations will be required to pay supplementary fee as shown on the table below:

SN	*Course*	*Fees per Subject (Tshs)*	*Year Cost per subject (Tshs)*
1	MD1	45,000	600,000.00
2	MD2	30,000	400,000.00
3	MD3	80,000	1,065,000.00
4	MD4	65,000	865,000.00
5	MD5	40,000	530,000.00
6	BMLS 1	30,000	400,000.00
7	BMLS2	40,000	530,000.00
8	BMLS3	40,000	535,000.00
9	BPHARM 1	40,000	535,000.00
10	BPHARM 2	40,000	535,000.00
11	BPHARM 3	55,000	735,000.00
12	BPHARM 4	55,000	735,000.00
13	BSN 1	40,000	535,000.00
14	BSN 2	30,000	400,000.00
15	BSN 3	55,000	735,000.00
16	BSN 4	45,000	600,000.00
17	DDR1	10,000	135,000.00
18	DDR2	10,000	135,000.00
19	DDR3	15,000	200,000.00
20	DPS1	15,000	200,000.00
21	DPS2	10,000	135,000.00
22	DPS3	10,000	135,000.00
23	DMLS1	15,000	200,000.00
24	DMLS2	10,000	135,000.00
25	DMLS3	10,000	135,000.00
26	MMED1	160,000	1,600,000.00
27	MMED2	160,000	1,600,000.00
28	MMED3	160,000	1,600,000.00
29	MPH	215,000	2,150,000.00

Registration Information

REGISTRATION INFORMATION

1 No student shall be allowed to register or attend classes unless the required fees have been paid.
2 New students must register within the first two weeks of the academic year. For purposes of registration a new student must submit originals of documents he/she had submitted as credentials in support of his/her application for admission.
3 Continuing students must complete registration formalities within the first two weeks of the academic year.
4 Any late registration is liable to a penalty of Tshs. 100,000/=.
5 **Students shall be registered under the names appearing in the certificates they submitted for their applications. Once registered, names may not be changed unless legal procedures are followed, and no change of names will be allowed in the final year of study.**
6 Student must register for the course programme into which they have been admitted.
7 No student shall be allowed to postpone studies after the academic year has begun except under special circumstances. Permission to postpone studies and resume studies later shall be considered after the student has produced satisfactory evidence of the reasons for postponement. Special circumstances shall include ill health or serious social problems.
8 No student shall be allowed to postpone studies during the two weeks preceding final examinations, but may for valid reasons be considered by DVC-ARC for postponement of examinations.
9 A student discontinued from a programme/course on academic ground shall not be re-admitted for the same programme/course until two years have elapsed.
10 A student discontinued from studies on disciplinary grounds shall not be re admitted to the University.
11 Students may be allowed to be away from studies for a maximum period of two years in the case of undergraduate programmes and one year for postgraduate students, if they are to be allowed to be re-admitted to the same year of studies where they left off.
12 Students shall commit themselves in writing to abide by the university's Charter, rules and Regulations as from time to time prescribed. A copy of the students' Rules and Regulations shall be made available or adequate notice will be given to students.
13 Students shall be issued identification cards, which they must carry at all times and which shall be produced when demanded by appropriate University officers. The identity card is not transferable and any fraudulent use may result in loss of student privileges or suspension.
14 Loss of the identity card should be reported immediately in writing to the office of Deans of Students, where a new one can be obtained after paying an appropriate fee (currently Tshs 10,000/=).
15 A student enrolled for any programme at CUHAS may not enroll concurrently in any other institution. However, students of CUHAS may be allowed to participate in courses offered by any institution leading to professional Certification after consulting the Head of the Department, the Faculty and Senate.
16 Students wishing to transfer to CUHAS will be allowed to do so, as long as they conform to TCU credit transfer guidelines; and will have to spend not less than three quarters of the duration required to complete the specific course.

Examination Regulations

EXAMINATION REGULATIONS

GENERAL UNIVERSITY EXAMINATION REGULATIONS

1.1 Form of Examination

The form of examinations shall include written, practical and oral examinations. The weighting of each shall be as determined under School/Departmental specific Examination Regulations approved by the Senate upon recommendation of the School Board.

1.2 Time of Examinations

University examinations shall be conducted at the end of every semester in accordance with the University regulations. Students must bring their examination cards and identity cards with them to the examination room.

1.3 Registration for Examinations

Bonafide students shall be entitled to sit for the university examinations for the courses in which they are registered unless advised otherwise in writing by competent university authority. If a candidate sits for examinations for courses for which he/she is not registered, his/her results in that examination shall be nullified.

1.4 Eligibility for Examinations

1.4.1 No candidate shall be allowed to sit for an examination in any subject if he/she has not completed the requirements of the course by attendance or otherwise as stipulated by the specific School or Department regulations governing a course of study. If such a candidate enters the examination room and sits for the paper, his/her results in that paper shall be nullified. A student must have been **present for at least 85% of the classes** to be allowed to sit for final examination in each subject.

1.4.2 Unless otherwise specified a candidate must do continuous assessment test for each specified module before the end of semester examination in the respective subject.

1.4.3 A candidate whose course work or progress is considered unsatisfactory may be required by Senate on recommendation of the appropriate School Board to withdraw from studies or to repeat any part of the course before admission to an examination.

1.5 Late Assignments and Examinations

Each School is asked to state in the course outline policy concerning acceptance of late assignments and examinations in the course. Normally, such work can be made up only for a good reason (e.g. serious illness, death of the immediate family, etc.). In no case will examinations be given early.

If circumstances warrant, they may be given late and the student may be charged a grade penalty and/or a late examination fee which will be determined by the University Council.

1.6 Absence from Examinations

Absconding from examination includes not reporting for a scheduled examination at the time, day and place specified without prior permission. It also includes going out of the examination room, temporarily or otherwise without authorization or permission of the invigilator or one of the invigilators for the examination in question. It also includes staying out of the examination room for a longer period than the one specified by the invigilator or one of the invigilators for the examination in question.

A candidate who absconds a scheduled examination deliberately or without a just reason to be determined by the senate shall be discontinued from studies. When a just reason is admitted, a written permission will be issued to the affected student allowing him/her to sit at the time of the next supplementary examinations.

1.7 Falling sick immediately before or during Examination

If a candidate falls sick immediately before or during the time of the scheduled examination and is medically unable to proceed (i.e. as certified by the authorized medical officer), he/she will be advised by the School Dean to postpone the examination until an appropriate time to be arranged by respective Department through the School or Institute. Any student who is sick and nevertheless decides to take an examination takes it at his/her own risk and must abide by the results of the examination.

1.8 Reporting late for Examination

1.8.1 A candidate who without a just reason in the discretion of the invigilator reports late for an examination (more than 30 minutes) shall be regarded as having failed in that examination but will be allowed to do supplementary examination and will be awarded a minimum passing grade of 'C'.

1.8.2 A candidate who, for a just reason, reports late for an examination and pleads in writing to take the examination may, subject to the discretion of the invigilator, be allowed to do the examination at his/her own risk. If such a candidate fails in that examination, he/she may be allowed to do a supplementary examination. If permission is not granted by the invigilator to do the examination, such candidates will be allowed to do a special examination at an appropriate time to be arranged by the respective department through the School or Institute, and a late examination fee shall be duly charged against him or her.

1.8.3 All cases of late arrivals for examinations shall be reported in writing by the invigilator to the Head of Department.

1.9 Dates of Examinations

Examinations in all Faculties/Schools/Institutes shall be held at a time to be determined by the Senate, which shall normally be during the last week(s) of a semester, and/or last month of the academic year.

1.10 Supplementary Examination

Candidates who are permitted to take a supplementary examination will be re-examined in the designated subjects at a time to be determined by the School Board. A Pass in supplementary shall be recorded as a minimum passing grade of 'C'. Examination regulations from specific programme shall also apply

1.11 Repeating the year

A candidate may be allowed to repeat a year if she or he has attained a GPA specified by the respective school or institute. GPA calculation should base on subject weights. No candidate will be allowed to repeat any one-year of study more than once.

1.12 Delays in Completing Research Thesis

A student who fails to complete the research thesis by the specified date shall be given an additional year to complete it. If the candidate fails to complete the thesis after the additional year shall be required to do a different research provided his/her registration limit will not be exceeded.

1.14 Conduct of Examinations

University examinations shall be conducted under the control of the Deputy Vice Chancellor for Academic Affairs (DVC-ARC), Deans of Faculties/Schools, and Heads of Departments, or such other Officer of the University as the Deputy Vice Chancellor for Academic Affairs shall appoint.

1.15 Appointments of Examiners

The examiners for University examinations shall be appointed by the Senate or DVC-ARC, upon recommendation of the Schools.

1.16 Board of Examiners

Every University examination shall be conducted by a Board of Examiners, consisting of:

A. One or more external examiners appointed from outside the University by the Senate together with teachers who participated in teaching the candidates in the subjects under examination.

B. Examiners may be appointed from within the university/college for the supplementary/special examinations under the supervision of a moderator who took no part in teaching the candidates the subjects(s) under examination.

1.17 **External Examiners' Honorarium**

External Examiners shall receive such honoraria as the Council shall prescribe.

1.18 **Examination Irregularities or Academic Dishonesty** *(This also applies to continuous assessment tests)*

(a) All cases of examination irregularities on the part of students or invigilators or any member of staff shall be referred to the Examinations Committee through the head of department and the respective School dean. The Committee shall have power to summon students and members of staff, as it deems necessary. The chairman shall submit a report of its findings and recommendations to the Senate, which shall decide what further action to take.

(b) For avoidance of doubt, examination irregularities shall include, but are not limited to, the following:

(i) A candidate found with unauthorized material/information in any part of the examination process; inside the examination room or in the premises surrounding the examination room. The premises surrounding the examination room include the examination room, toilets and areas within 20 meters.

(ii) A candidate with written or drawn examination related materials on his or her body, shoes and clothes.

(iii) A candidate copying from another candidate's work.

(iv) A candidate cheating by using or copying from unauthorized material.

(v) A candidate cheating or plagiarizing in research dissertation/thesis or report (eg elective field report, case study report etc).

(vi) A candidate communicating with another candidate by giving or obtaining unauthorized assistance or attempting to do so.

(vii) A candidate doing or attempting to do an examination on behalf of another candidate.

(viii) A candidate requesting or buying or stealing examination questions from examiners or from examination office or fellow students, or attempting to do so. In clinical examinations, this includes getting to know cases or patients set for examination.

(ix) A candidate colluding with another candidate who is involved in examination irregularities. This includes refusing to disclose the irregularity incident he or she witnessed eg refusing to sign the incidence form.

(x) A candidate refusing to obey a lawful order by an invigilator.

(xi) A candidate or member of staff who behaves or acts in such manner as would disrupt the examination process.

(xii) Submitting or attempting to submit answer sheet(s) or booklet(s) which were not written in the examination room.

(Xiii) An invigilator or examiner violating examination regulations.

(c) Any candidate who is found guilty of deliberately involved in examination irregularities or dishonest shall be discontinued from studies.

(d) A member of staff alleged of examination dishonest shall be referred to disciplinary authority for further measures

(e) In all cases of examination irregularity provisions of natural justice as prescribed in rule 85 of the first Schedule of the Charter of Incorporation are to be adhered to.

2 SPECIFIC EXAMINATION REGULATIONS FOR CANDIDATES:

These instructions should be read together with the above University General Examination Regulations.

2.1 Candidates should make sure that they have been issued Examination Numbers before examinations begin.

2.2 Candidate shall be responsible for consulting the final Examination Time Tables for any changes. Failure to sit examination(s) for a reason of changes in timetable will not be entertained.

2.3 Candidates shall be seated 30 minutes before starting time, and no student shall be allowed into the examination room after the starting time, except for a compelling reason, without prejudice to regulation to 2.16 below.

2.4 Candidates must not begin writing before they are told to do so by the invigilator.

2.5 Candidates are allowed to carry only pens, pencils or other materials explicitly prescribed by the Department.

2.6 Candidates who will not observe CUHAS-Dress Code will not be allowed to enter examination room.

2.7 Candidates are **not allowed to enter the examination room**, with books, cellular or mobile phone, handbags, clipboards, purses, papers, magazines, radios, radio cassette or other types of cassette players, digital watches, computers, soft and alcoholic drinks and any other material as may be specified from time to time by the Deputy Vice Chancellor responsible for Academic Affairs.

2.8 In case candidates are allowed to come with specified items into the examination room, no borrowing from one another shall be allowed during the examinations except with invigilator's permission. Items allowed into the examination room shall be liable to inspection by the invigilator.

2.9 Each answer in an examination shall begin on a fresh page of the examination booklet. All rough work must be done in the booklet and crossed out. Candidates are not allowed to sign their names anywhere in the examination booklets.

2.10 All candidates shall observe silence in the examination room

2.11 No food or drink shall be allowed into the examination room

2.12 Invigilators shall have power to specify or change the sitting arrangement in the examination room; or to require inspection of a candidate; or to confiscate an unauthorized material brought into the examination room; and shall have power to expel and report from the examination room any candidate who creates disturbance and record the incident to the examination office and head of Department.

2.13 In case of alleged cheating, the candidate and one or more invigilators shall be required to sign an Examination Incident Form which, together with other signed exhibits, as the case may be, and the candidate's examination booklet, shall be submitted to the Head of Department.

2.14 A candidate caught contravening the Examination Regulations shall not be allowed to continue with the examination for which he/she is scheduled.

2.15 Candidates are strongly warned that cheating or being caught with unauthorized material contravenes the University General Examination Regulations and leads to discontinuation from studies.

2.16 All candidates shall sign the Attendance Form at the beginning and the Submission Form at the end of every examination.

2.17 No candidate will be permitted to enter the examination room after lapse of thirty minutes from the commencement of the examination and no candidate will be allowed to leave his/her place during the examination, except as indicated below (2.18).

2.18 A candidate wishing to answer a call of nature may by permission of the invigilator and under escort leave the examination room for a reasonable period.

2.19 A candidate who walks out of an examination in protest shall be disqualified from that particular examination.

2.20 At the end of the examination period, and on instruction from the invigilator, candidates must stop writing and assemble their scripts, which they should personally hand to the invigilator. They shall remain seated until all are allowed by the invigilator to leave.

2.21 Candidates are not allowed to take any examination material out of the examination room, unless specifically permitted by the invigilator of the respective examination. (This also applies to Continuous Assessment Tests)

2.22 Detailed instructions on the question papers should be followed.

2.23 Students who are required to do supplementary examinations or special examinations will be officially notified using their respective Examination Number on the University's notice board and website www.bugando.ac.tz or through any public means of communication. Students should also leave their latest contacts such as telephone numbers or e-mails to facilitate communication.

2.24 Students must understand that the ultimate responsibility for taking the supplementary examination precisely at the time when they are given rests with the student.

3 GUIDANCE FOR INVIGILATORS

3.1 Appointment of invigilators

3.1.1 Examination officer in collaboration with the directorate of quality assurance will appoint invigilators

3.2 Before the Examination

3.2.1 Invigilators should personally collect from the Examination Office sealed envelopes containing question papers and any other material prescribed in the rubrics at least thirty minutes before the examination

3.2.2 Invigilators shall be present in the examination room at least 30 minutes before the commencement of the examination,

3.2.3 Invigilators should admit candidates to the examination room at least 30 minutes before the commencement of the examination and ensure that students take the right places.

3.2.4 During these fifteen minutes, the invigilator should

a. Make an announcement to the effect that unauthorized materials are not allowed in the examination room.

b. Make an announcement to the effect that candidates should satisfy themselves that they are in possession of the correct paper

c. Tell the students to note any special rubric at the head of the paper.

d. Tell students when they may begin writing. Candidates will normally be allowed five minutes to read the paper.

3.3 During the Examination

3.3.1 Except for a just reason, invigilators should not admit candidates to the examination room after thirty minutes have elapsed from the commencement of the examination and should not permit candidates to leave the examination room until one hour has expired.

3.3.2 By the end of thirty minutes from the commencement of the examination the invigilators should have a written list on the Examination Attendance sheet of the names of all the candidates present.

3.3.3 Invigilators should ensure that only one answer-book is provided for each candidate.

3.3.4 Candidate may be permitted to do rough work in the examination booklet on the understanding that rough work is crossed out.

3.3.5 Invigilators shall report immediately after the examination to the Head of Department any candidate who contravenes the Examination Regulations and instructions, especially by irregular practices, as spelt out in Regulation 1.18above

3.3.6 In case of alleged examination irregularity, the invigilator shall require the candidate to sign an examination incident report and any other materials pertinent to the incident to confirm that they are his/hers. The invigilator also shall sign and submit to the Head of the Department the Examination Incident Report, together with the candidate's examination booklet and all pertinent materials.

3.3.7 The Head of the Department through the School Dean will submit a full written report on the incident to the Examinations Committee.

3.3.8 The processing of an alleged case of cheating or other irregularity shall be carried out as expeditiously as possible.

3.4 At the End of Examination

3.4.1 Invigilators shall tell the candidates to stop writing and assemble their examination scripts.

3.4.2 Invigilators shall not permit the candidates to leave their places before their scripts have been collected.

3.4.3 Candidates shall sign the Examination Attendance Sheet when they turn in their script.

3.4.4 Invigilators shall enter the number of candidates' scripts collected and/or received on the Attendance Sheet and sign it.

3.4.5 Examination officer shall report to the DVC-ARC any invigilator who fails to fulfil his/her duty faithful (e.g., does not abide to regulations, fails to turn up, etc.)

4 COMMON ACADEMIC REGULATIONS

4.1 Introduction

The common academic regulations cover Appeals, Grading System, Certificates and Transcripts, Carry over Courses, Graduation Requirements, and Common Courses.

4.2 Appeals against Academic Decisions

4.2.1 Well-grounded appeals supported with substantive and documented evidence against any academic decision or recommendation shall first be lodged with the appellant's Faculty Dean, who shall forward it to Senate with the Faculty Board's observations and recommendations. The appeal by the student should be submitted within seven (7) days from the day the results were posted or a decision was communicated to the affected student. The decision of Senate shall be final.

4.2.2 In case of examinations scores and grades, the Board of Examiner's recommendation shall be final except where well-authenticated claim for unfair marking or disregard for examination regulations is raised by the affected student. In such a case, findings and observations to the Examinations Committee for detailed discussion. It makes recommendation to the Senate, whose decision shall be final

4.2.3 A student who is dissatisfied with a grade obtained in a particular examination may apply for remarking of the examination paper to the Head of the Department in which the course was offered. The application should be made not less than one week after the release of the examination grades by the DVC-ARC or the individual instructor. A valid justification for the request must be given in writing. The Head of the Department and members of the faculty will then review the case to see if remarking is warranted. An examiner other than the one who initially marked the script will remark the paper. The grade after remarking the paper will be final regardless of whether it is lower or the same as the first grade. The student may not request for a second remarking of the same script. The grade will be communicated to the student by the DVC-ARC or the head of the Department.

4.2.4 No appeal whatsoever pertaining to the conduct of any University examinations and the marking of the scripts thereof shall be entertained unless such an appeal is lodged with the appropriate University authorities within seven days of the date of publication of the results by or under the authority of the Senate.

4.2.5 All appeals regarding semester examination should be accompanied by a fee of ten thousand shillings (Tshs. 10,000/=) for Diploma students for each course, and of twenty thousand shillings (Tshs. 20,000/=) for undergraduate and postgraduate students. The fee is non-refundable.

4.3 Grading System

As appears under the specific regulations for each programme

4.4 Publication of Examination Results

The Deputy Vice chancellor for Academic Affairs may, after the School Board meeting, publish the examination results provisionally subject to confirmation of the results by the Senate upon the recommendation of the School Board

4.5 Withholding or Cancellation of Results

4.5.1 The Senate may, where a candidate has failed to fulfill a fundamental contractual or legal obligation with CUHAS or a breach of the same e.g. not paying fees or outstanding dues or where is dishonesty or fraud, bar him or her from doing examination or withhold examination results until he/she discharges the obligation or is exonerated from the wrong.

4.5.2 The Senate may cancel results of student(s) where there is evidence of fraud or examination leakage.

4.6 Graduation

With the approval of the Senate, students who complete and fulfill the requirements of the programme will graduate on the day determined by the senate. Graduation attire will be hired for three days at fifty thousand shillings (50,000/=) for degree and for diploma graduands. Any late return of the graduation attire shall be charged at ten thousand shillings (10,000/=) a day.

4.7 Certificates and Academic Transcripts

Persons applying to the Deputy Vice Chancellor for Academic Affairs for academic transcript shall be charged a fee of 20,000/=Tshs. A dully completed clearance form and original transcript fee receipt must be submitted along with a passport size photograph for preparation of transcripts.

4.8 Loss of Certificates

The University may issue another copy in case of loss or destruction of the original certificated on condition that:

(i) The applicant produces a sworn affidavit testifying to the loss or destruction

(ii) The applicant must produce evidence that the loss has been adequately publicly announced

(iii) The replacement certificate will not be issued until 12 months from the date of loss.

(iv) A fee of Tshs 50,000/= shall be charged for the copy of the certificate issued.

4.9 Carry over courses

Carryover of a failed course into a subsequent year shall imply repeating the failed course in the subsequent year by fulfilling all the requirements of the course. Carryover of elective courses will be allowed only in exceptional circumstances, normally only when those units are needed to comply with regulations. All carried over courses shall be cleared within the allowable maximum period of registration; otherwise the student is discontinued from studies. The maximum period of registration is as specified under the specific programmes.

5 SPECIFIC EXAMINATION REGULATIONS FOR THE MD PROGRAMME

(The General University Examination Regulations Also Apply)

5.1 MD Programme examinations

5.1.1 The MD programme is a 10 semester programme and the maximum allowable period for registration shall be 14 semesters.

5.1.2 Registration of full time students shall be done yearly at the beginning of each academic audit year.

5.1.3 For every course taught there shall be at least one continuous assessment examination and an end of semester university examination. The continuous assessment shall constitute 50% of the end of semester examination grade.

5.1.4 A candidate who obtains a C grade or higher in all courses examined in an audit year shall be declared to have passed the examination and will be allowed to proceed to the next year of study.

5.1.5 A candidate who for any reason does not appear for any regular examination wholly or partly shall be allowed by Senate to sit for special examination as first sitting on the recommendation of School/Institute and Academic Committee.

5.1.6 No special examination will be given for students who did not do examinations due to fees debts. These students will do examinations when next offered during the respective semester.

5.1.7 A candidate who fails in one or more subjects shall be allowed to sit for a supplementary examination during the long vacation if he/she obtained an overall GPA of 1.6 or higher.

5.1.8 A candidate who obtains an overall GPA of 1.5 at the end of an audit year shall be allowed to repeat a year.

5.1.9 A candidate who obtains an overall GPA of less than 1.5 at the end of an audit year shall be discontinued from studies.

5.1.10 A candidate who fails the first supplementary shall be allowed to proceed to the next year of study and sit for a second supplementary provided he/she obtains an overall GPA of 1.8 or higher.

5.1.11 A candidate who fails the first supplementary with an overall GPA of less than 1.8 shall be discontinued from studies.

5.1.12 A candidate failing two consecutive Supplementary Examinations in the same subject with an overall GPA of 1.8 or higher will automatically be required to re-take the Course

5.1.13 A candidate re-taking a course or courses will not pair them with other concurrent courses in the same semester, but will concentrate on re-take courses only.

5.1.14 Re-take involves registration and paying appropriate course/subject fees

5.1.15 There will be no supplementary examination in a respective subject after re-take. A candidate who fails a course after re-take means automatic discontinuation from the University.

5.1.16 The highest grade a candidate can obtain after a supplementary examination or after re-take or repeating a year in academic grounds shall be a "C" in the respective subject(s).

5.2 Examination regulations specific to MD in the Clinical Years

5.2.1 No candidate shall be allowed to proceed to the clinical year of study unless and until he/she has passed all professional basic science courses.

5.2.2 A candidate will be required to pass the junior rotation before he/she can proceed to the senior rotation.

5.2.3 At the end of a junior rotation, candidates shall sit for an examination, a clinical component of which will constitute 40% of the final clinical examination.

5.2.4 The candidate will be considered to have passed his clinical rotation if he will have demonstrated during the rotation that;

5.2.4.1 Has acquired a satisfactory level of clinical skills in eliciting a history and physical findings from a patient.

5.2.4.2 Has clerked the required number of patients and submitted detailed write-up of the history, physical findings, lab results and a plan of management of each patient for evaluation.

5.2.4.3 Has followed closely the patient's daily progress,

5.2.4.4 Observe and assisted or executed the prescribed number of procedures

5.2.4.5 Has passed an end of junior rotation examination.

5.2.5 A candidate who fails the junior clinical rotation shall be required to do a supplementary rotation of not less than 4 weeks in the failed rotation during the long vacation, provided that the maximum tenure of the MD program of 14 semesters is not exceeded.

5.2.6 At the end of the senior rotations the candidate will appear for a final examination comprising of written**, clinical and oral** components.

5.2.7 No candidate shall be allowed to sit for the final (exit) examination unless and until he/she has completed all senior rotations.

5.2.8 A candidate will not pass the final examination in any clinical subject unless and until he/she has passed the clinical part, which will consist of 40% clinical continuous assessment and 60% of the final clinical examination.

5.2.9 A candidate failing the end of the year examination will be required to sit for a supplementary examination after repeating the senior rotation in the respective subject(s).

5.2.10 A candidate in the final year failing a supplementary examination after he/she has attended all prescribed courses shall sit for a second supplementary at the next opportunity of the same course.

5.2.11 A student shall be awarded the MD degree after passing all prescribed courses including an Elective Field Project.

5.2.12 The MD degree shall not be classified

5.2.13 The grading system shall be as follows:

Numeric Mark	Letter Grade	GPA
75-100	A	4.4 – 5.0
70-74	B^+	3.5 – 4.3
60-69	B	2.7 – 3.4
50-59	C	2.0 – 2.6
45-49	D	1.5 – 1.9
< 44	E	0.0 – 1.4

6 SPECIFIC EXAMINATION REGULATIONS FOR THE BACHELOR OF PHARMACY DEGREE

(The General University Examination Regulations Also Apply)

6.1. The B. Pharm. Programme is an 8 semester programme and the maximum allowed period 12 semesters.

6.2. Registration of full time students shall be done at the beginning of each academic audit year.

6.3. For every course taught there shall be at least one continuous assessment examination and an end of semester University Examination. The continuous assessment shall constitute 50% of the end of semester examination grade.

6.4. A candidate who obtains a C grade or higher in all courses examined in an audit year shall be declared to have passé the examination and shall be allowed to proceed to the next year of study.

6.5. A candidate who for compelling reasons does not appear for any regular examination wholly or partly shall be allowed by Senate to sit for a special examination as first sitting on the recommendation of the School/Institute and Academic Committee.

6.6. A candidate who fails in one or more subjects shall be allowed to sit for a supplementary examination during the long vacation if he/she obtained an overall GPA of 1.6 or higher.

6.7. A candidate who obtains an overall GPA of less than 1.6 at the end of an audit year during the first or second year of study shall be discontinued from studies.

6.8. During the third or fourth year of study, a candidate who obtains an overall GPA of less than 1.6 but greater or equal to 1.5 shall be allowed to repeat a year; and a candidate who obtains an overall GPA of less than 1.5 shall be discontinued from studies.

6.9. A candidate who fails the first supplementary shall be allowed to proceed to the next year of study and sit for a second supplementary provided he/she obtains an overall GPA of 1.8 or higher.

6.10. A candidate who fails the first supplementary with an overall GPA of less than 1.8 shall be discontinued from studies.

6.11. A candidate failing two consecutive Supplementary Examinations in the same subject with an overall GPA of 1.8 or higher will automatically be required to re-take the Course.

6.12. A candidate re-taking a course or courses will not pair them with other concurrent courses in the same semester, but will concentrate on re-take courses only.

6.13. Re-take involves registration and paying appropriate course/subject fees

6.14. There will be no supplementary examination in a respective subject after re-take. A candidate who fails a course after re-take means automatic discontinuation from the University.

6.15. The highest grade a candidate can obtain after a supplementary examination or after repeating a year on academic grounds shall be a "C" in the respective subject(s).

6.16. A candidate who fails to attend at least 85% of allocated units of hospital/ward rounds or industrial training and fails to write a satisfactory report shall not be allowed to register for the University Examinations.

6.17. A candidate failing the final University Examination will be required to appear for a supplementary examination in the failed subjects after three months if he/she has failed one or two subjects or six months if he/she has failed in three subjects.

6.18. A candidate in the final year failing a supplementary examination after he/she has attended all prescribed courses shall sit for a second supplementary at the next opportunity of the same course.

6.19. A candidate in the final year failing a supplementary examination shall have to register for subsequent supplementary (ies) one month before the commencement of the examination.

6.20. A candidate failing the final research project shall be given three months to supplement the project starting from the new academic year.

6.21. A candidate shall be awarded the B. Pharm. Degree subject to passing all the prescribed courses/subjects (including Development studies) in the programme and project presentation.

6.22. The weighting contributing to the degree classification shall be based on the number of units for modules from all the semesters from the first to the fourth year.

6.23. **GRADING OF THE BACHELOR OF PHARMACY DEGREE**

The following grading system shall apply

Numerical Mark (%)	Grade	Points
75 – 100	A	***4.4 – 5.0***
70 – 74	B^+	***3.5 – 4.3***
60 – 69	B	***2.7 – 3.4***
50 – 59	C	***2.0 – 2.6***
45 – 49	D	***1.5 -1.9***
<44	***E***	***0.0 – 1.4***

The B. Pharm degree shall be graded as follows:

CLASS	GRADE	GPA(RANGE)	RANGE OF MARKS
FIRST CLASS	A	4.4 – 5.0	***75 – 100***
UPPER SECOND	B^+	3.5 – 4.3	***70 – 74***
LOWER SECOND	B	2.7 – 3.4	***60 – 69***
PASS	***C***	***2.0 – 2.6***	***50 – 59***

7 SPECIFIC EXAMINATION REGULATIONS FOR THE BACHELOR OF MEDICAL LABORATORY SCIENCES

(The General University Examination Regulations Also Apply)

7.1. The BMLS programme is a 6 semester programme and the maximum allowable period for registration shall be 10 semesters

7.2. The examination regulation and disposal of students will follow CUHAS examination regulations. The BMLS degree will be classified.

7.3. The registration of students shall be once at the beginning of each Academic year.

7.4. For every course/subject taught in a semester there shall be at least one continuous assessment examination and an end of semester university examination. The continuous assessment shall constitute 50% of the end of semester examination score.

7.5 A candidate who obtains a "C" grade or higher in all courses/subjects examined in an audit year shall be declared to have passed the examination and will be allowed to proceed to the next year of study.

7.6 A candidate who for compelling reasons does not appear for any regular examination, wholly or partly, shall be allowed by senate to sit for a special examination as first sitting on the recommendation of School Board.

7.7 A candidate who fails in one or more subjects shall be allowed to sit for a supplementary examination during the long vacation if he/she obtained an overall GPA of 1.6 or higher.

7.8 A candidate who obtains an overall GPA of 1.5 at the end of an audit year shall be allowed to repeat a year.

7.9 A candidate who obtains an overall GPA of less than 1.5 at the end of an audit year shall be discontinued from studies.

7.10 Supplementary in any clinical subject will include a laboratory rotation of at least 4 weeks

7.11 A candidate who fails the first supplementary examination with an overall GPA of less than 1.8 shall be discontinued from studies.

7.12 A candidate who fails the first supplementary examination shall be allowed to proceed to the next year of study and sit for a second supplementary provided he/she obtains an overall GPA of 1.8 or higher.

7.13 No candidate shall be allowed to proceed to the clinical year of study unless and until he/she has passed all basic science courses.

7.14 A candidate failing two consecutive Supplementary Examinations in the same subject with an overall GPA of 1.8 or higher will automatically be required to re-take the Course.

7.15 A candidate re-taking a course or courses will not pair them with other concurrent courses in the same semester, but will concentrate on re-take courses only.

7.16 Re-take involves registration and paying appropriate course/subject fees.

7.17 There will be no supplementary examination in a respective subject after re-take. A candidate who fails a course after re-take means automatic discontinuation from the University.

7.18 The highest grade a candidate can obtain after a supplementary examination or after repeating a year on academic grounds shall be a "C" in the respective subject(s).

7.19 **GRADING OF THE BACHELOR OF BMLS**

The grading system shall be as follows:

Numeric Mark	Letter Grade	GPA
75 – 100	**A**	***4.4 – 5***
70-74	**B+**	***3.5 – 4.3***
60-69	**B**	***2.7 – 3.4***
50-59	**C**	***2.0 – 2.6***
45-49	**D**	***1.5 – 1.9***
44 and below	***E***	***0.0 – 1.4***

BMLS degree shall be graded as follows:

CLASS	GRADE	GPA(RANGE)	RANGE OF MARKS
FIRST CLASS	A	4.4 – 5.0	***75 – 100***
UPPER SECOND	B^+	3.5 – 4.3	***70 – 74***
LOWER SECOND	B	2.7 – 3.4	***60 – 69***
PASS	***C***	***2.0 – 2.6***	***50 – 59***

8 SPECIFIC EXAMINATION REGULATIONS FOR THE BACHELOR OF SCIENCE IN NURSING EDUCATION (BSCNED) AND BACHELOR OF SCIENCE IN NURSING (B.Sc.N)

(The General University Examination Regulations Also Apply)

8.1 Registration of full time students shall be done at the beginning of each academic audit year.

8.2 For every course taught there shall be at least two continuous assessment examinations and an end of semester University Examination. The continuous assessment shall constitute 50% of the end of semester examination grade.

8.3 For clinical subjects, a candidate shall be eligible for examination after completion of at least 85% of the clinical practice schedules allocated in that semester.

8.4 A candidate who obtains a C grade or higher in all courses examined in an audit year shall be declared to have passed the examination and shall be allowed to proceed to the next year of study.

8.5 A candidate who for compelling reasons does not appear for any regular examination wholly or partly shall be allowed by Senate to sit for a special examination as first sitting on the recommendation of

the School/Institute and Academic Committee.

8.6 A candidate who fails in one or more subjects shall be allowed to sit for a supplementary examination during the long vacation if he/she obtained an overall GPA of 1.6 or higher.

8.7 A candidate who obtains an overall GPA of 1.5 at the end of an audit year shall repeat a year.

8.8 A candidate who obtains an overall GPA of less than 1.5 at the end of an audit year shall be discontinued from studies.

8.9 No candidate shall be allowed to proceed to the clinical year of study unless and until he/she has passed all basic science courses.

8.10 A candidate who fails the first supplementary shall be allowed to proceed to the next year of study and sit for a second supplementary provided he/she obtains an overall GPA of 1.8 or higher.

8.11 A candidate who fails the first supplementary with an overall GPA of less than 1.8 shall be discontinued from studies.

8.12 A candidate failing two consecutive Supplementary Examinations in the same subject with an overall GPA of 1.8 or higher will automatically be required to Re-take the Course.

8.13 A candidate re-taking a course or courses will not pair them with other concurrent courses in the same semester, but will concentrate on re-take courses only.

8.14 Re-take involves registration and paying appropriate course/subject fees.

8.15 There will be no supplementary examination in a respective subject after re-take. A candidate who fails a course after re-take means automatic discontinuation from the University.

8.16 The highest grade a candidate can obtain after a supplementary examination or after repeating a year on academic grounds shall be a "C" in the respective subject(s).

8.17 A candidate will not pass the final examination in any clinical subject unless and until he/she has passed the clinical part.

8.18 A candidate failing the end of the year clinical examination will be required to sit for a supplementary examination after repeating four weeks rotation in the respective subject(s).

8.19 A candidate failing the final University Examination will be required to appear for a supplementary examination in the failed subjects within three months if he/she has failed one or two subjects or six months if he/she has failed in three subjects.

8.20 A candidate in the final year failing a supplementary examination after he/she has attended all prescribed courses shall sit for a second supplementary at the next opportunity of the same course.

8.21 A candidate in the final year failing a supplementary examination shall have to register for subsequent supplementary (ies) one month before the commencement of the examination.

8.22 No candidate shall be allowed to graduate without passing a research project.

8.23 BScNED and BScN degrees shall not be classified

8.24 **The grading system shall be as follows:**

Numeric Mark	Letter Grade	GPA
75 – 100	**A**	***4.4 – 5***
70-74	**B+**	***3.5 – 4.3***
60-69	**B**	***2.7 – 3.4***
50-59	**C**	***2.0 – 2.6***
45-49	**D**	***1.5 – 1.9***
44 and below	***E***	***0.0 – 1.4***

9 SPECIFIC EXAMINATION REGULATIONS FOR MASTER OF MEDICINE (MMED)

(The General University Examination Regulations Also Apply)

9.1 The MMED degree programmes offered at CUHAS are by course work and dissertation. Evaluation of candidates will include: course work and clinical assessment, dissertation and viva voce defense of the thesis

9.2 During each semester, there will be at least two continuous assessment tests and an end of semester examination consisting of a written paper and clinical examination (except for semester 1).

9.3 The mode and manner of the clinical examination will be determined by the departments concerned and approved by the relevant boards.

9.4 The continuous assessment tests will constitute 50% of the end of semester examination grade.

9.5 At the end of semester 6 (end of 3rd year) candidates will have to appear for a final university examination consisting of: Written paper and Clinical examination (long case, short cases and oral)

9.6 Written paper shall carry 40% of the marks, the clinical 50% and oral 10%.

9.7 Candidates must pass both the written and clinical components of the examination.

9.5 **The grading system shall be as follows:**

Numeric Mark	Letter Grade	GPA
75 – 100	**A**	***4.4 – 5***
70-74	**B+**	***3.5 – 4.3***
60-69	**B**	***2.7 – 3.4***
50-59	**C**	***2.0 – 2.6***
45-49	**D**	***1.5 – 1.9***
44 and below	***E***	***0.0 – 1.4***

The PASS mark shall be B grade

Disposal of students

9.6 A candidate who fails in one or two biomedical subjects during semester 1 will continue to semester 2 and sit for a supplementary after the end of semester

9.7 A candidate who fails in 3 or more biomedical subjects during semester 1 shall be required to repeat a year

9.8 A candidate who fails the supplementary examination will be required to repeat a year.

9.9 A candidate who fails the supplementary examination after repeating a year will be discontinued from the course.

9.10 The highest grade a candidate can obtain after a supplementary examination or after repeating a year on academic grounds shall be a "B" in the respective subject(s).

9.11 At the end of semester 6, a candidate will be awarded the degree if he/she has passed all the components of the university examination (i.e. written examination, clinical and dissertation)

9.12 A candidate who fails any of the component will have to appear for a supplementary examination within three months

9.13 Any corrections of the thesis have to be done and a submission of error free thesis done before a candidate will be awarded the degree.

10 SPECIFIC EXAMINATION REGULATIONS FOR MASTER OF PUBLIC HEALTH (MPH)

(The General University Examination Regulations Also Apply)

ASSESSMENTS:

10.1 Assessment will be done at the end of each module and marks or grades will be given per module, the students will be required to pass all modules at a mark of 50% or higher before the award of MPH

10.2 All students registered for MPH shall present their dissertation to the panel of expertise on that topic / subject; after completing all modules.

EVALUATION SCHEME

10.3 Assessment will be done at the end of each module and marks will be given per module, the students will be required to pass all modules at a mark of 50% or higher before the award of MPH

10.4 All students registered for MPH shall present their dissertation to the panel of expertise on that topic / subject; after completing all modules.

10.5 Evaluation of candidates will include course work, field work assessment and dissertation with viva voce defence at the end of the course.

10.6 **During each module, there will be.**

(i) At least one continuous assessment test and an end of module examination consisting of a written paper and oral examination

(ii) The continuous assessment tests will constitute 50% of the end of module examination grade

DISPOSAL OF STUDENTS

10.7 A candidate who fails in one or two module(s) shall be allowed to continue to other modules and repeat the specific module(s) in the subsequent academic year.

10.8 A candidate who fails in 3 or more modules shall be required to repeat a year.

10.9 A candidate who fails the repeated module will be required to repeat a year

10.10 A candidate who fails the repeated module after repeating a year will be discontinued from the course.

10.11 The highest grade a candidate can obtain after repeating a module or after repeating a year on academic grounds shall be a "C" in the respective subject(s).

10.12 The grading system in MPH programme shall be as follows:

Numeric Mark	Letter Grade	GPA
75 – 100	**A**	***4.4 – 5***
70-74	**B+**	***3.5 – 4.3***
60-69	**B**	***2.7 – 3.4***
50-59	**C**	***2.0 – 2.6***
45-49	**D**	***1.5 – 1.9***
44 and below	***E***	***0.0 – 1.4***

MPH degree shall be classified as follows:

CLASS	GRADE	GPA(RANGE)	RANGE OF MARKS
FIRST CLASS	A	4.4 – 5.0	***75 - 100***
UPPER SECOND	B^+	3.5 – 4.3	***70 - 74***
LOWER SECOND	B	2.7 – 3.4	***60 - 69***
PASS	***C***	***2.0 – 2.6***	***50 - 59***

Pass mark shall be a B grade

11 SPECIFIC EXAMINATION REGULATIONS FOR MASTER OF SCIENCE IN PAEDIATRIC NURSING (MScPN)

(The General University Examination Regulations Also Apply)

CONTINUOUS ASSESSMENT:

11.1 Continuous assessment will be conducted at the end of each module/semester and the pass mark will be 50% or higher.

11.2 All students registered for MScPN shall present their dissertation to the panel of expertise on that topic / subject at the time scheduled during the third semester

11.3 Evaluation of candidates will include course work, field work assessments and dissertation with viva voce defence at the end of the course.

11.4 During each semester there will be.

i. At least one continuous assessment test and an end of module /semester examination consisting of a written paper and or /clinical examination
ii. The continuous assessment tests will constitute 50% of the end of module/semester examination grade

11.5 Regularities on Dissertations

i. The dissertation shall consist of a topic that will be relevant to health and pediatrics field
ii. The topic will be determined by the student and approved by the school
iii. Four loosely bound copies of the dissertation shall be submitted to the Dean AAMSoN not less than three months before dissertation defense
iv. A candidate who fails to submit a dissertation at this period without approval will be barred from defending her/his thesis in that year

v. A candidate who fails to submit his/her dissertation as per immediate bullet item above will be required to submit loosely bound copies of the dissertation not less than three months prior to the examination when next offered provided his her maximum tenure for MScPN degree (6 semesters since first registration) allows Oral defense of the dissertation shall be conducted during the end of third semester.

vi. The Thesis will be assessed by the recommended internal and external examiners

vii. If the external examiner is satisfied by the standard of the thesis, the candidate will have to appear for the oral defence (viva voce) at a panel of examiners as recommended by the faculty board / Academic board/ Senate

viii. A candidate, having successfully defended the dissertation, will be required to submit error-free dissertation within 3 months in the case of minor corrections and within 6 months if there are major corrections.

ix. In case of outright rejection, a dissertation may be resubmitted for examination after 9 months

x. Dissertation rejected by examiners after a resubmission shall not be accepted for re-examination at CUHAS

xi. A candidate shall be awarded MScPN degree after he/she has passed all the examinations in prescribed courses in the program and submitting an error free dissertation

11.6 DISPOSAL OF STUDENTS

i. A candidate who fails in one or two module(s) shall be allowed to continue to other modules and repeat the specific module(s) in the subsequent academic year.

ii. A candidate who fails in 3 or more modules shall be required to repeat a year.

iii. A candidate who fails the repeated module will be required to repeat a year.

iv. A candidate who fails the repeated module after repeating a year will be discontinued from the course.

v. The highest grade a candidate can obtain after repeating a module or after repeating a year on academic grounds shall be a "B" in the respective subject(s).

11.7 The grading system in MScPN programme shall be as follows:

Numeric Mark	Letter Grade	GPA
75 – 100	**A**	***4.4 – 5***
70-74	**B+**	***3.5 – 4.3***
60-69	**B**	***2.7 – 3.4***
50-59	**C**	***2.0 – 2.6***
45-49	**D**	***1.5 – 1.9***
44 and below	***E***	***0.0 – 1.4***

12 SPECIFIC EXAMINATION REGULATIONS FOR IAHS DIPLOMA PROGRAMMES
(The General University Examination Regulations Also Apply)

12.1 The IAHS programmes are 6 semester programmes and the maximum allowable period for registration shall be 10 semesters.

12.2 To pass any subject candidates must have obtained at least "C" grade which will consist of 50% contribution from C.A and 50% from the end of Semester examination.

12.3 Candidates who obtain "C" grade and above in all subjects will be deemed to have passed the examination.

12.4 Final year candidates who pass all semester examinations will be recommended for the award of the Diploma in Pharmaceutical Sciences (DPS), Diploma in Diagnostic Radiography (DDR), and Diploma in Medical Laboratory Sciences (DMLS) of the Catholic University of Health and Allied Sciences (CUHAS)

DISPOSAL OF STUDENTS

12.5 The fate of a candidate is determined following the General University Examination regulations. Regulations 12.6 to 12.10 specifically deal with how to handle candidates using GPA namely:

12.6 A candidate who fails in one or more subjects shall be allowed to sit for a supplementary examination during the long vacation if he/she obtained an overall GPA of 1.6 or higher.

12.7 A candidate who obtains an overall GPA of less than 1.6 at the end of an audit year during the first year shall be discontinued from studies.

12.8 During the second or third year of study, a candidate who obtains an overall GPA of less than 1.6 but greater or equal to 1.5 shall be allowed to repeat a year; and a candidate who obtains an overall GPA of less than 1.5 shall be discontinued from studies.

12.9 A candidate who fails the supplementary with an overall GPA of less than 1.8 shall be discontinued from studies.

12.10 A candidate who fails the first supplementary shall be allowed to proceed to the next year of study and sit for a second supplementary provided he/she obtains an overall GPA of 1.8 or higher**.**

12.11 A candidate failing two consecutive Supplementary Examinations in the same subject with an overall GPA of 1.8 or higher will automatically be required to re-take the Course.

12.12 A candidate re-taking a course or courses will not pair them with other concurrent courses in the same semester, but will concentrate on re-take courses only.

12.13 Re-take involves registration and paying appropriate course/subject fees.

12.14 There will be no supplementary examination in a respective subject after re-take. A candidate who fails a course after re-take means automatic discontinuation from the University.

12.15 The highest grade a candidate can obtain after a supplementary examination or after repeating a year on academic grounds shall be a "C" in the respective subject(s).

12.16 The grading system shall be as follows:

Numeric Mark	Letter grade	GPA
75 – 100%	A	*4.4 – 5.0*
70 – 74%	B+	*3.5 – 4.3*
60- 69 %	B	*2.7 – 3.4*
50 – 59%	C	*2.0 – 2.6*
45 – 49%	D	*1.5 – 1.9*
=<44	*E*	*0.00 – 1.4*

IAHS diplomas shall be classified as follows:

CLASS	GRADE	GPA(RANGE)	RANGE OF MARKS
FIRST CLASS	A	4.4 – 5.0	***75 - 100***
UPPER SECOND	B^+	3.5 – 4.3	***70 - 74***
LOWER SECOND	B	2.7 – 3.4	***60 - 69***
PASS	***C***	***2.0 – 2.6***	***50 - 59***

Weill Bugando School of Medicine (WBSoM)

Prof. Erasmus Kamugisha,

MD (UDSM); M.Sc. (Makerere), PhD (CUHAS)

The Weill Bugando School of Medicine (WBSoM) was the first School envisaged and established by the Tanzania Episcopal Conference (TEC) at BUGANDO. The WBSoM offers programmes upon which hinges the Mission of the University in its quest to enable Tanzania to produce enough doctors and other health professionals to achieve a satisfactory level of "Health for All" in the foreseeable future. These programmes are Doctor of Medicine (MD) and Bachelor of Medical Laboratory Sciences (BMLS)

VISION

To become an outstanding Tanzanian Catholic School excelling in health care, training and research and responsive to societal needs.

MISSION

1. To provide skilled and competent human resources in the health sector that is vested with moral and ethical values
2. Search, discover and communicate the truth to advance the frontiers of knowledge.
3. Provide quality services to the community.

DOCTOR OF MEDICINE (MD) PROGRAMME (CURRENT)

BACKGROUND

The MD training programme is the most pivotal upon which hinges the Mission of the University in its quest to enable Tanzania to produce enough doctors and other health professionals to achieve a satisfactory level of "Health for All" in the foreseeable future. As it is the current trend in other University Medical Universities in Tanzania and elsewhere –to semesterize and modularize all academic programmes, CUHAS - Bugando has adopted a similar model for its programmes.

A TEN-SEMESTER CURRICULUM FOR THE DOCTOR OF MEDICINE (MD) COURSE

1.0 BACKGROUND

The School of Medicine is the first of several Schools and other Institutes that were envisaged under the BUCHS project which the Tanzania Episcopal Conference (TEC) conceived in 1994.

The MD training programme is the most pivotal upon which hinges the Mission of the University in its quest to enable Tanzania to produce enough doctors and other health professionals to achieve a satisfactory level of "Health for All" in the foreseeable future. As it is the current trend in other University Medical Universities in Tanzania and elsewhere –to semesterize and modularize all academic programmes, CUHAS - Bugando has adopted a similar model for its programmes.

2.0 OBJECTIVES

The objective of the University, as regards the MD Course, is to train competent general duty Medical Officers who after the appropriate period of internship can, without supervision, render adequate medical care both to the individual patient and to the community in differing situations.

The graduate therefore should be able to:

- Administer the health services of a district, and train, organize and direct the health team of medical and paramedical personnel in a district, in a hospital and in a health centre.
- Conduct his/her activities so that they are relevant to the community by understanding the significant social, political, economic, psychological and ecological factors of the community.
- Identify and solve the major health problems of the community under his/her care, according to the national and community priorities by organizing and providing preventive and curative community health services.
- Organize and provide routine and emergency, preventive and curative medical care for the individual by:
    - Knowing the normal structure, function, development and growth of the human body and personality.
    - Recognizing disorders and abnormalities of structure, function, development and growth of the human body and personality
    - Examining patients both clinically and with the relevant investigative procedures.
    - Evaluating the results of the examination and investigations and reaching an appropriate diagnosis.
    - Administering to the patients the appropriate medical/pediatric/surgical/mental health/gynecological and obstetric care and treatment.
        - Training and directing the health team in all of the above as required.
        - Accept the responsibility of continuing his/her professional education, in order to utilize advances in medical science and to benefit from further postgraduate training provided in Tanzania or elsewhere.
        - Recognize the limit of his/her competence and refer such issues to higher levels.

3.0 CURRICULUM TEACHING AND LEARING METHODS

CUHAS-BUGANDO has established a well set up and managed Computing Center, linked to the Internet, which will provide "Student Centered Learning" (SCL), as well as "Problem Based Learning"(PBL), in addition to the more conventional MD Curriculum Teaching and Learning methods.

4.0 STRUCTURE OF MODULES FOR THE SEMESTER SYSTEM

SUMMARY OF THE MODULES FOR THE SEMESTER SYSTEM

Code	*Course Title*	*Theory*		*Practical/seminars*		*Total*	
		Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
Year 1 (Semester I) 25.9 Units							
AN 101-106	Anatomy	129	8.6	232	5.2	361	13.8
BC 101-104	Biochemistry	148	9.9	40	0.9	189	10.8
MF 301-	Medical Ethics & forensic medicine	19	1.3	0	0	19	1.3
TOTAL		**296**	**19.8**	**272**	**6.1**	**569**	**25.9**
YEAR I (Semester II) 25.7 Units							
PH 101-103	Physiology	115	7.7	74	1.6	189	9.3
BS 101-103	Behavioral Sciences	134	8.9	74	1.6	208	10.5
DS 101-103	Development Studies	60	4.0	30	0.6	90	4.6
MF 302	Medical Ethics & forensic medicine	19	1.3	0	0	19	1.3
TOTAL		**328**	**21.9**	**178**	**3.8**	**506**	**25.7**
YEAR 2 (Semester III) 27.5 Units							
MM 201-203	Microbiology / Immunology	114	7.6	76	1.7	190	9.3
PE 201-203	Parasitology / Entomology	91	6.0	61	1.3	152	7.3
PH 201-202	Clinical physiology	57	3.8	0	0	57	3.8
DS 201-202	Development Studies	65	4.3	30	0.7	95	5.0
CM 201-204	Introduction to Basic Clinical methods	0	0	36	0.8	36	0.8
MF 300	Medical Ethics & forensic medicine	19	1.3	0	0	19	1.3
TOTAL		**346**	**23**	**203**	**4.5**	**549**	**27.5**
YEAR 2 (Semester IV) 32.9 Units							
MP 201-204	Pathology	229	15.3	76	1.7	305	16.9
ER 201-203	Epidemiology & Research Methodology	65	4.3	167	3.7	232	8.0
EF 201-202	Nutrition Field Project	50	3.3	90	2.0	140	5.3
CM 205-206	Introduction to Clinical methods	37	2.5	9	0.2	46	2.7
TOTAL		**381**	**25.4**	**342**	**7.6**	**723**	**32.9**
YEAR 3 (Semester V) 25.1 Units							
CP 301-305	Clinical Pharmacology	167	11.1	16	0.36	183	11.5
MD 301-306	Management of Diseases (I)	204	13.6	0	0	204	13.6
TOTAL		371	24.7	16	0.0.4	387	25.1
YEAR 3 (Semester VI) 14.9 Units							
MF 304	Medical Ethics	19	1.3	0	0	19	1.3
MD 307-313	Management of Diseases (II)	204	13.6	0	0	204	13.6
TOTAL		223	14.9	0	0	223	14.9
YEAR 4 (Semester VII) 13.6 Units							

MD 314-316	Management of Diseases (III)	204	13.6	0	0	204	13.6
TOTAL		**204**	**13.6**	**0**	**0**	**204**	**13.6**
Semester VI & VII (Junior Rotations) Year 3 & 4 (24.4) Units							
MI 400	Internal medicine	18	1.2	220	4.9	238	6.1
MH 400	Paediatrics and Child health	18	1.2	220	4.9	238	6.1
MG 400	Obstetrics & Gynaecology	18	1.2	220	4.9	238	6.1
MS 400	Surgery	18	1.2	220	4.9	238	6.1
TOTAL		**72**	**4.8**	**880**	**19.6**	**952**	**24.4**
Semester VIII & IX (Rotations) (36.3 Units							
MC 400	Community Medicine	15	1	365	8.1	380	9.1
MY 400	Psychiatry	48	3.2	315	7.0	363	10.2
MZ 400	Surgical Specialties	10	0.7	353	7.8	363	8.5
MW 400	Medical Specialties	10	0.7	353	7.8	363	8.5
TOTAL		**83**	**5.6**	**1386**	**30.7**	**1469**	**36.3**
Semester X (Senior Rotations) (12.4 Units)							
MI 500	Internal medicine	10	0.7	108	2.4	118	3.1
MH 500	Paediatric & Child health	10	0.7	108	2.4	118	3.1
MG 500	Obstetrics & Gynaecology	10	0.7	108	2.4	118	3.1
MS 500	Surgery	10	0.7	108	2.4	118	3.1
TOTAL		40	2.8	432	9.6	472	12.4

KEY to MD Course subjects

AN: Anatomy	**MF:** Medical Ethics & Forensic Medicine
BC: Biochemistry	**MG:** Obstetrics & Gynaecology
BS: Behavioural Sciences & Biostatistics	**MH:** Paediatrics & Child Health
CM: Introduction to Clinical Methods	**MI:** Internal Medicine
CP: Clinical Pharmacology	**MM**: Microbiology/Immunology
DS: Development Studies	**MP:** Pathology
EF: Nutrition Field Project	**MS:** Surgery
ER: Epidemiology & Research Methodology	**MY:** Psychiatry
MC: Community Medicine	**MZ**: Surgical Specialties (Anaesthesiology & Critical Care Medicine, Otorhinolaryngology, Ophthalmology)
MD: Management of Diseases Courses I & II	**PE:** Parasitology/Entomology
ME: Elective Period	**PH:** Physiology

Teaching programme for the 10 semesters (MD)

SEMESTER ONE

AN 100: ANATOMY (13.8 Units)

Aim: Impart knowledge to the students on the structure and development of the human body in health

Objectives

At the end of the course the student should be able to:

- Understand and describe the structure of the human body in health as seen with the naked eye
- Identify different parts of the human body
- Understand and use medical/anatomical terminology
- Understand and describe the structure of the human body in health at microscopic level
- Identify with the aid of a microscope different types of cells, tissues and organs
- Understand and describe the processes involved in the development of the human body
- Describe congenital malformations
- Explain how congenital malformations come about

Course Content

The course will be offered in modules as shown in the table below:-

Module	*Code*	*Name*	*Lectures*		*Practical*		*Total*	
			Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
I	**AN 101**	Organization of the human body, Cell biology and genetics	19	1.3	-	-	19	1.3
II	**AN 102**	Upper limb, Thorax, Head and Neck	17	1.1	117	2.6	134	3.7
III	**AN 103**	Lower Limb Abdomen, Pelvis	13	0.9	75	1.7	88	2.6
IV	**AN 104**	Neurobiology	16	1.1	10	0.2	26	1.3
V	**AN 105**	General and Systemic Histology	32	2.1	30	0.7	62	2.8
VI	**AN 106**	Developmental Biology	32	2.1	-	-	32	2.1
		Total	129	8.6	232	5.2	361	13.8

BC 100: BIOCHEMISTRY (10.7 Units)

Introduction: Biochemistry is a basic science subject on which most biological sciences find their foundation. It entails the fundamental concepts of chemistry of life, which includes structural organization, energy interconnection, signal transduction and finally genetic information storage and flow. Recent developments in Molecular Biology are also embodied in Biochemistry.

Aims

1. To impart knowledge on structural organization of biomolecules
2. To impart knowledge on molecular and energy transformation and control of metabolism
3. To impart knowledge on signal transductions/flow and storage of genetic information

Objectives

At the end of the course the student should be able to: -

- Describe chemistry of proteins, lipids and carbohydrates and to recognize some basic structures
- Describe cellular organization at molecular level
- Describe structure and function of Enzymes including clinical application of enzymology
- Describe principles of Biological oxidation and oxidative phosphorylation and thermodynamics
- Describe processes in intermediary metabolism
- Describe selected concepts in Molecular Biology
- Describe porphyrins and bile pigments metabolism
- Describe hormone mechanisms and signal transduction

Course Content

The course will be offered in modules as shown in the table below:

Module	Code	Name	Lectures		Practical		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**BC 101**	Chemistry of Biomolecules	25	1.7	0	0	25	1.7
II	**BC 102**	Enzymology, coenzymes and energy transformation	30	2.0	10	0.2	41	2.2
III	**BC 103**	Metabolism of proteins, carbohydrates, lipids and nucleic acids	50	3.3	10	0.2	60	3.5
IV	**BC 104**	Molecular Biology and hormone systems	43	2.9	20	0.4	63	3.3
Total			148	9.9	40	0.8	189	10.7

MF 300: MEDICAL ETHICS (6.5 Units]

Introduction: This is a vertical program to be taught during semesters 1-6 and 9 when students shall sit for the final examination. The forensic part of the course will begin after students have started pathology in semester 4. No student shall be allowed to graduate until and unless he/she has completed and passed examination in medical ethics and forensic medicine.

Aims

1. To develop working knowledge of current ethical guidelines and professional codes of practice.
2. To understand how ethical guidelines relate to medical practice & research.

Objectives

At the end of the course the student should be able to:

- Explain the concept of rights and duties of a doctor.
- Explain the concept of consent to treatment, medical procedure and participation in medical research
- Explain the prima facie moral principles
- List the ethical issues involved in screening
- List the ethical issues involved in research involving animals.
- Identify the ethical and legal issues involved in medical negligence
- Explain the abortion act and its implications
- Identify the ethical and legal issues involved in Obstetrics where there is conflict between care of mother and fetus.
- Identify the ethical and legal issues involved in care and research in Psychiatry

- Identify the legal and ethical issues involved in research involving minors
- List situations where confidentiality may be broken and give reasons.
- Perform a thorough medical legal autopsy and give a clear report.
- Investigate non-natural deaths and be able to give evidence in court
- Procure and preserve materials for forensic and toxicological investigations
- Interpret clinical toxicological findings
- Conduct oneself and discharge one's duties in a manner expected of the profession.

Course Content

The course will be offered in modules as shown in the table below: -

Module	***Code***	***Name***	***Lectures***		***Practical***		*Total*	
			Hrs	*Units*	*Hrs*	*Units*	*Hrs*	***Units***
I	**MF 301**	Medical Ethics I	19	1.3	-	-	19	**1.3**
	MF 302	Medical Ethics II	19	1.3	-	-	19	**1.3**
	MF 303	Medical Ethics III	19	1.3	-	-	19	**1.3**
II	**MF 304**	Medical Ethics IV	19	1.3	-	-	19	**1.3**
	MF 305	Medical Ethics V	19	1.3	-	-	19	**1.3**
		Total	95	6.3			95	6.3

SEMESTER TWO

PH 100: PHYSIOLOGY (9.3 UNITS)

Aim: To provide students with knowledge on normal functioning of the human body and how the various normal functions are controlled and regulated

Objectives

At the end of the course the student is expected to:

- Describe the various homeostatic and control systems and the way they operate in the human body.
- Enumerate the international system of units which describe mass, volume, and concentration.
- Describe the general physiology of the cell membrane; membrane potentials in excitable tissues (example; muscle cells and nerves).
- List the major constituents of body tissues, and describe the composition and partitioning of body fluids.
- List the composition of blood and describe the general functions of blood; the formation characteristics and functions of different blood cells.
- List the major divisions of the circulatory system, and describe its general organization, functions and the control of the cardiovascular system.
- Describe the functional anatomy of the respiratory system, the mechanics of breathing, alveolar gas exchange and the control of the respiratory system.
- Describe the functional anatomy of the kidney, the renal mechanisms of filtration, excretion and re-absorption; concentrating and diluting mechanisms and the endocrine function of the kidney.
- Describe the functional anatomy of the digestive system, the motility, secretory, digestive, absorptive and endocrine functions of the digestive system.

- Explain the chemical nature of hormones, and describe how the hormones are secreted, transported in plasma, their functions and how they are metabolized & excreted.
- Describe the organization of the nervous system and explain the physiological functions, sensory and motor system; autonomic nervous system; special senses

Course content

The course will be offered in modules as shown in the table below:-

Module	***Code***	***Name***	***Lectures***		***Practical***		*Total*	
			Hrs	*Units*	*Hrs*	*Units*	*Hrs*	***Units***
I	**PH 101**	Fluid and circulation	37	2.4	36	0.8	73	**3.2**
II	**PH 102**	Metabolism and excretory systems	36	2.4	26	0.6	62	**3.0**
III	**PH 103**	Neuro-endocrine physiology	42	2.8	12	0.3	54	**3.1**
Total			115	7.6	74	1.7	189	9.3

BS 100: BEHAVIORAL SCIENCES AND BIOSTATISTICS (10.5 Units)

Aims

1. To provide a course that is relevant to current public health problems and their interventions.
2. To provide students with fundamental statistical skills relevant to public health analysis.
3. To introduce students to specific concepts and models that explain ill health and diseases.

Objectives

By the end of this course students should be able to:

- Understand the relationship between illness and human behavior.
- Recognize social, cultural and psychological factors that influence ill-health.
- Describe different models that explain health behavior.
- Measure health related knowledge and behavior in the community.
- Understand the relationship between culture and health.
- Appreciate the role of traditional medicine in health services provision.
- Understand and analyze factors that affect utilization of health services.
- Analyze risk behaviors pertaining to ill health.
- To enable students to identify social, cultural and psychological factors that may lead to adverse health outcomes in human populations.
- To enable students to identify broad based social issues that are important in public health interventions

Course Content

The course will be offered in modules as shown in the table below.

Module	Code	Name	Lectures		Practical		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**BS 101**	Medical Sociology	50	3.3	28	0.6	78	**3.9**
II	**BS 102**	Health and Psychology	45	3.0	25	0.5	70	**3.5**
III	**BS 103**	Biostatistics and demography	39	2.6	21	0.5	60	**3.1**
Total			**134**	**8.9**	**74**	**1.6**	**208**	**10.5**

DS 100: DEVELOPMENT STUDIES (4.6 Units)

Aim: The course exposes students to the theories, problems and contemporary issues of development in relation to health.

Objectives:

At the end of the course, students should be able to:-

- Define the concept of development
- Explain the different theories of development
- Describe the process of social and political developments in Africa
- Relate health to the theories of development

Course Contents:

The course will be offered in modules as shown in the table below:

Module	Code	Name	Lectures		Practical		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
L	**DS 101**	Social Development and Health	25	1.7	10	0.2	35	**1.9**
Ll	**DS 102**	Education, Rural Development, Gender and Health.	15	1.0	10	0.2	25	**1.2**
Lll	**DS 103**	Population, Poverty and Health	20	1.3	10	0.2	30	**1.5**
Total			**60**	**4.0**	**30**	**0.6**	**90**	**4.6**

SEMESTER THREE

MM 200: MICROBIOLOGY/IMMUNOLOGY (9.3 Units)

Aim: To provide students with knowledge and skills in the subject of Microbiology and Immunology.

Objectives

At the end of the course the student is expected to:

- Understand the main principles of general Medical Microbiology and Immunology.
- Acquire knowledge of host-parasite-environment relationship in health and in microbial diseases
- Understand the etiology of human microbial and immunological health problems
- Be familiar with the general epidemiological aspects of microbial health problems and simple preventive measures of specific health problems with special reference to sub Saharan Africa.
- Be familiar with collection and handling of appropriate specimens for Microbiological investigation.

- Be familiar with and able to perform essential microbiological and immunological laboratory procedures used in determining etiology of common microbial and immunological health problems.
- To enable them appreciate the role of the subject in problem solving in infectious disease management, prevention and control.

Course content

The course will be offered in modules as shown in the table below.

Module	Code	Name	Lectures		Practical		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**MM 201**	General Bacteriology	54	3.6	62	1.4	116	**5.0**
II	**MM 202**	Virology and Mycology	39	2.6	6	0.1	45	**2.7**
III	**MM 203**	Immunology	21	1.4	8	0.2	29	**1.6**
Total			**114**	**7.6**	**76**	**1.7**	**190**	**9.3**

PE 200: PARASITOLOGY/MEDICAL ENTOMOLOGY (7.3 Units)

Aims

1. To impart knowledge on identification of life cycles, epidemiological factors, host-parasite relationships.
2. To impart knowledge on identification of the appropriate preventive and control measures.

Objectives

At the end of the course the student should be able to:

- Describe in detail the life cycles of medically important parasites
- Describe the organs commonly involved in the infection
- Describe the relationship of this infection to symptoms, relapse and the accompanying pathology.
- Describe the factors that determine endemicity of the parasite infection
- Describe the distribution and epidemiology of the parasites in East Africa
- Describe the methods of parasite control e.g. chemotherapy, molluscicding, general sanitation, etc.
- Describe the advantages and disadvantages of each method.

Course content

The course will be offered in modules as shown in the table below.

Module	***Code***	***Name***	***Lectures***		***Practical***		*Total*	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**PE 201**	Protozoology and Immuno-Parasitology	35	2.3	19	0.4	54	**2.7**
II	**PE 202**	Helminthology	36	2.4	29	0.6	65	**3.0**
III	**PE 203**	Entomology	20	1.3	13	0.3	33	**1.6**
		Total	91	6.0	61	1.3	152	7.3

PH 200: CLINICAL PHYSIOLOGY (3.8 Units)

Aim: To provide students with knowledge on normal and disordered functioning of the human body and how to use this knowledge in making correct diagnosis and management of disease conditions.

Objectives

At the end of study of this course the student should be able to:

- Explain the concept of reserve, compensation and failure.

- Describe the body fluid compartments, derangements of body fluid and how the kidneys compensate for such derangements.
- Describe the abnormalities in erythropoiesis, anaemia, haemostasis and bleeding tendencies.
- Describe the normal and abnormal functioning of the digestive system, including malabsorption and excess secretion of hydrochloric acid and its effects.
- Describe the various mechanisms that lead to disordered cardiovascular functions including hypertension, cardiac failure and circulatory shock.
- Describe the disordered function of the Respiratory system including impairment of the alveolar capillary gas transfer, respiratory insufficiency and failure, hypoxia, hypercapnoea.
- Describe the abnormalities in the endocrine functions including diabetes mellitus, thyroid dysfunction, adrenal gland dysfunction and parathyroid gland dysfunction.
- Describe the disorders of motor and sensory functions as well as disorders of the autonomic nervous system.

Course content

The course will be offered in modules as shown in the table below.

Module	***Code***	***Name***	***Lectures***		*Total*	
			Hrs	*Units*	*Hrs*	***Units***
I	**PH 201**	Clinical Physiology of fluid and circulation	20	1.3	20	**1.3**
II	**PH 202**	Clinical Physiology of Metabolism and excretory systems	19	1.2	19	**1.3**
III	**PH 203**	Clinical Physiology of Neurophysiology and Endocrinology	18	1.2	18	**1.2**
		Total	57	3.7	57	3.8

DS 200: DEVELOPMENT STUDIES (4.9 Units)

Aim: To expose students to Tanzania's development experiences and be aware of alternative development strategies existing currently.

Objectives

At the end of the course students should be able to: -

- Analyze the dynamics of Tanzania's development plans/strategies and implementation in health and health related sectors.
- Compare and contrast different development strategies in developing countries.
- Analyze current development problems and issues in Tanzania and developing countries in general and how these problems relate to health
- Should be able to plan, organize and manage a private health care facility.

Course Contents

The course will be offered in modules as shown in the table below.

Module	***Code***	***Name***	***Lectures***		***Practical***		*Total*	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**DS 201**	Globalization Environment and Health	20	1.3	10	0.2	28	**1.5**
II	**DS 202**	Human Rights, Governance and Entrepreneurship	45	3.0	20	0.4	62	**3.4**
		Total	65	4.3	30	0.6	90	4.9

CM 200: INTRODUCTION TO BASIC CLINICAL METHODS (0.8 Units)

Introduction: During this course students will be divided into groups to rotate through different departments during semesters 3 and 4. Development of clinical skills initiated during this course will form basis for scaling up the same during semesters 5 through 10 to include comprehensive patient care and management.

Aims

1. To introduce students to clinical skills based on cognitive knowledge acquired in basic sciences
2. To introduce/orientate students to the wards, importance of team work (e.g. nurses, laboratory personnel, pharmacists,) in patient care.
3. To develop basic elementary professional skills (communication and physical signs/features) in Psychiatry, Surgery, Pediatrics and Child Health, Medicine, Obstetrics and Gynaecology.
4. To introduce students to the clinical setting for mental health care and common mental disorders

Objective: To enable the students to gain insight of the scope of Medicine, Psychiatry, Surgery, Pediatrics and Child Health, Obstetrics & Gynaecology.

Course content

The course will be offered in modules as shown in the table below.

Module	*Code*	*Name*	*Lectures*		*Practical*		*Total*	
			Hrs	*Units*	*Hrs*	*Units*	*Hrs*	***Units***
I	**CM 201**	Introduction to common physical signs in medicine	-	-	9	0.2	9	**0.2**
II	**CM 202**	Introduction to common physical signs in surgery	-	-	9	0.2	9	**0.2**
III	**CM 203**	Introduction to common physical signs in Obstetric and Gynaecological	-	-	9	0.2	9	**0.2**
IV	**CM 204**	Introduction to common physical signs in Paediatrics	-	-	9	0.2	9	**0.2**
		Total	**-**	**-**	**36**	**0.8**	**36**	**0.8**

SEMESTER FOUR

MP 200: PATHOLOGY (16.9 Units)

Aim: To impart to students knowledge of aetiology, pathogenesis, morphologic and functional changes of the human body in disease.

Objectives

At the end of the course the student is expected to be able to do the following:

- Identify with the aid of a microscope cellular changes indicative of injury
- Describe the etiology and pathogenesis of infectious and non-infectious diseases.
- Select and carry out appropriate Laboratory tests for the diagnosis of diseases.
- Collect and handle appropriately specimens for investigations of the various diseases including biopsies
- Integrate and correlate laboratory results to the management of patient's illness.
- Perform clinical autopsy, describe morphological changes and write a detailed report.

Course Contents

The course will be offered in modules as shown in the table below.

Module	Code	Name	Lectures		Practicals		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**MP 201**	Principles of General Pathology andLympho-haemopoietic systems	65	4.3	26	0.6	91	**4.9**
II	**MP 202**	Systemic Pathology I (RS, CVS, UGS, GIT*)	80	5.3	20	0.4	100	**5.7**
III	**MP 203**	Systemic Pathology II (Endocrine, CNS skin and MSS, HIV/AIDS)	54	3.6	22	0.5	76	**4.1**
IV	**MP 204**	Forensic Medicine	30	2.0	8	0.2	38	**2.2**
Total			**229**	**15.2**	**76**	**1.7**	**305**	**16.9**

ER 200: EPIDEMIOLOGY AND RESEARCH METHODOLOGY(8.0 Units)

Aims

1. To introduce to the students the basic principles of epidemiology and research methodology and their application in the planning and provision of medical and health care services.
2. To introduce the students to environmental determinants of health and disease in human populations.

Objectives

At the end of the course, the student should be able to:

- Understand and utilize the basic principles of epidemiology in research and in planning provision medical and health care services
- Understand and use the epidemiological methods in research and assess community health needs
- Understand and use the research methods to collect, analyze and present critical information to stakeholders and wider audience
- Understand the epidemiology and control of the selected major diseases of public health importance in Tanzania.
- Describe the physical, biological, socio-cultural and environmental factors affecting health and disease.
- Identify the agencies and services available to families and the extent to which they meet their needs.

Course Content

The course will be offered in modules as shown in the table below.

Module	Code	Name	Lectures		Practicals		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**ER 201**	Principles of Epidemiology	31	2.1	15	0.3	46	**2.4**
II	**ER 202**	Research Methodology	14	0.9	34	0.8	48	**1.7**
III	**ER 203**	Environmental Health and Family Case Studies	20	1.3	118	2.6	138	**3.9**
Total			**65**	**4.3**	**167**	**3.7**	**232**	**8.0**

CM 200: INTRODUCTION TO CLINICAL METHODS (2.7 Units)

Introduction: This is a vertical program, on introduction to clinical skills development. The course started during semester 3 and students were divided into groups that rotate through different departments. At the end of this semester students should have completed the rotations. During the fourth semester psychopathology and introduction to clinical methods in psychiatry courses will be taught within the Clinical Methods Module. The psychopathology course introduces students to concepts of normality, disturbed behavior, and develops expressive skills for clinical psychiatry over 37 hours of lectures.

Aims

1. To introduce students to clinical skills based on cognitive knowledge acquired in basic sciences
2. To introduce/orientate students to the wards, importance of team work (e.g. nurses, laboratory personnel, pharmacists,) in patient care.
3. To develop basic elementary professional skills (communication and physical signs/features) in Psychiatry, Surgery, Pediatrics and Child Health, Medicine, Obstetrics and Gynaecology.
4. To introduce students to the clinical setting for mental health care and common mental disorders
5. To introduce the concept of psychopathology and normality and to provide an introduction to the technical language used to describe symptoms and signs in clinical psychiatry.

Objectives

- To enable the students to gain insight of the scope of Medicine, Psychiatry, Surgery, Pediatrics and Child Health, Obstetrics & Gynaecology.
- To define and describe psychopathology vs. normative behaviors
- To list and define common abnormalities in basic human psychological processes.

Course Content

The course will be offered in module as shown in the table below:

Module	Code	Name	Lectures		Practicals		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
V	**CM205**	Psychopathology	37	2.5	-	-	37	**2.5**
VI	**CM206**	Introduction to common physical signs & features in Psychiatry	-	-	9	0.2	9	**0.2**
Total			**37**	**2.5**	**9**	**0.2**	**46**	**2.7**

EF 200: NUTRITION FIELD PROJECT (5.3 Units)

Introduction: Fieldwork for this course is done during the long vacation after the 4th Semester.

Aim: To impart to students knowledge on nutrition and nutritional disorders to the individual and community.

Objectives

At the end of the course the students should be able to;

- Describe nutrition disorders of public health importance globally and in Tanzania
- Analyse causes of malnutrition using the UNICEF's conceptual framework and how to intervene using the Triple A Cycle.
- Develop a research proposal to assess nutritional status in the community.

- Carry out a nutritional survey in the community using anthropometric measurements.
- Interact well with mothers, families and community leaders.
- Analyse and interpret research findings and disseminate them to the community.

Course content

The course will be offered in module as shown in the table below:

Module	Code	Name	Lectures		Practicals		Total	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**EF 201**	Overview of nutritional problems of public health importance	35	2.3	-	-	35	2.3
II	**EF 202**	Applied research methodology in nutrition	15	1.0	90	2.0	105	3.0
Total			50	3.3	90	2.0	140	5.3

SEMESTER FIVE

CP 300: CLINICAL PHARMACOLOGY (11.5 Units)

Aims

1. To introduce the student to the basic concepts of pharmacology.
2. To provide the student with the basic principles of drug action and to apply them in rational clinical use in the diagnosis, prevention and treatment of disease.
3. To provide the student with knowledge of chemical agents found in environment.

Objectives

At the end of the course the student should be able to:

- Apply and discuss in a satisfactory and professional manner the use and actions of drugs in the wards and clinics.
- Recognize where required and in accordance with the law when prescription are written correctly
- Understand the importance of pharmacology in the practice of medicine and related social economic problems
- Keep current with new developments and to contribute new knowledge as the occasions may arise.

Course Content

The course will be taught in modules as shown below

Module	Code	Name	Lectures		Practicals		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**CP 301**	Chemical Mediators	35	2.3	12	0.27	47	**2.57**
II	**CP 302**	Drug Disposition	19	1.3	4	0.09	23	**1.39**
III	**CP 303**	Systemic Pharmacology	73	4.8	-	-	73	**4.8**
IV	**CP 304**	Chemotherapy of Parasites	24	1.6	-	-	24	**1.6**
V	**CP 305**	Applied Pharmacology	16	1.1	-	-	16	**1.1**
Total			**167**	**11.1**	**16**	**0.36**	**183**	**11.46**

MD 300: MANAGEMENT OF DISEASES COURSES I, II & III

Introduction: The Management of Diseases course comprises of Internal Medicine, Surgery and Surgical Specialities, Obstetrics and Gynaecology, Paediatrics and Child Health, Psychiatry and Community Medicine. The course is taught in three semesters (5, 6 and 7). Management of Diseases I (MD 300) is taught during the 5th semester, Management of Diseases II (MD 300) during the 6th semester and Management of Disease III (MD300) during 7th semester.

Aim: Promote the acquisition of cognitive knowledge, basic clinical skills and investigations.

Objectives

At the end of the course the student should be able to:

- Understand the scientific basis of diagnosis and management of common clinical conditions
- Take history and elicit clinical features of disease conditions.
- Make diagnosis and be able to suggest treatment
- Apply public health, epidemiology, social and behavioural aspects of disease into disease prevention, health promotion and care in the community.

Course Content

This course will be offered in modules as shown in the table below:

Module	Code	Name	Lectures		Practical		Total	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**MD 301**	Principles of Surgery	31	2.1	-	-	31	2.1
II	**MD 302**	Infectious diseases	36	2.4	-	-	36	2.4
III	**MD 303**	Cardiovascular and Respiratory diseases	48	3.2	-	-	48	3.2
IV	**MD 304**	Dermatology and Rheumatology	25	1.7	-	-	25	1.7
V	**MD 305**	Neurology	28	1.8	-	-	28	1.8
VI	**MD 306**	Nephrology, Urology, Geriatrics and chronic illnesses	36	2.4	-	-	36	2.4
Total			**204**	**13.6**	**-**	**-**	**204**	**13.6**

SEMESTERS SIX AND SEVEN

Introduction: During semesters 6 and 7 students will be divided into four groups of equal size and shall remain in their respective junior rotation groups throughout. The rotations shall be of 10 weeks each in Internal Medicine, Paediatrics and Child Health, Obstetrics & Gynaecology and Surgery.

Objectives: The objectives for semester 6 and 7 are found in the main document of the curriculum

Course Contents

Rotation	Code	Course Name	Lectures		Practical		Total	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**MI 400**	Internal Medicine Junior rotation	18	1.2	220	4.9	238	**6.1**
II	**MH 400**	Paediatrics and Child Health Junior rotation	18	1.2	220	4.9	238	**6.1**
III	**MG 400**	Obstetrics and Gynaecology Junior rotation	18	1.2	220	4.9	238	**6.1**
IV	**MS 400**	Surgery Junior rotation	18	1.2	220	4.9	238	**6.1**
Total			72	4.8	880	19.6	952	**24.4**

MD 300: MANAGEMENT OF DISEASES II (13.6 Units)

Objective, Method of teaching and evaluation as under management of disease I in semester five above.

Course content

This course will be offered in modules as shown in the table below:

Module	Code	Name	Lectures		Practicals		Total	
			Hrs	Units	Hrs	Units	Hrs	**Units**
VII	**MD 307**	Endocrine and GIT disorders	18	1.2	-	-	18	**1.2**
VIII	**MD 308**	Orthopaedics and Neurosurgery	18	1.2	-	-	18	**1.2**
IX	**MD 309**	Mental illnesses and related disorders	18	1.2	-	-	18	**1.2**
X	**MD 310**	Diseases of the eye	15	1.0	-	-	15	**1.0**
XI	**MD 311**	Paediatrics and Child Health	60	4.0	-	-	60	**4.0**
XII	**MD 312**	Obstetrical and Gynaecology	60	4.0	-	-	60	**4.0**
XIII	**MD 313**	Communicable diseases control	15	1.0	-	-	15	**1.0**
Total			**204**	**13.6**	**-**	**-**	**204**	**13.6**

MD 300 MANAGEMENT OF DISEASES III (13.6 Units) (Semester 7)

Module	Code	Name	Lectures		Practicals		Total	
			Hrs	Units	Hrs	Units	Hrs	**Units**
XIV	**MD 314**	ENT	53	3.5	-	-	53	**3.5**
XV	**MD 315**	Diagnostic Radiology and radiotherapy	76	5.1	-	-	76	**5.1**
XVI	**MD 316**	Anesthesiology	75	5.0	-	-	75	**5.0**
Total			**204**	**13.6**			**204**	**13.6**

SEMESTERS EIGHT AND NINE

Introduction

During semesters 8 and 9 students will be divided into four groups of equal size and shall rotate for a period of ten (10) weeks each in Community Medicine, Psychiatry, Surgical specialties (Anaesthesiology, Otorhinolaryngology and Opthalmology) and in Medical Specialties.

Objectives

The objectives for semester 8 and 9 are found in the main document of the curriculum

Course content

Rotation	Code	Course Name	Lectures		Practicals		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**MC 400**	Community Medicine rotation	15	1.0	365	8.1	380	**9.1**
II	**MY 400**	Psychiatry rotation	48	3.2	315	7.0	363	**10.2**
III	**MZ 400**	Surgical Specialities rotation	10	0.7	353	7.8	363	**8.5**
IV	**MW 400**	Medical Specialities rotation	10	0.7	353	7.8	363	**8.5**
Total			**83**	**5.6**	**1386**	**30.7**	**1469**	**36.3**

SEMESTER TEN

Introduction

During semester 10 students will be divided into four groups of equal size and shall remain in their respective senior rotation groups throughout. The rotations shall be of 5 weeks each in Internal Medicine, Paediatrics and Child Health, Obstetrics & Gynaecology and Surgery.

Objectives

The objectives for semester 10 are found in the main document of the curriculum

Course Contents

This course will be offered in modules as shown in the table below:

Rotation	**Code**	**Course Name**	**Lectures**		**Practicals**		**Total**	
			Hrs	Units	Hrs	Units	Hrs	**Units**
I	**MI 500**	Internal Medicine Senior rotation	10	0.7	108	2.4	118	**3.1**
II	**MH 500**	Paediatrics and Child Health Senior rotation	10	0.7	108	2.4	118	**3.1**
III	**MG 500**	Obstetrics and Gynaecology Senuior rotation	10	0.7	108	2.4	118	**3.1**
IV	**MS 500**	Surgery Senior rotation	10	0.7	108	2.4	118	**3.1**
Total			**40**	**2.8**	**432**	**9.6**	**472**	**12.4**

CLINICAL CLERKSHIP GUIDELINES

INTRODUCTION

The University places a lot of importance to this stage of training of the medical student because it lies at the heart of medical education. In the new curriculum the University has strived to give the student as much clinical exposure as possible. It is designed to provide the medical student with an opportunity to learn by experience in patient care and by the examples set by the faculty and house staff. It will be focused on real problems in the context of professional practice. It is expected that the students will be motivated by its relevance and through active participation. We believe it is the only setting in which the skills of history taking, physical examination, clinical reasoning, decision making, empathy, and professionalism can be taught and learnt as an integrated whole.

Weill Bugando School of Medicine (WBSoM) has now split clinical teaching into a 10-week junior clerkship and a 5-week senior clerkship. The students will be divided into four groups of equal size and shall have

rotations in Medicine, Surgery, Paediatrics and Child Health and in Obstetrics and Gynaecology for their junior clerkship in semester 6 and 7 and their clerkship in surgical specialties (Anaesthesiology, Otorhinolaryngology and Ophthalmology), Community Medicine, Psychiatry and Forensic Medicine in semesters 8 and 9. The senior rotation will take place in the 10th semester.

During the 10 weeks of clerkship, the student will be expected to take a complete history, conduct a thorough and accurate physical exam, take into consideration complex psycho-social issues, formulate a problem list, construct a relevant differential diagnosis, and along with her/his team begin to manage the daily details of the care of patients.

During the 5 weeks of senior clerkship the student will learn how to take a more focused history and physical, manage chronic conditions and symptoms, and develop a more detailed approach and knowledge base regarding two specialty areas of her/his choice.

GOALS

- To develop the skills and knowledge needed to take an accurate history and physical examination and to formulate an appropriate differential diagnosis;
- To introduce the student to the principles of developing a management/treatment plan for various diagnosis;
- To encourage the student to take an active role as a member of the health care team, to learn to be responsible for patient management, to learn to work effectively with other members of the health care team and to develop skills as a professional.

CLERKSHIP GUIDELINES

The following will constitute general guidelines and an outline of what is expected of a student, and what the student should expect from teachers during their inpatient clerkships rotations. Although minor variations may exist from firm to firm and from discipline to discipline the basic format will apply to all.

Clinical clerks are expected to:

1. Perform an admission history and physical examination on at least five patients per week. For each patient the student will:
    a. Limit initial formal contact with patient to one hour.
    b. Submit for review within 24 hours a detailed write-up of the history physical findings, admission lab results, a formulation, and a plan of management.
    c. Read suggested information relevant to a major aspect of the patient's illness.
    d. Follow closely the patient's daily progress, and report on this progress during ward rounds.
    e. Assist interns with routine chores (data-gathering, etc.) necessary for the care of the patient.
2. Demonstrate to the consultant (during twice-weekly "students only" sessions) their level of skill in eliciting historical information and physical findings.
3. Observe and assist with special procedures such as bladder catheterization, Nasal Gastric tube insertions, bone marrow aspirations, lumbar punctures, venepunture, etc.
4. Present cases during attending rounds.

The Consultant/Attending Specialist is expected to:

1. Meet separately with the clinical clerks at least twice each week. During these sessions the consultant will directly supervise and observe the ability of clerks to take histories and to elicit and demonstrate physical findings.
2. Participate actively with the resident in the process of reviewing and criticizing student write-ups and being certain that write-ups are returned to the student within 24-48 hours.
3. Suggest reading material relevant to the student's cases.
4. Observe closely and improve the interactions between house staff and clinical clerks.
5. Discuss the student's progress and level of performance (personally) after two weeks and again at the end of the rotation.
6. Observe the student do a comprehensive history and physical on an unknown patient the last week of the rotation.

The ward resident is expected to:

1. Assign new cases to the clinical clerks. In making these assignments the resident will:
   a. select those cases most suitable for advancing the medical education of the student
   b. be certain that an appropriate one hour interval is set aside for the admission contact between patient and student.
2. Assign specific reading directly relevant to each patient worked up by the student
3. Review student write-ups with the attending physician. Discuss these with the student within 24-48 hours of submission.
4. Closely supervise and improve interactions between clinical clerks and interns.
5. Determine when each clinical clerk is qualified to:
   a. present progress data during ward rounds
   b. present cases during attending rounds
   c. write progress notes in the medical record
6. Discuss with each student (personally) that student's level of performance at two weeks intervals.

The intern is expected to:

1. Discuss with the student (personally), after the student has completed a formulation and plan of management, all aspects of the case assigned to the student.
2. Review with the student the orders written by the intern and the reasons for those orders.
3. Supervise directly "bedside" lab procedures (blood gas, cultures, etc.) performed by the student.
4. Keep the clinical clerk fully informed of all developments in that clerk's cases.
5. Review with the clerk progress notes written by he clerk and countersign these notes.

RESPONSIBILITIES FOR THE CLERK

- To be punctual to all rounds and lectures and other teaching opportunities;
- Perform a history and physical examination on new admissions assigned by the resident team;
- Assist the resident team in simple procedures and become familiar with these procedures;
- Present patients at Work and Attending Rounds. To have read thoroughly on these patients prior to presentation;
- Submit write-ups for patients using the format requested by the specialty to the coordinator for formal evaluation;
- Be up to date and familiar with the patients' pertinent development and write daily progress notes. Progress notes must be discussed with and countersigned by the assigned intern or resident;
- Accompany patients to special procedures and participate in discussions with consultants whenever possible;
- Read daily for conferences, assigned topics or presentations and especially patients' medical problems;
- Attend all assigned conferences given by the Department, including Medical Grand Rounds, house staff lectures, as well as specific conferences for clerks.

DOCTOR OF MEDICINE (MD) PROGRAMME (STARTING 2018/19)

1. This programme is based On the reviewed curriculum that is currently running. Students starting the MD programme in 2018/2019 onwards, will be trained under this system.

1.1. Summary of the MD Courses for the Semester System

Semester 1							
Code	**Name of Course**	**Lecture Hrs**	**Seminars, Assignment Hrs**	**Practical / Clinical / Field Hrs**	**Individual study / Research Hrs**	**Total Hrs**	**Total Credits**
AN 100	Anatomy	130	16	175	55	376	37.6
BC 100	Biochemistry	118	16	46	56	236	23.6
ME 100	Medical Ethics I	18	0	0	0	18	1.8
Total		**266**	**32**	**221**	**111**	**630**	**63.0**
Semester 2							
PH 100	Medical Physiology	136	51	70	68	325	32.5
SO 100	Medical Sociology	45	10	5	5	65	6.5
PS 100	Medical Psychology	30	20	10	30	90	9.0
BD 100	Biostatistics and Demography	60	20	20	20	120	12.0
Total		**271**	**101**	**105**	**123**	**600**	**60.0**
Semester 3							
Code	**Name of Course**	**Lecture Hrs**	**Seminars Assignment Hrs**	**Practical / Clinical / Field Hrs**	**Independent study / Research Hrs**	**Total Hrs**	**Total Credits**
MM 200	Medical Microbiology & Immunology	136	22	108	20	286	28.6
PE 200	Medical Parasitology & Entomology	106	16	78	20	220	22.0
DS 200	Development Studies	34	25	10	25	94	9.4
ME 200	Medical Ethics II	12	6	0	6	24	2.4
Total		**288**	**69**	**196**	**71**	**624**	**62.4**
Semester 4							
ER 200	Epidemiology & Research Methodology	60	40	10	20	130	13.0
EO 200	Environmental and Occupational Health	15	10	15	10	50	5.0
MP 200	Pathology	160	40	100	44	344	34.4
NU 200	Nutrition	12	6	56	10	84	8.4
Total		**247**	**96**	**181**	**84**	**608**	**60.8**

Semester 5							
Code	**Name of Course**	**Lecture Hrs**	**Seminars, Assignment Hrs**	**Practical / Clinical / Field Hrs**	**Independent study / Research Hrs**	**Total Hrs**	**Total Credits**
CP 300	Clinical Pharmacology	144	16	15	34	209	20.9
MD 300	Management of Diseases	248	19	55	34	356	35.6
ME 300	Medical Ethics III	34	10	0	10	54	5.4
Total		**426**	**45**	**70**	**78**	**619**	**61.9**
Semester 6 & 7							
Code	**Name of Course**	**Lecture Hrs**	**Seminars Assignment Hrs**	**Practical / Clinical / Field Hrs**	**Independent study / Research Hrs**	**Total Hrs**	**Total Credits**
IM 300	Internal Medicine	50	50	150	65	315	31.5
PC 300	Paediatrics & Child Health	50	50	150	65	315	31.5
GS 300	Surgery	25	25	200	65	315	31.5
OG 300	Obstetrics & Gynaecology	50	50	150	65	315	31.5
Total		**175**	**175**	**650**	**260**	**1260**	**126.0**
Semester 8 & 9							
CM 400	Community Medicine	65	95	105	35	300	30.0
PS 400	Psychiatry	50	50	180	20	300	30.0
SS 400	Surgical Specialities	80	16	156	28	280	28.0
MS 400	Medical Specialities	80	34	145	21	280	28.0
RP 400	Research Project	5	0	65	30	100	10.0
Total		**280**	**195**	**651**	**134**	**1260**	**126.0**
Semester 10							
Code	**Name of Course**	**Lecture Hrs**	**Seminars,Assignment Hrs**	**Practical / Clinical / Field Hrs**	**Independent study / Research Hrs**	**Total Hrs**	**Total Credits**
IM 500	Internal Medicine	10	15	105	10	140	14.0
PC 500	Paediatrics & Child Health	10	15	105	10	140	14.0
GS 500	Surgery	10	20	60	50	140	14.0
OG 500	Obstetrics & Gynaecology	15	10	100	15	140	14.0
ES 500	Entrepreneurship	32	4	2	2	40	4.0
Total		**77**	**64**	**372**	**87**	**600**	**60.0**
Grand Total for the course		**2030**	**777**	**2446**	**948**	**6201**	**620.1**

2. TEACHING PROGRAMME FOR THE 10 SEMESTERS

SEMESTER 1: (63.0 credits)

AN 100: ANATOMY (37.6 credits)

Course Aim: At the end of the course, the student will be able to integrate the application of knowledge, skills, attitudes and values in the structure and development of the human body in health. Students will also be able to integrate the knowledge of applied anatomy in clinical conditions of human beings.

Course Expected Leaning Outcomes:

At the end of the course, students will be able to:

- Comprehend the structure of the human body in health as seen with the naked eye.
- Delineate all parts of the human body.
- Comprehend the use medical/anatomical terminologies.
- Delineate with the aid of a microscope different types of cells, tissues, organs and human body in general.
- Comprehend the processes involved in the development of the human body and congenital malformations.
- Integrate the knowledge of applied anatomy in clinical conditions to human.

Course Content

Code	Name	Credits
AN 101	Organization of the human body and cell biology	*1.4 s*
AN 102	Upper limb, thorax, head & neck	*13.0*
AN 103	Neurobiology	*3.0*
AN 104	Lower limb, abdomen & Pelvis	*9.0*
AN 105	General and Systemic Histology	*7.0*
AN 106	Developmental Biology	*4.2*

BC 100: BIOCHEMISTRY (23.6 credits)

Course Aims: At the end of the course the student will be able integrate the application of knowledge, skills, attitudes and values in the structural organisation of biomolecules, molecular biology and energy transformation and control of metabolism. At the end of the course the student will be able integrate the application of knowledge, skills, attitudes and values in the signal transductions/flow and storage of genetic information. To integrate knowledge on structural organization of biomolecules, molecular and energy transformation and control of metabolism and signal transductions/flow and storage of genetic information in relation to health.

Course Expected Learning Outcomes:

At the end of the course students will be able to:

- Analyse chemistry of proteins, lipids and carbohydrates.
- Comprehend cellular organization at molecular level.
- Delineate structure and function of Enzymes including clinical application of enzymology
- Describe the principles of Biological oxidation and oxidative phosphorylation and thermodynamics
- Synthesize processes in intermediary metabolism
- Comprehend the selected concepts in Molecular Biology

- Comprehend porphyrins and bile pigments metabolism
- Integrate knowledge on hormone mechanisms and signal transduction
- Apply the knowledge of biochemistry in disease formation and management

Course Contents:

Code	Name	Credits
BC 101	Chemistry of biomolecules	*3.5*
BC102	Enzymology, co-enzymes and energy transformation	*5.5*
BC 103	Metabolism of carbohydrates, lipids, proteins, haem and nucleic acids	*7.1*
BC 104	Molecular biology and hormone systems	*7.5*

ME 100: MEDICAL AND SOCIAL ETHICS I (1.8 credits)

Course Aim: The course aims to introduce students to social and medical ethics.

Course Expected Leaning Outcomes:

At the end of the course students will be able to:

- Describe concepts and principles of prima facie morals
- Describe theories of social ethics

Course Contents

Code	Name	Credits
ME 101	The notion of Ethics	0.4
ME 102	Social Ethical Theories	0.8
ME 103	Conscience as a Foundation of Ethical Conduct	0.6

SEMESTER 2: (60.0 credits)

PH 100: MEDICAL PHYSIOLOGY (32.5 credits)

Course Aims: At the end of the course students will gain knowledge on normal functioning of the human body and how the various normal functions are controlled and regulated. Students will also gain knowledge, skills, attitude and competencies on relating physiological changes which occur during various disease processes and patients' symptoms and signs and therefore enabling them to make accurate diagnosis and understanding principles of managing various diseases.

Course Expected Leaning Outcomes

At the end of the course students will be able to:

- Comprehend physiology of body fluids, blood and cell membrane
- Analyse the normal and abnormal functioning of the various organ systems
- Perform and interpret relevant procedures and laboratory tests
- Comprehend the physiological changes that occur at puberty, pregnancy and lactation
- Describe principles of managing various system disorders

Course Contents

Code	Name	Credits
PH 101	Body Fluids	*7.5*
PH 102	Excitable Tissues	*1.8*
PH 103	Circulatory System	*5.6*
PH 104	Metabolism and excretory systems a. *PH104.1: Digestive system* b. *PH104.2: Respiratory system* c. *PH104.3: Renal system*	*8.6*
PH 105	Neuroendocrine systems a. *PH105.1: Reproductive Physiology* b. *PH105.2: Nervous system*	*9.0*

SO 100: MEDICAL SOCIOLOGY (6.5 credits)

Course Aim: At the end of the course the student will be able to apply knowledge, skills and competencies of social cultural and economic issues affecting health and illness.

Course Expected Learning Outcomes:

At the end of the course students will be able to:

- Recognize social, cultural and economic factors that influence ill-health and health behaviours.
- Apply knowledge of the theories and models of behaviour acquisition and change.
- Appreciate effects of social cultural and economic factors in health.
- Analyse deviant behaviours and social stigma and its impact in health and illnesses.
- Describe the social construction of health and illness.
- Differentiate between traditional/alternative medicine and the medical model of health and illness.
- Describe the role of health seeking behaviours in managing patients.

Course Content

Code	Name	Credits
SO 101	Social cultural concepts of health and illnesses	*2.5*
SO 102	Deviant behaviour, labelling and social stigma	*2.0*
SO 103	Effects of social cultural and economic factors and other situations in affecting health and illnesses	*2.0*

PS 100: MEDICAL PSYCHOLOGY (9.0 credits)

Course Aim: At the end of the course the student will be able to integrate the application of knowledge skills and attitudes related to psychological issues influencing individuals' health and wellbeing.

Course Expected Learning Outcomes:

At the end of the course students will be able to:

- Apply the basic medical psychology concepts of/in managing sick adults and children
- Appreciate effects of psychological factors in health
- Conduct psychological assessment to patients in the provision of medical services.
- Describe the principles of classical and operant conditioning and their role in behaviour change
- Differentiate between Knowledge beliefs and attitudes in behaviour change

- Comprehend personality development and abnormal psychology

Course Content

Code	Name	Credits
PS 101	Psychological concepts in health and wellbeing of individuals	*2.0*
PS 102	Assessment of psychological behaviour	*2.0*
PS 103	Knowledge Beliefs and Attitudes	*2.0*
PS 104	Introduction to Personality Development and Abnormal Psychology	*3.0*

BD 100: BIOSTATISTICS AND DEMOGRAPHY (12.0 credits)

Course Aim: At the end of the course the student will have knowledge, skills, attitude and competencies of fundamental statistical skills relevant to health care and demography concepts.

Course Expected Learning Outcomes:
At the end of the course students will be able to:

- Describe basic concepts and terminologies in biostatistics that are used in health services and research.
- Recognize types of data and examples in relation to individual and public health.
- Utilize varieties of data collection methods, summarization, and presentation
- Analyse various data sets and make relevant inferences on health.

Course Contents

Code	Name	Credits
BD 101	Descriptive statistics	*4.0*
BD 102	Statistical Inference	*4.0*
BD 103	Demography and Vital Statistics	*4.0*

SEMESTER 3: 62.4 credits

MM 200: MICROBIOLOGY AND IMMUNOLOGY (28.6 credits)

Course Aim: At the end of the course the student will be able to describe microorganisms such as bacteria, viruses, and fungi implicated in health and microbial diseases.

Students will be able to describe interaction of host-microbial agent-environment in the pathogenesis of infectious diseases and select appropriate clinical samples for microbial identification; as well as analysis of the roles of the subject in the infectious diseases treatment, prevention and control both in outbreak and non-outbreak settings.

Course expected learning outcomes:
At the end of the course students will be able to:

- Describe microorganisms such as bacteria, viruses and fungi characteristics implicated in healthy (normal microbiota) and microbial diseases (pathogens).
- Describe the host-parasite-environment relationship in health and in microbial diseases
- Comprehend pathogenesis of infectious diseases and host immune response to microbial agents
- Perform essential microbiological and immunological laboratory procedures used in determining aetiology of common microbial and immunological health problems
- Interpret the laboratory investigation results so as to guide rational therapy.
- Describe general epidemiological aspects of infectious diseases control and preventive measures with special references to Tanzania and other sub-Saharan African countries.

Course Content

Code	Name	Credits
MM 201	Bacteriology	*13.3*
MM 202	Virology	*5.9*
MM 203	Mycology	*3.5*
MM 204	Immunology	*5.9*

PE 200: PARASITOLOGY AND ENTOMOLOGY (22.0 credits)

Course Aims: At the end of the course the student will be able to describe parasites such as protozoa, helminths and vectors of medical importance, their life cycles, epidemiology and pathogenesis.

Students will be able to perform various laboratory methods for parasites detection; as well as identification of the appropriate treatment, prevention and control measures for parasitic infections.

Course Expected Leaning Outcomes:

At the end of the course students will be able to:

- Describe characteristics and life cycles of parasites such as protozoa, helminths and vectors of medical importance.
- Comprehend the epidemiology and pathogenesis of parasitic diseases focusing parasitic infections of public health importance in Tanzania and East Africa.
- Perform essential laboratory procedures used in determining parasitic aetiologies of diseases.
- Interpret the laboratory investigation results so as to guide rational therapy.
- Describe the methods of parasite control

Course Contents

Code	Name	Credits
PE 201	Protozoology and Immunoparasitology	*8.5*
PE 202	Helminthology	*8.0*
PE 203	Entomology	*4.7*

DS 200: DEVELOPMENT STUDIES (9.4 credits)

Course Aim: To enable students gain knowledge and attitude of contemporary development issues and challenges, appreciate their impact on health hence apply to the health intervention process.

Course Expected Learning Outcomes:

At the end of the course students will be able to

- Describe the Concepts and Indicators of development in health context
- Integrate the knowledge of Poverty on employment to Health
- Comprehend the impact of Environment and Rural Development on Health
- Analyse Globalization, migration on their implication to health
- Analyse the Human Rights and governance on health

Course Content

Code	Name	Credits
DS 201	Concepts and Indicators of development in health context	*2.0*
DS 202	Effects Poverty on employment and Health	*1.9*
DS 203	Environment, Rural Development and Health	*2.0*
DS 204	Globalization, migration and Health	*1.5*
DS 205	Human Rights and governance	*2.0*

ME 200: MEDICAL AND SOCIAL ETHICS II (2.4 credits)

Course Aim: The course aims to introduce students to have an ability to utilize competencies of moral and ethical decision making in medical profession.

Course Expected Leaning Outcomes:
At the end of the course students will be able to**:**

- Describe Social ethics
- Describe human sexuality and its implications
- Appropriately manage Contemporary Social –ethical dilemmas

Course Contents

Code	Name	Credits
ME 201	Social Ethics-Life	*0.1*
ME 202	Human Sexuality	*2.0*
ME 203	Contemporary Socio-Ethical Dilemmas	*0.3*

SEMESTER 4: 60.8 credits

ER 200: EPIDEMIOLOGY AND RESEARCH METHODOLOGY (13.0 credits)

Course Aims:
At the end of the course students will have knowledge, attitude and skills to carry out research independently.

Students will learn to design, carry out, interpret and disseminate findings of their research in the field of clinical care and community at large with global perspective in mind using various epidemiological tools in prevention of health-related events.

Expected Course Learning Outcomes
At the end of the course students will be able to:

- Describe the physical, biological and socio-cultural environmental factors affecting health and disease.
- Integrate knowledge of epidemiology in determining the distribution and determinants of health-related events in specified population.
- Integrate knowledge of epidemiology to effectively prevent health related events at individual and community.
- Appreciate the contribution of epidemiology on describing medical and public health issues.
- Demonstrate ability to review and employ appropriate research and inform policy and planning.

Course Contents

Code	Name	Credits
ER 201	Epidemiology Essentials	*4.0*
ER 202	Epidemiological Studies	*4.5*
ER 203	Research Process and Methodology	*4.5*

EO 200: ENVIRONMENTAL AND OCCUPATIONAL HEALTH (5.0 credits)

Course Aim: To equip students with knowledge, skills and attitude that will empower them to assess determinants of health related to the environment and occupation.

Course Expected learning outcomes

- Evaluate the physical, natural and manmade environmental factors affecting health and disease

- Appreciate the contribution of epidemiology on describing medical and public health issues
- Establish knowledge of management and control of occupational health hazards
- To integrate knowledge on statues and laws of the country related to environment and occupation towards practice

Course Contents

Code	Name	Credits
EO 201	Environmental Health	*2.5*
EO 202	Occupational Health	*2.5*

MP 200: PATHOLOGY (34.4 credits)

Course Aim: At the end of this course the students will be able to describe aetiology, pathogenesis, morphologic and functional changes of the human body in disease.

Course Expected Leaning Outcomes

At the end of the course students will be able to:

- Describe the aetiology and pathogenesis of infectious and non-infectious diseases.
- Determine cellular changes indicative of injury at macroscopic and microscopic levels
- Apply relevant procedures in taking biopsies
- Collect and handle appropriately specimens for investigations of the various diseases to guide rational management
- Perform clinical autopsy

Course Contents

Code	Name	Credits
MP 201	Principles of General Pathology	*9.0*
MP 202	Lympho-haemopoietic systems	*7.4*
MP 203	Systemic Pathology I	*9.0*
MP 204	Systemic Pathology II	*9.0*

NU 200: NUTRITION (8.4 credits)

Course Aim: At the end of this course the students will be able to apply knowledge skills and competencies in addressing nutrition, malnutrition, stunting, food security issues in individuals and communities.

Course Expected Learning Outcomes:

- Solve multidisciplinary nutritional issues among individuals and communities
- Apply profession's code of ethics in addressing nutritional disorders conscientiously
- Apply nutrition assessment tools to accurate describe nutrition of individuals and communities
- Interpret findings of Nutrition research to inform policy and provide sustainable solution to the rural and urban Tanzanian communities

Course Contents

Code	Name	Credits
NU 201	Introduction to Nutrition and related Issues	*1.0*
NU 202	Nutrition Assessment	*1.0*
NU 203	Nutrition Field Project	*6.4*

SEMESTER 5: 61.9 credits

CP 300: CLINICAL PHARMACOLOGY (20.9 credits)

Course Aim: To understand the mechanisms by which drugs interact with biological systems to enable rational use of effective agents in the diagnosis and treatment of diseases

Course Expected Leaning Outcomes:

At the end of the course students will be able to:

- Apply the concepts of pharmacodynamics and pharmacokinetics in rational use of drugs.
- Comprehend the use, mechanisms of action, and adverse reactions in different biological body systems.
- Understand the concepts and management of poisons and toxins in individual humans to complex ecosystems.
- Recognize rational prescriptions in accordance with the guidelines, policies and law.
- Appreciate the importance of pharmacology in the clinical practice of medicine and related social economic problems (e.g., cost of drugs and substance abuse).
- Utilize new developments and to contribute new knowledge as occasions may arise

Course Contents

Code	Name	Credits
CP 301	Principles of pharmacology	*2.6*
CP 302	Chemical mediators	*5.2*
CP 303	Systemic pharmacology	*8.2*
CP 304	Chemotherapy	*2.7*
CP 305	Applied pharmacology	*2.2*

MD 300: MANAGEMENT OF DISEASES (35.6 credits)

Course Aims: At the end of this course, students will be able to integrate the application of knowledge, skills, attitudes and values in the management of common diseases.

Course Expected Learning Outcomes:

- Describe common diseases, pathophysiology and complications.
- Comprehend appropriate techniques for conducting complete and relevant history taking and examination findings of common diseases.
- Describe diagnosis and management of common clinical conditions with scientific evidence.
- Apprehend the knowledge of health promotion, treatment, rehabilitation and prevention of common diseases.

Assessment Method for MD300

There shall be at least five continuous assessment tests (CAT) and end of semester University examination comprising of written examination. The written examination will constitute MCQ's and short answers questions.

Contribution of formative assessment components to the final mark will be as follows:

i. Formative Assessment	**50%**
Written examination	50%
ii. Summative Assessment (UE)	**50%**
Written Examinations	50%

Candidate must pass each module by 50% and above.

Course Contents:

Code	Name	Credits
MD 301	***Internal Medicines:*** *MD301.1 dermatology and infectious diseases* *MD301.2 common endocrine diseases and haematology* *MD301.3 Common diseases in Gastroenterology, Nephrology and electrolyte abnormalities* *MD301.4 Common diseases in Neurology and rheumatology* *MD301.5 Common diseases in cardiovascular and pulmonary medicine*	*8.5*
MD 302	***Psychiatry:*** *MD302.1 Introduction to clinical psychiatry* *MD302.2 Psychiatry aspects of physical diseases*	*4.3*
MD 303	***Paediatrics and Child Health:*** *MD303.1 Introduction to Child Health: IMCI strategy.* *MD303.2 Paediatric emergencies:* *MD303.3Perinatology and neonatal medicine* *MD303.4 Common disorders of various organ systems* *MD303.5 Major Paediatric infections and infestations* *MD303.6 Nutrition and nutritional disorders* *MD303.7 Haematological disorders and Paediatric oncology*	*7.0*
MD 304	***Surgery*** *MD304.1: Introduction to surgery* *MD304.2: Gastrointestinal surgery* *MD304.3: Endocrine surgery* *MD304.4: Vascular surgery* *MD304.5: Paediatric surgery* *MD304.6: Surgical oncology* *MD304.7: Introduction to minimally invasive surgery and plastics/reconstructive surgery* *MD304.8: General principles of orthopaedic and fracture*	*8.5*
MD 305	***Obstetrics and Gynaecology*** *MD 305.1 General Gynaecology:* *MD 305.2 Obstetrics:* *MD 305.3 Endocrinology & Infertility:* *MD 305.4 Gynaecology Oncology:* *MD 305.5 Urogynaecology:*	*7.3*

ME 300: MEDICAL AND SOCIAL ETHICS III (5.4 credits)

Course Aim: The course aims to allow students to have an ability to utilize competencies of moral and ethical decision making in medical profession.

Course Expected Leaning Outcomes:
At the end of the course students will be able to**:**

- Appreciate current medical guidelines and professional code of conduct
- Examine medical ethical values of patients under their medical management
- Describe the concepts of rights and duties of a medical doctor
- Discuss abortion act and its implications for medical practice
- Recognize vulnerability created by duties of doctors and medical students in health care that can be utilized in practice

Course Contents

Code	Name	Credits
ME 301	*Conscience as a foundation of Ethical Conduct*	*2.0*
ME 302	*Medical Doctors duties*	*1.9*
ME 303	*Contemporary Socio-Ethical Dilemmas* • The Ethics of Tissue Donation/transplants. • Ethics of Genetic Engineering	*0.2*
ME 304	*Counselling in difficult situations*	*1.0*
ME 305	*Registration, licensing and retention as Medical Doctor*	*0.3*

SEMESTER 6 & 7 (JUNIOR ROTATIONS): 126 credits

IM 300 INTERNAL MEDICINE (31.5 credits)

Course Aim: The aim of this course is to integrate and analyse the knowledge, basic clinical skills in history taking, physical examination and investigations.

Course Expected Leaning Outcomes:

- Describe a desired communication skills and appropriate attitude in dealing with medical patients
- Describe the scientific basis of diagnosis and management of important clinical conditions.
- Apply history taking and physical examination skills in relation to a particular patient.
- Formulate diagnoses relevant to the patient.
- To interpret relevant laboratory test with consideration to particular patients
- Perform basic and life-saving procedures used in internal medicine

Course Content:

Code	Name	Credits
IM 301	*Management of Infectious Diseases*	*6.3*
IM 302	*Management of Endocrine Diseases and Haematology*	*3.5*
IM 303	*Management of Diseases in Gastroenterology, Nephrology and Electrolyte Abnormalities*	*4.5*
IM 304	*Management of Neurological and rheumatologic conditions*	*4.5*
IM 305	*Management of cardiovascular and pulmonary diseases*	*4.5*
IM 306	*Management of Kidney diseases and electrolyte abnormalities*	*3.5*
IM 307	*Evaluation of Laboratory/ radiology*	*4.7*

PC 300 PAEDIATRICS AND CHILD HEALTH (31.5 credits)

Course Aim: At the end of the course, students will be able to demonstrate scientific basis and clinical skills for preventing and managing major childhood illnesses in an effective and integrated manner, that would provide quality paediatric and child health care.

Course Expected Learning Outcomes:

After completion of this course the student is expected to:

- Describe the aetiology, pathophysiology of major childhood illnesses
- Demonstrate appropriate technique for conducting complete and relevant physical examination in a systematic manner.
- Demonstrate the ability to formulate appropriate management plans for patients' management relevant to specific disease entities

- Analyse and perform under supervision the emergency assessment triage and assist in management of the seriously sick child
- Perform the basic laboratory, clinical and nursing procedures under supervision of senior health care workers
- Apply basic skills to counsel patients/parents/caretakers of children with different disease entities
- Analyse appropriately laboratory tests and radiographic studies in making diagnostic and treatment decisions.
- Demonstrate commitment to the principles for health promotion, rehabilitation and prevention of childhood diseases.

Course Contents:

Code	Name	Credits
PC 301	*Introduction to Child Health: Epidemiology and IMCI strategy*	3.0
PC 302	*Paediatric emergencies*	4.0
PC 303	*Perinatology and neonatal medicine*	*3.0*
PC 304	*Common disorders of various organ systems*	*4.5*
PC 305	*Major Paediatric infections and infestations*	*5.5*
PC 306	*Nutrition and nutritional disorders*	*3.0*
PC 307	*Growth and development*	*2.5*
PC 308	*Haematological disorders and Paediatric oncology*	*3.0*

GS 300 SURGERY (31.5 credits)

Course Aim: To introduce students to clinical skills and knowledge and form the basis of making diagnoses and treating them based on the knowledge obtained from basic sciences course This course will impart a range of clinical knowledge, skills and attitudes in history taking, physical examinations and treatment surgical, urology and orthopaedic cases. During this course students will be trained on basic operating theatre techniques and how to assist surgery.

Course Expected Learning Outcomes:

At the end of the course students will be able to

- Demonstrate appropriate techniques for conducting complete and relevant history taking and physical examination in surgery and orthopaedic.
- Comprehend a desired communication skills and appropriate attitude in dealing with surgical and orthopaedic patients
- Manage surgical and orthopaedic conditions in a systematic manner under supervision of senior staff
- Demonstrate appropriate aseptic techniques in ward and operating theatre

Course Contents

Code	Name	Credits
GS 301	*Clinical Methods in surgery &orthopaedic*	*10.5*
GS 302	*Clinical management of surgical and orthopaedic conditions*	*12.5*
GS 303	*Urology*	*3.5*
GS 304	*Basic theatre technique*	*5.5*

OG 300: OBSTETRICS AND GYNAECOLOGY (31.5 credits)

Course Aim: At the end of the course, students will be able to integrate and analyse the application of knowledge, skills, attitudes and values in the management common Obstetric, Gynaecological conditions and reproductive health matters.

Course Expected Learning Outcomes:

After completion of this course the student is expected to:

- Describe a desired communication skills and appropriate attitude in dealing with gynaecological and obstetric patients.
- Demonstrate coherent approaches in reaching a diagnosis and writing a management plan for common clinical obstetrics, gynaecology, and sexual assault cases.
- Manage life threatening emergency obstetric conditions in a systematic manner.
- Analyse appropriate practical skills in the promotion and provision of family planning services.
- Describe preventive strategies on obstetrical, gynaecological and reproductive health matters.

ASSESSMENT METHODS IN SEMESTER 6 AND 7 (JUNIOR ROTATIONS)

There shall be one continuous assessment (CAT) and regular assessment of competencies by logbooks and end of semester/rotation examination, which comprises of written exam and clinical examination.

The written examination will consist of MCQs, True and False, Matching items, Short Answers/Essay while the clinical examination will be either Objective Structured Clinical Examination (OSCE) and/or Long cases/Short cases.

The contribution of formative components will be:

Formative assessment:

Logbook	30%
Written examination	30%
Clinical examination	40%

Student must pass clinical examination by at least 50%.

This formative assessment will be used as continuous assessment in the Final Year Exam and will contribute 50%.

Course Content:

Code	Name	Credits
OG 301	*Clinical Management of Gynaecological conditions*	*6.3*
OG 302	*Obstetrics*	*6.3*
OG 303	*Operative Gynaecology/Obstetric*	*6.3*
OG 304	*Family Planning*	*6.3*
OG 305	*Social-cultural aspect of Reproductive Health*	*6.3*

SEMESTER 8 & 9: 126.0 credits

CM 400: COMMUNITY MEDICINE (30.0 credits)

Course Aim :At the end of the course students will be familiar with the prevailing health issues in the community and competent in managing them in line with the country's health policy. Furthermore, students would learn to comprehend leadership and manage health system of the country.

Course Expected Learning Outcomes:

At the end of the course students will be able to:

- Translate health policy and guidelines into action with more emphasis on Health Sector Reform (HSR)
- Describe Tanzania health system and its interdisciplinary relationships
- Design and implement district health plans.
- Mobilize resources and marketing of health services
- Describe suitable processes for leadership and management of health services

Course Contents

Code	Name	Credits
CM 401	*Health System structure*	6.5
CM 402	*National Health Programs*	9.5
CM 403	*Communicable and Non-Communicable disease control*	*5.0*
CM 404	*Planning and Management*	*9.0*

PS 400: PSYCHIATRY (30.0 credits)

Course Aims: To enable students to describe and analyse appropriate knowledge and skills to assess, diagnose and manage patients with mental disorders.

Course Expected Learning Outcomes

At the end of the course students will be able to:

- To analyse the inter-relationship psychological, biological and physiological processes in illness, with focus on identifying protective, predisposing, precipitating and perpetuating factors associated with illness at both inter and intra-personal levels.
- To describe diagnose and manage patients with common psychiatric disorders and acute major psychiatric disorders.
- To comprehend good psychiatric history taking with an emphasis of identifying vulnerability, precipitating, maintaining and protective factors that would inform approaches to and in the management of persons with psychiatric disorders.
- Formulate the differential diagnosis and investigations of mentally ill patients to reaching a definitive diagnosis
- Use physical forms of treatment appropriately including other advance therapy like Electroconvulsive therapy, psychotropic drugs etc. in the treatment of mental illnesses
- Demonstrate ability to manage chronically ill patients
- Apply concepts of prevention and promotion in psychiatry and mental health

Course Contents

Code	Name	Credits
PS 401	*Evaluation of Clinical Psychiatry*	*2.0*
PS 402	*Common Psychiatric Syndromes*	*14.0*
PS 403	*Management and Evaluation of Mental Health*	*14.0*

SS 400: SURGICAL SUB-SPECIALITIES (28.0 credits)

Course Aim: Surgical sub-specialities course will produce a graduate who acquired knowledge, skills and attitude in the management of common ENT, ophthalmology and anaesthesiology. The graduate from the course is expected to have an interdisciplinary approach to surgical sub-specialities and diseases management.

Course Expected Leaning Outcomes:

At the end of the course students will be able to

- Formulate correct and appropriate plans for patients' management relevant to specific surgical speciality disease entities
- Interpret appropriately the laboratory tests and radiographic studies in making diagnostic and treatment decisions in surgical speciality conditions
- Perform the minor lifesaving surgical speciality procedure under supervision of his/her senior colleague
- Recognize and diagnose more complex surgical specialities conditions and refer them to appropriate referral centre
- Provide surgical care in a community setting and institute appropriate preventive measures for surgical speciality diseases where applicable

Course Contents

Code	Name	Credits
SS 401	*Surgical Subspecialty Otorhinolaryngology (ORL)* *SS 401.1 Conditions of the Ear* *SS 401.2 Conditions of the Nose* *SS 401.3 Conditions of the Throat*	*10.5*
SS 402	*Ophthalmology*	*10.5*
SS 403	*Anaesthesiology*	*10.5*

MS 400: MEDICAL SPECIALITIES (28.0 credits)

Course Aims: To be able to comprehend knowledge, practical skills, disease formulation and management of selected diseases in which upon completion of the course would be competent without supervision to diagnose, treat, rehabilitation and prevention of common medical conditions and recognize complex conditions needing referrals.

Course Expected Leaning Outcomes:

The student upon completion of the course should be able to:

- To demonstrate a detailed history and present focused clinical history which is relevant to the problem at hand
- Master techniques of demonstration of physical signs in different systems in patients and in eliciting positive and negative signs, which are relevant to the problem at hand.
- To describe important investigations in relation to a particular problem and be able to perform some of the bedside tests, recognize and interpret laboratory results of common medical conditions.
- To describe competently principles in therapy, dosages and untoward effects of common prescribed drugs.
- To be able to demonstrate skills in handing life threatening conditions and recognizing complex medical conditions that need specialty/super-specialty care.
- Demonstrate executive basic research, writing projects, publication and use of library and literature search.
- Demonstrate skills in teaching and effectively supervise subordinate health personnel.

Course Contents

Code	Name	Credits
MS 401	*Dermatology*	3.5
MS 402	*Radiology*	7.0
MS 403	*Endocrinology*	*3.5*
MS 404	*HIV medicine*	*7.0*
MS 405	*Critical Care*	*7.0*

RP 400: RESEARCH PROJECT (10.0 credits)

Course Aims : This course aims to cultivate and harness the students with knowledge, skills and attitude learnt in clinical and community specialities. This will enable students to come up with a research proposal, ability to mobilize funds, data collection, scientific writing and dissemination of results for practical change in medical care and health system.

Course Expected Leaning Outcomes

At the end of the course students will be able to:

- Apply scientific methods for the study of problems in clinical care and public health
- Analyse scientific data obtained from the elective study
- Synthesize new knowledge from the elective study
- Expose students to process of communication skills by presenting research results to medical colleagues, CUHAS Graduation Scientific Conference, national and international conferences and scientific publication

Course Contents

The following are topics for Research project:

- Selecting a research problem
- Literature Review
- Design Research Proposal and Protocols
  - Study area, study design, sample size and sampling procedure, data collection and tools
  - Ethical consideration
  - Funds and grants mobilization
  - Pilot research
- Report writing
- Dissemination of Results
  - CUHAS Graduation Scientific Conference
  - Scientific Writing
  - Knowledge translation to participants

Elective Requirements

- To identify a faculty research mentor and Proposed project
- To register proposal at the CUHAS/BMC IRB before deadline provided
- To carry out data collection, analysis and interpretation
- To Submit Report before deadline provided
- To Present Results at
  - CUHAS Graduation Scientific Conference
  - Knowledge translation among participants
  - Scientific writing
- To defend report at CUHAS Elective Research Panel

Assessment Methods:
There will be formative and summative assessments. The formative assessment will constitute 50% of the final students' marks. Formative assessments will include score on research proposal components and summative assessment will include research project report.

Research project will be assessed and scored by independent evaluators appointed by Director of research and innovation using standardised checklist.

A panel of at least 2 experts will be convened by appointed evaluators to assess oral presentation.

i. Formative Assessment	**50%**
Proposal development	40%
Proposal presentation	10%
ii. Summative Assessment (UE)	**50%**
Report Writing	40%
Report presentation	10%

SEMESTER 10: 60.0 credits
A: SENIOR ROTATIONS

IM 500 INTERNAL MEDICINE (14.0 credits)
Course Aims: To be able to comprehend knowledge, practical skills, disease formulation and management of medical diseases in which upon completion of the course would be competent without supervision to diagnose, treat, prevent common medical conditions and recognize complex conditions needing referrals.

Course Expected Leaning Outcomes

The student upon completion of the course should be able to:

- Demonstrate a detailed history and present focused clinical history which is relevant to the problem at hand
- Master techniques of demonstration of physical signs in different systems in patients and in eliciting positive and negative signs, which are relevant to the problem at hand.
- Analyse important investigations in relation to a particular problem and be able to perform some of the bedside tests, recognize and interpret laboratory results of common medical conditions.
- Analyse competently principles in therapy, dosages and untoward effects of common prescribed drugs.
- Be able to demonstrate skills in handing life threatening conditions and recognizing complex medical conditions that need specialty/super-specialty care.
- Demonstrate executive basic research, writing projects, publication and use of library and literature search.
- Demonstrate skills in teaching and effectively supervise subordinate health personnel.

Course Content:

Code	Name	Credits
IM 501	*Management of Infectious Diseases*	*1.5*
IM 502	*Management of Respiratory and cardiovascular diseases*	*1.5*
IM 503	*Management of Kidney diseases, Acid/base and electrolytes*	*1.5*
IM 504	*Gastro-intestinal Diseases*	*1.5*
IM 505	*Management of Neurological and rheumatologic condition*	*1.5*
IM 506	*Geriatric Medicine*	*2.0*
IM 507	*Endocrine and Metabolic Diseases*	*1.5*
IM 508	*Clinical Haematology*	*1.5*
IM 509	*Laboratory/Diagnostic radiology*	*1.5*

PC 500 PAEDIATRICS AND CHILD HEALTH (14.0 credits)

Course Aim: At the end of the course, students will be able to comprehend the knowledge, skills and attitude in paediatrics and child health which can help them provide effective patients care, prevention and integrated management of major childhood illnesses in inpatient and outpatient setting.

Course Expected Learning Outcomes:

After completion of this course student is expected to:

- Practice under supervision the management of the sick child with emergency medical conditions.
- Formulate correct diagnosis, differential diagnosis and management plan using patient's history, physical examination and laboratory tests
- Practice under supervision the evidence based management plan specific to disease entities using standard case management guidelines
- Perform appropriate clinical, nursing and laboratory procedures relevant to specific disease entities
- Demonstrate attitudes and professional behaviour appropriate for clinical practice and the ability to teach and counsel patients, colleagues and allied health care providers.

Course Contents:

Code	Name	Credits
PC 501	*Paediatric emergencies*	*2.0*
PC 502	*Immunological, allergic disorders and immunization*	*1.6*
PC 503	*Continuum of care for Maternal and New-born*	*2.4*
PC 504	*Nutrition and nutritional disorders*	*1.4*
PC 505	*Disorders of various organ systems*	*3.0*
PC 506	*Major Paediatric infections and infestations*	*2.0*
PC 507	*Social paediatrics and adolescent medicine*	*1.6*

GS 500 SURGERY (14.0 credits)

Course Aim: Surgery senior rotation course will produce a graduate who acquired knowledge, skills and attitude in the management of common elective and emergency surgical and orthopaedic conditions. The graduate from the course is expected to have an interdisciplinary approach to surgical diseases management.

Course Expected Leaning Outcomes:

At the end of the course students will be able to:

- Formulate correct and appropriate plans for patients' management relevant to specific disease entities
- Interpret appropriately the laboratory tests and radiographic studies in making diagnostic and treatment decisions.
- Perform the minor lifesaving surgical procedure under supervision of his/her senior colleague
- Recognize and diagnose more complex surgical conditions and refer them to appropriate referral centre
- Provide surgical care in a community setting and institute appropriate preventive measures for surgical diseases where applicable

Course Contents

Code	Name	Credits
GS 501	*Common surgical emergencies in Tanzania*	*3.5*
GS 502	*Common orthopaedic and traumatology emergencies in Tanzania*	*3.0*
GS 503	*Common conditions in general surgery*	*2.5*
GS 504	*Common conditions orthopaedic*	*2.0*
GS 505	*Urological conditions*	*3.0*

OG 500: OBSTETRICS AND GYNAECOLOGY (14.0 credits)

Course Aim: At the end of the course, students will be able to demonstrate practical client/patient management skills under supervision of common obstetric, gynaecological conditions and reproductive health issues, as a continuation of junior rotation.

Course Expected Learning outcomes:

After completion of this course the student is expected to:

- Describe a desired communication skills and appropriate attitude in dealing with gynaecological and obstetric patients.
- Comprehend the pathogenesis/pathophysiology and clinical presentations of common conditions and life-threatening conditions in obstetrics and gynaecology.
- Demonstrate the ability to formulate and prioritize appropriate plans for managing common obstetrics and gynaecological emergencies/conditions using evidence based methods.
- Demonstrate ability to assist in management of common obstetrics and gynaecological emergencies, common abnormal deliveries and major gynaecological and obstetric surgical procedures.
- Apprehend multidisciplinary approach in management of Obstetrics &Gynaecology conditions.
- Apply the knowledge of health promotion, rehabilitation and disease prevention in Obstetrics &gynaecology.

ASSESSMENT METHODS IN SENIOR ROTATIONS

There will be formative and summative assessments. The formative assessment (logbook) will constitute 10% of the final students' marks in the respective course.

There will be summative assessment at the end of semester 10 which will contribute 40% of the student's final grading in the course. The summative examination will consist of written examination (MCQs, Matching items, Short Answers questions) and clinical examinations (long cases and OSCE /Short cases).

i. Formative Assessment	**20%**
Logbook	20%

ii. Summative Assessment - 80%
Written examination 30%
Clinical examination 50%
Student must pass clinical component by at least 50% separately

Course Content:

Code	Name	Credits
OG 501	*Management of medical disorders & infections in pregnancy*	*2.8*
OG 502	*Abnormal pregnancy and labour*	*2.8*
OG 503	*Operative Gynaecology and Obstetrics:*	*2.8*
OG 504	*Family Planning/Gender/Reproductive Health:*	*2.8*
OG 505	*Management of Gynaecological conditions*	*2.8*

B: ES 500 ENTREPRENEURSHIP (4.0 credits)

Course Aims: To impart to the trainee knowledge, attitude and skills on: Starting and operating an entrepreneurial venture, basic legal concepts specifically relevant to a business start-up venture, developing and enhancing individual and organizational creativity and innovation, techniques to correctly research and define the target market to increase sales for starting up businesses or expanding current businesses. Also, knowledge on current and emerging entrepreneurship issues and opportunities, financial issues and needs confronting entrepreneurs attempting to grow their businesses by attracting start up and growth capital will be imparted.

6.32.3 Course Expected Leaning Outcomes

Upon completion of the course the students should be able to:

- Demonstrate an understanding of entrepreneurship concepts and how to use the entrepreneurial mindset to succeed in their careers.
- Comprehend the legal responsibilities of joint venture and business start-up.
- Apply innovation and creativity principles in the work place.
- Demonstrate an understanding of how to correctly target market for a start-up business with limited resources.
- Apply a variety of analytical and decision-making requirements to start a new business.
- Demonstrate an understanding of how to effectively finance a business venture.

Course Contents

Code	Name	Credits
ES 501	*Introduction to Entrepreneurship* ○ Entrepreneurship ○ Laws for Entrepreneurs.	*0.2*
ES 502	*Innovation, Creativity and Marketing* ○ Entrepreneurship in identifying opportunities worthy investing ○ Innovation and creativity ○ Branding products and/or services ○ Entrepreneur marketing and keeping business upbeat	*2.0*
ES 503	*Partnership and Capital Mobilization* ○ Entrepreneurship in legal matters for partnership ○ Business start-up venture ○ Funding and capital mobilisation for entrepreneurs and other resource mobilisation.	*1.8*

BACHELOR OF MEDICAL LABORATORY SCIENCES (BMLS) (CURRENT)

BACKGROUND

Clinical laboratory professionals play a pivotal role in the provision of health services in any health facility setting. They are an essential component of members of the health care team; uncovering scientific facts leading to accurate diagnosis and timely treatment of patients. The Bachelor of Science in Medical Laboratory Sciences (BMLS) is meant to provide an undergraduate education to those preparing to enter the field of Medical Laboratory Science in this era. Graduates of this programme will fill the growing skills-gap in clinical practice settings of hospital diagnostic laboratories, biomedical research laboratories, public health agencies, clinics, and reference laboratories.

BACHELOR OF MEDICAL LABORATORY SCIENCES (BMLS)

BACKGROUND

Clinical laboratory professionals play a pivotal role in the provision of health services in any health facility setting. They are an essential component of members of the health care team; uncovering scientific facts leading to accurate diagnosis and timely treatment of patients. Physicians therefore rely heavily on the clinical laboratory data provided by medical technologists to determine the presence or absence, cause, extent and prognosis of disease. Students of clinical laboratory science should develop the analytical thinking skills necessary to function effectively in a clinical laboratory environment. Unless medical technologists can produce reliable diagnostic data reflective management of patient becomes severely compromised. This service has hitherto been provided largely by Health Laboratory Technicians who undergo a three-year training programme after "O" level. With advances in scientific and medical technology it is increasingly becoming difficult for the bulk of available health laboratory technologist to keep pace with advances in medical technology. The Bachelor of Science in Medical Laboratory Sciences (BMLS) is meant to provide an undergraduate education to those preparing to enter the field of Medical laboratory science in this era. Graduates of this programme will fill the growing skills-gap in clinical practice settings of hospital diagnostic laboratories, biomedical research laboratories, public health agencies, clinics, and reference laboratories.

Career options also exist outside the traditional clinical laboratory. Graduates with backgrounds in clinical laboratory science occupy positions as medical research and development technologists, technical representatives for medical product and medical equipment companies, and other bio-medically related positions in the biotechnology industry. The Bachelor of Medical Laboratory Sciences (BMLS) is designed to provide a broadly-based background including biomedical sciences and laboratory science course requirements.

The degree program in Medical Science is also an excellent foundation for students preparing for graduate studies in a sub-discipline or another health-related area or for pre-professional training in one of the medical sciences. Starting this programme fits in well with Mission of the University in its quest to enable Tanzania produce enough medical practitioners and medical scientists, who are expected to work together to achieve a satisfactory level of "**Health for All**" in the foreseeable future.

PROGRAMME GOALS

The BMLS programme is intended to achieve the following goals:

- To produce a Laboratory technologist with sound knowledge and skills for diagnosis, monitoring and research in medical field.
- To produce technologists with high caliber in implementing and promoting quality services in medical laboratories.
- To produce medical technologists with highest analytical ability, with concerns for ethical and moral values.
- To produce a Laboratory technologist who can translate the national health laboratory policies into Programme, planning and management activities.

PROGRAMME OBJECTIVES

Broad Objective

To produce a competent Medical technologist who will be able to perform tests and manage a medical laboratory with minimal supervision.

Specific Objectives

Upon successfully completion of this programme the graduate will be able to:

- Apply the principles and clinical significances of advanced tests;
- Use his/her critical thinking to improve the laboratory-working environment.
- Improve the quality of laboratory services rendered to the society by applying the latest knowledge.
- Recognize and adhere to established safety rules
- Recognize factors that affect procedures and results, and take appropriate action.
- Recognize the relationship between laboratory finding and disease processes.
- Design and conduct medical research

ORGANIZATION OF THE PROGRAMME

This is a six-semester modularized academic programme that will be covered in three years. Courses in each semester will be taught by lecturers, practicals and tutorials and examined during the semester. There will be a special research project in one of the medical field. CUHAS has established a well set up and managed Computing Centre, linked to the Internet, which will provide "Student Centred Learning" (SCL). This will complement the more conventional BMLS Curriculum Teaching and Learning methods.

With the above design and methods of teaching, the course will carter for specific knowledge, skills and competencies. It will also give students expanded access to different categories of clients, programmes and medical researches that are based on the societal needs and demands.

A course unit weighting system will be used, whereby each 15 hours of lecture, constitutes a unit, while 45 hours of practical/seminars constitute a unit. Final University examinations will be held at the end of each semester where external examiners will be invited.

Summary of the Six semester Modules for BMLS Programmes

CODE	***COURSE TITTLE***	***THEORY***		***PRACTICAL***			***Total***
		Hrs	Units	Hrs	Units	HRS	Units
YEAR I: SEMESTER I							
BC 140	Biochemistry	148	9.9	41	0.8	189	10.7
AN 140	Functional Anatomy and Histology	90	6	44	1.0	134	7.0
LT 240	Laboratory Practice Informatics	20	1.3	40	1.3	60	2.6
LP 140	Medical laboratory practices	40	2.6	76	1.7	116	4.3
		298	**19.8**	**201**	**8.2**	**499**	**28**
YEAR I: SEMESTER II							
PH 140	Basic Physiology	100	6.7	20	0.4	120	7.1
MB 140	Molecular Biology	100	6.7	43	1	143	7.7
DS 140	Development studies 1	60	4	30	0.6	90	4.6
ER 140	Bio-statistics and Epidemiology	90	6	30	0.6	120	6.6
		350	**23.4**	**123**	**2.6**	**473**	**26**
YEAR II SEMESTER III							
PE 140	Parasitology and Entomology	91	6.1	61	1.4	152	7.5
MM 240	Microbiology/Immunology	114	7.6	76	1.7	190	9.4
DS 240	Development studies 2	60	4	30	0.7	190	4.6
GN 240	Pharmacogenomics	60	4	45	1	105	5
		325	**21.7**	**212**	**4.8**	**537**	**26.6**
YEAR II: SEMESTER IV							
SM 240	Clinical Microbiology	46	3.1	200	4.5	246	7.6
CC 240	Clinical Chemistry	46	3.1	200	4.5	246	7.6
PM 240	Public Microbiology	22	1.5	80	1.8	102	3.3

MP 140	Principles of Pathology and Hematology	95	6.3	25	0.6	120	7.0
		114	**7.7**	**594**	**13.3**		**21**
YEAR III SEMESTER V							
HT 340	Cytology and Histotechnology	89	5.9	248	5.5	337	11.4
SH 340	Clinical Serology, Haematology and blood transfusion	50	3.3	137	3.0	187	6.3
DT 340	Molecular diagnostics techniques	50	3.3	137	3.0	187	6.3
		189	**12.5**	**522**	**11.5**	**711**	**24**
YEAR III SEMESTER VI							
MG 340	Laboratory Management and Planning	24	1.6	10	0.2	34	1.6
EF 340	**Elective Field Research Project**	54	3.6	592	13.2	646	17.8
ES 340	Entrepreneurship	34	2.3	0	0	34	2.3
		112	**7.6**	**602**	**13.2**	**714**	**22**

KEY to BMLS Course subjects

AN: Functional Anatomy and Histology	**LP**: Medical laboratory practices
BC: Biochemistry	MB: Molecular Biology
CC: Clinical Chemistry	MG: Laboratory Management and Planning
DS: Development studies	MM: Microbiology/Immunology
DT: Molecular diagnostics techniques	MP: Principles of Pathology and Hematology
EF: Elective Field Research Project	PE: Parasitology and Entomology
EP: Laboratory Procedures	PH: Basic Physiology
ER: Bio-statistics and Epidemiology	PM: Public Microbiology
ES: Entrepreneurship	SH: Clinical Serology and Haematology
GN: Pharmacogenomics	SM: Clinical Microbiology
HT: Histotechnology	
IT: Computing and Laboratory practice	

Teaching programme for the six semester BMLS

SEMESTER ONE

BC 140: BIOCHEMISTRY: 10.8 Units

Course Description: Biochemistry is a basic science subject on which most biological sciences find their foundation. It entails the fundamental concepts of chemistry of life which includes structural organization, energy interconvertion, signal transduction and finally genetic information storage and flow. Recent developments in Molecular Biology are also embodied in Biochemistry.

Aims

1. To impart knowledge on structural organization of biomolecules
2. To impart knowledge on molecular and energy transformation and control of metabolism
3. To impart knowledge on signal transductions/flow and storage of genetic information

Objectives

At the end of the course the student should be able to:

- Describe chemistry of proteins, lipids and carbohydrates and to recognize some basic structures

- Describe cellular organization at molecular level
- Describe structure and function of Enzymes including clinical application of enzymology
- Describe principles of Biological oxidation and oxidative phosphorylation and thermodynamics
- Describe processes in intermediary metabolism
- Describe selected concepts in Molecular Biology
- Describe porphyrins and bile pigments metabolism
- Describe hormone mechanisms and signal transduction

Course Content:

CODE	Course Name	Lectures		Practical		Total	
		Hrs	Units	Hrs	Units	Hrs	Units
BC141	Introduction of Biomolecules	25	1.7	-	-	25	1.7
BC142	Catalysis and Energy Biosynthesis	30	2.0	10	0.2	41	2.2
BC 143	Dynamics of life	50	3.3	10	0.2	60	3.5
BC 144	Metabolism and Signal Transduction	43	2.9	20	0.4	63	3.3
TOTAL		**148**	**9.9**	**41**	**0.8**	**189**	**10.8**

AN 140: FUNCTIONAL ANATOMY AND HISTOLOGY (7.0 Units)

Course Description: The trainee will study basic structure of human body in health. The trainee will cover various subtopics including gross anatomy, developmental anatomy, cell biology, histology and histological techniques.

Aim : To impart to trainee knowledge of human body structures relevant to various laboratory techniques.

Objectives

At the end of the course the trainee should be able to:

- Describe the developmental anatomy body
- Describe the gross and microscopic structures of the human body
- Carry-out various routine and special gross and histological laboratory techniques

Course content

Module	Course Name	*Lectures*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	**Units**
AN141	The Human Body, Cell Biology &Genetics	19	1.2	-	-	19	**1.2**
AN142	Regional Anatomy	20	1.3	20	0.4	40	**1.7**
AN143	General and Systemic Histology	35	2.3	54	1.2	64	**3.5**
AN144	Applied Developmental Biology	16	1.0	-	-	16	**1.0**
Total		**90**	**6**	**64**	**1.6**	**134**	**7.0**

IT 140: LABORATORY PRACTICE INFORMATICS: 2.6 Units

Course description : This course is designed to provide trainee with knowledge of computer usage in Health Sciences. It will include hardware configuration, software applications in health care and on-line searching of periodicals, journals etc. Instruction will be primarily on-line and require specific computer requirements. The course will be carried out through lectures and practices at Computer Laboratory.

Aim : To impart to the trainee with appropriate skills for analysis of current technical laboratory concepts and practices in the core use of computing information technologies.

Objectives

At the end of the course the students should be able to:

- Form the IT operational backbone of a Clinical Laboratory Group.
- Apply specific laboratory applications of computer and information sciences to support and manage his/her health care activities.
- Use E-mail based discussion group e.g. "Labmed" (list server) that is intended for individuals who work in, or have an interest in, laboratory medicine in general, and clinical microbiology, pathology, clinical chemistry, clinical haematology, toxicology, etc, in particular. The goal of labmed is to improve communication among clinical laboratories and ultimately, improve patient care.
- Develop costumed database application for data manipulations.
- Perform some computer hardware and software troubleshooting at first level support.

Course content

Module	Course Name	***Lecture***		***Practical***		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
IT141	Computers and Internet Browsing	10	0.7	40	0.8	40	1.5
IT142	Office Applications	4	0.3	10	0.2	14	0.5
IT143	Data Base Management	8	0.6	30	0.6	38	1.2
Total		22	1.6	80	1.6	102	2.6

LP 140: MEDICAL LABORATORY PRACTICE: 4.3 Units

Course Description

During this course the trainee will learn the organization of the health Laboratory, ethical issues, Laboratory practices and procedures including specimen collection, transportation and documentation, basic microscopy and straining techniques.

Aim: To impart to the trainee knowledge and skills on health Laboratory organization and basic aspects of laboratory practices.

Objectives

At the end of the course the trainee should be able to:

- Describe the structure and organization of health laboratory
- Collect, transport and document laboratory specimens
- Use a microscope in the examination of stained and unstained preparations

Course content

Code	Course Name	*Lectures*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
LP141	Laboratory Structure and Organization	14	0.9	18	0.34	32	1.24
LP142	Laboratory Practices and Ethics	16	1.1	4	0.08	20	1.18
LP143	Specimen collection, transportation and documentation	7	0.5	50	1.0	30	1.5
LP144	Microscopy and staining techniques	7	0.5	40	0.8	40	1.3
	Total	44	3.0	72	2.2	122	4.3

SEMESTER TWO:

PH 140: BASIC PHYSIOLOGY (7.1 Units)

Course Description: During the Physiology course the trainee will study normal functioning of the human body with particular emphasis on the intricate control system and regulatory mechanisms that permit the body to operate and survive in an often-hostile environment.

Aim: To impart to the trainee knowledge on normal functions of the human body systems and their control and regulatory mechanisms.

Objectives

At the end of the course the trainee is expected to:

- Describe the composition, partitioning and functions of body fluids and tissues.
- Describe the metabolic and excretory functions of the digestive, respiratory and renal systems
- Describe the organization and functions of the Neuro-endocrine systems.

Course content

Module Code	Course Name	*lectures*		*Practical/seminar*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PH141	Fluid and circulation	34	2.3	7	0.15	41	2.5
PH142	Metabolism and Excretion	32	2.1	7	0.15	39	2.3
PH143	Neuro-Endocrine Physiology	34	2.3	6	0.13	40	2.4
	Total	100	6.7	20	0.4	120	7.2

MB140: MOLECULAR BIOLOGY (7.6 Units)

Course Description: In the Molecular Biology course the trainee will study basic aspects of the human cell, bio-molecules, genetics, recombinant DNA technology and their relevance in health.

Aim: To impart to the trainee knowledge and skills on cell and molecular biology as applied to laboratory diagnosis of human diseases.

Objectives

At the end of the course the trainee should be able to:

- Describe the molecular basis of human diseases.
- Describe the principles of heredity.
- Understand the principles of DNA transfer and recombination.

Course content

Module	Course Name	***Lectures***		***Practical***		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MB141	Cell Biology and Mutations	30	2.0	10	0.2	40	2.2
MB142	DNA Transfer, Recombination and Inheritance	20	1.3	9	0.2	29	1.5
MB143	Gene expression and arrangement	20	1.3	12	0.3	32	1.6
MB144	Nucleic acid techniques	30	2.0	12	0.3	32	2.3
	Total	100	6.6	43	1.0	143	7.6

DS 140: DEVELOPMENT STUDIES: 4.6 Units

Course Description : Development studies are a multidisciplinary branch of social science which addresses issues of concern to developing countries. It has historically placed a particular focus on issues related to social and economic development, and its relevance may therefore extend to communities and regions outside of the developing world.

Aim: The course exposes students to the theories, problems and contemporary issues of development in relation to health.

Objectives

At the end of the course, students should be able to:

- Define the concept of development
- Explain the different theories of development
- Describe the process of social and political developments in Africa
- Relate health to the theories of development

Course Contents

Code	**Course Name**	**Lectures**		**Practical**		**Total**	
		Hrs	Units	Hrs	Units	Hrs	Units
DS141	Social Development and Health	25	1.7	10	0.2	35	1.9
DS142	Education, Rural Development, Gender and Health	15	1.0	10	0.2	25	1.2
DS143	Population, Poverty and Health	20	1.3	10	0.2	30	1.5
TOTAL		**60**	**4.0**	**30**	**0.6**	**90**	**4.6**

ER140: BIOSTATISTICS AND EPIDEMIOLOGY: 6.6 Units

Course description: The course focuses on the principles of epidemiology and biostatistics, their practical applications for investigation of public health problems, planning, implementation and evaluation of intervention strategies for health problems.

Aims

1. To introduce to the students the basic principles of epidemiology and research methodology and their application in the planning and provision of medical and health care services.

2. To introduce the students to environmental determinants of health and disease in human populations.

Objectives

At the end of the course, the student should be able to:

- Understand and utilize the basic principles of epidemiology in research and in planning provision medical and health care services
- Understand and use the epidemiological methods in research and assess community health needs
- Understand and use the research methods to collect, analyze and present critical information to stakeholders and wider audience
- Understand the epidemiology and control of the selected major diseases of public health importance in Tanzania.
- Describe the physical, biological, socio-cultural and environmental factors affecting health and disease.
- Identify the agencies and services available to families and the extent to which they meet their needs.

Course content

Module	Course Name	***Lectures***		***Practical***		*Total*	
		Hrs	Units	Hrs	Hrs	Units	Hrs
ER141	Biostatistics	40	2.6	10	0.2	50	2.8
ER142	Epidemiology	50	3.4	10	0.4	50	3.8
Total		90	6	30	0.6	120	6.6

SEMESTER THREE

PE 240: PARASITOLOGY/MEDICAL ENTOMOLOGY: 7.5 Units

Course description : In this course student will learn different parasites and insects involved in causation of diseases to human, details properties of these parasites will be studied

Aims

1. To impart knowledge on identification of life cycles, epidemiological factors, host-parasite relationships
2. To impart knowledge on identification of the appropriate preventive and control measures.

Objectives

At the end of the course the student should be able to:

- Describe in detail the life cycles of medically important parasites
- Describe the organs commonly involved in the infection
- Describe the relationship of this infection to symptoms, relapse and the accompanying pathology.
- Describe the factors that determine endemicity of the parasite infection
- Describe the distribution and epidemiology of the parasites in East Africa
- Describe the methods of parasite control e.g. chemotherapy, molluscicide, general sanitation etc.
- Describe the advantages and disadvantages of each method.

Course Contents

Code	Course Name	Lectures		Practicals		Total	
		Hrs	Units	Hrs	Units	Hrs	Units
PE241	Protozology & Immuno-Parasitology	35	2.3	19	0.4	54	2.7
PE 242	Helminthology	36	2.4	29	0.6	65	3.0
PE 243	Entomology	20	1.3	13	0.3	33	1.6
TOTAL		**91**	**6.0**	**61**	**1.3**	**152**	**7.5**

MM 240: MICROBIOLOGY/IMMUNOLOGY: 9.4 Units

Course descriptions : Medical knowledge of microorganisms and their relationship to humans in health and disease. The medical microbiology course focuses on human diseases (infectious diseases) caused by microorganisms, its prevention and treatment. Also the relationship of medical microbiology to other health related sciences will be highlighted and these sciences include human immunology, cell biology and molecular biology, human genetics and biochemistry as it relates to humans in health or disease

Aim: To provide students with knowledge and skills in the subject of Microbiology and Immunology

Objectives

At the end of the course the student is expected to:

- Understand the main principles of general Medical Microbiology and Immunology.
- Acquire knowledge of host-parasite-environment relationship in health and in microbial diseases
- Understand the etiology of human microbial and immunological health problems
- Be familiar with the general epidemiological aspects of microbial health problems and simple preventive measures of specific health problems with special reference to sub Saharan Africa.
- Be familiar with collection and handling of appropriate specimens for Microbiological investigation.
- Be familiar with and able to perform essential microbiological and immunological laboratory procedures used in determining etiology of common microbial and immunological health problems.
- To enable them appreciate the role of the subject in problem solving in infectious disease management, prevention and control.

Course Contents

code	Course Name	Lectures		Practical		Total	
		Hrs	Units	Hrs	Hrs	Units	Hrs
MM 241	General Bacteriology	54	3.6	62	1.4	116	5.0
MM 242	Virology and Mycology	39	2.6	6	0.1	45	2.7
MM 243	Immunology	21	1.4	8	0.2	29	1.6
TOTAL		**114**	**7.6**	**76**	**1.7**	**190**	**9.4**

DS 240: DEVELOPMENT STUDIES 240: 4.6 units

Course description : Development studies are a multidisciplinary branch of social science which addresses issues of concern to developing countries. It has historically placed a particular focus on issues related to social and economic development, and its relevance may therefore extend to communities and regions outside of the developing world.

Aim: To expose students to Tanzania's development experiences and be aware of alternative development strategies existing currently

Objectives

At the end of the course students should be able to: -

- Analyze the dynamics of Tanzania's development plans/strategies and implementation in health and health related sectors.
- Compare and contrast different development strategies in developing countries.
- Analyze current development problems and issues in Tanzania and developing countries in general and how these problems relate to health.
- Should be able to plan, organize and manage a private health care facility.

Course Contents

Code	*Course Name*	*Lectures*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
DS 241	Globalization Environment and Health	20	1.3	10	0.2	30	1.5
DS 242	Human Rights/ Governance	30	2.0	20	0.4	50	2.4
DS 243	Entrepreneurship	**15**	**1.0**			**15**	**1.0**
TOTAL		**65**	**4.3**	**30**	**0.6**	**95**	**4.6**

SEMESTER FOUR

SM240: CLINICAL MICROBIOLOGY (7.5 Units)

Course description : During Clinical microbiology the trainee will learn how to process various samples in the laboratory, be acquainted with different types of laboratory equipment and their use as well as procedures for ordering of supplies and stock taking. The trainee will also study and perform various procedures for identification of pathogens, will also learn how to correlate lab results with clinical findings on request form.

Aim: To impart to the trainee knowledge and skills on basic clinical microbiology

Objectives

At the end of the course the trainee should be able to:

- Collect and process appropriate samples
- Use, operate and trouble shoot common laboratory equipment
- Order, store and make an inventory of laboratory supplies
- Perform basic identification procedures for pathogens
- Interpret and issue laboratory results

Course content

Code	Course Name	*Lectures*		*Practical/Seminar*		*Total*	
		Hours	Credits	Hours	Credits	Hours	Credit
SM241	Sample Collection and processing	26	1.7	90	2	30	3.8
SM242	Lab Equipments and Supplies	10	0.6	20	0.4	30	1.0
SM243	Pathogen Identification	10	0.7	90	2	20	2.6
Total		46	3.0	200	4.4	246	7.6

CC 240: CLINICAL CHEMISTRY: 7.6 Units

Course description : During this course the trainee will undergo practical and theoretical training that will enable them to acquire knowledge and skills for specimen processing and analytical methods used in clinical chemistry. The course will be carried out through supervised rotations in various sections of the Clinical Chemistry laboratory.

Aim : To impart to the trainee appropriate skills for specimen processing and analytical procedures used for diagnosis of diseases in clinical chemistry laboratory

Objectives

At the end of the course the students should be able to:

- Appropriately process specimens for Clinical Chemistry investigation.
- Describe and perform analytical methods used in clinical chemistry practice
- Perform procedures for quantifying, glucose and hormones.
- Perform renal, intestinal, pancreatic and liver function tests
- Describe and perform procedures for quantifying proteins from various body compartments.
- Describe different immunological techniques for use in clinical chemistry assays

Course content

Module	Course Name	*Lecture*		*Practical*		*Total*	
		Hrs	***Units***	***Hrs***	***Units***	***Hrs***	*Units*
CC 241	Analytical Methods	12	0.8	40	0.8	52	1.6
CC 242	Tests of Organ Failure	12	0.8	60	1.4	72	2.2
CC 243	Nitrogenous Metabolites	6	0.4	20	0.4	26	0.8
CC244	Clinical Enzymology and Biomarkers	10	0.7	50	1.1	60	1.8
CC245	Analysis of Urine. CSF and Stool	6	0.4	30	0.7	36	1.1
TOTAL		46	3.1	200	4.4	246	7.6

PM 240: PUBLIC MICROBIOLOGY: 3.3 Units

Course Description: During this course the trainee will study on water system and sanitation, food sanitation and role of laboratory during outbreaks.

Aim: To impart to the trainee knowledge and skills on public microbiology

Objectives

At the end of the course the trainee should be able to

- To analyze water to rule of microorganisms contamination
- To process and isolate pathogens from food.
- To investigate an outbreak

Course Content

Module	Course Name	***Lecture***		***Practical***		*Total*	
		Hrs	**Units**	**Hrs**	**Hrs**	**Units**	Hrs
PM241	Water sanitation	6	0.4	25	0.5	22	0.7
PM242	Food sanitation	8	0.5	25	0.6	30	0.9
PM243	Role of Laboratory during outbreaks	8	0.5	30	0.7	40	1.2
Total		22	1.4	80	1.8	102	3.2

MP240: PRINCIPLES OF PATHOLOGY AND HAEMATOLOGY: 7.0 Units

Course description: During the course the student will learn principles of Pathology and use them to learn pathological process in the diseases. Student will have knowledge on changes seen in various pathological processes. Student will also learn on blood cells and their disorders

Objectives

At the end of the course the student will be expected to:

- Describe causes and cellular changes in cell injury
- Describe causes and morphology of cell death
- Describe the etiology and pathogenesis of diseases
- Collection and handling specimens for disease investigation
- Describe blood cells, their disorders and blood transfusion processes

Course content

Code	Course Name	***Lectures***		***Practical***		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MP241	Principles of Pathology	70	4.6	20	0.5	90	5.1
MP242	Haematology	25	1.6	5	0.1	30	1.7
TOTAL		95	6.2	25	0.6	120	7.0

SEMESTER FIVE

HT340: CYTOTECHNOLOGY AND HISTOTECHNOLOGY: 11.4 Units

Course Description: In this course the student will learn and practice different laboratory methods of histological/cytological studies including tissue fixation, grossing of specimen, photomicrography, tissue processing, staining, slide preparation, histological artifacts and microscopy. During this course the trainee will acquire knowledge and practice in museum Pathology laboratory. Trainee will spend time in general pathology laboratory to acquire more practice and skills in Histotechnology , Histochemistry, Immunohistochemistry, Molecular methods and cytology techniques. Trainee will also learn quality control in Pathology laboratory.

Aim: To impart a trainee with knowledge and skills on histological procedures starting from tissue fixation, grossing, processing, and staining including special stain and molecular studies on tissue and cytology specimens. Trainee will practice all procedures in the laboratory given on lectures. The trainee will know the skills and practices in museum and quality control in Pathology laboratory

Objectives

At the end of the course the trainee will be able to:

- Understand and use microscopic evaluation in histology
- Describe principles of tissue/cytological fixation
- Know different methods of tissue fixation
- Know tissue grossing
- Know tissue processing and staining techniques
- Perform special stains including immunohistochemical
- Know molecular diagnostic techniques in tissue and cytology specimens
- Know cytological techniques and their use in diagnosis
- Know the meaning of Pathology museum
- Know techniques in museum
- Prepare specimen for pathology museum
- Know and plan quality system for anatomical and histology laboratory

Course content

Module	Course Name	***Lecture***		***Practical***		*Total*	
		Hrs	Units	Hrs	Units	Units	Units
HT341	Microscopy Tissue Fixation, and Processing	10	0.6	30	0.6	40	0.8
HT342	Laboratory Methods in Histotechnology	14	1	46	1.0	60	2.0
HT343	Molecular Pathology Methods	10	0.7	20	0.4	30	1.0
HT344	Cytology	5	0.3	15	0.3	20	0.4
HT345	Museum Techniques and practice	20	1.3	40	0.9	60	2.2
HT346	Laboratory Quality System	-	-	**40**	**0.9**	**40**	0.9
HT347	Histotechnology II	-	-	**20**	**0.5**	**20**	0.5
HT348	Histochemistry/Immunohistochemistry II	-	-	**20**	**0.5**	**20**	0.5
HT349	Molecular Methods II	-	-	**20**	**0.5**	**20**	0.5
HT330	Cytology II	-	-	**27**	**0.6**	**27**	0.6
Total		59	3.9	278	6.2	337	11.4

SH340: CLINICAL SEROLOGY, HAEMATOLOGY AND BLOOD TRANSFUSION: 6.3 Units

Course description : During rotation of serology and Haematology the trainee will learn how to process various samples in the laboratory, be acquainted with different types of laboratory equipment and their use as well as procedures for ordering of supplies and stock taking. The trainee will also study and perform various serological techniques such as agglutination, ELISA, Immunofluorescent techniques, western blots, FACS etc. The trainee will also learn how to correlate lab results with clinical findings on request form.

Aim: To impart to the trainee knowledge and skills on basic and advanced serological and hematological techniques

Objectives

At the end of the course the trainee should be able to:

- Collect and process appropriate samples required for serological and hematological testing
- Use, operate and trouble shoot common laboratory equipments
- Order, store and make an inventory of laboratory supplies
- Perform basic and advanced serological and hematological techniques
- Interpret and issue laboratory results

Course content

Module	Course Name	***Lectures***		***Practical/Seminar***		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	CU
SH341	Clinical Haematology	25	1.7	67	1.5	20	3.2
SH342	Serological techniques	25	1.7	70	1.6	30	3.1
Total		50	3.4	137	3.1	187	6.3

DT 340: MOLECULAR DIAGNOSTIC TECHNIQUES: 6.5 Units

Course Description: During this course the trainee will learn and acquire skills for handling Nucleic acid specimens, extraction of nucleic acids and proteins and analytical methods used in molecular diagnostics. The course will be carried out through lectures and supervised rotations in molecular biology laboratory.

Aim : To impart to the trainee, appropriate skills for specimen processing and molecular procedures used for diagnosis of diseases in molecular biology laboratory.

Objectives

At the end of the course the students should be able to:

- Appropriately process specimens for molecular biology investigation.
- Describe and perform extraction methods for nucleic acids used in molecular diagnosis
- Perform procedures for quantifying, imaging and detection of nucleic acids and proteins.
- Perform molecular diagnostic tests and controls for potential contamination.

Course content

Module	Course Name	***Lecture***		***Practical***		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
DT 341	Nucleic Acid and Protein Extraction	15	1.0	45	1.0	60	2.0
DT 342	Analytical Methods	35	2.3	92	2.0	127	4.3
Total		50	3.3	137	3.0	187	6.5

SEMESTER SIX

MG340: LABORATORY MANAGEMENT AND PLANNING: 1.6 Units

Course Description: During this course the trainee will study laboratory management and planning

Aim: To impart to the trainee knowledge and skills on principles of Laboratory management and planning

Objectives

At the end of the course the trainee should be able to

- Plan and manage a health laboratory

Course content

Module	Course Name	***Lecture***		***Practical***		*Total*	
		Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
MG341	Laboratory management	10	0.6	5	0.1	15	0.7
MG342	Laboratory planning	10	0.6	5	0.1	15	0.7
Total		24	1.2	10	0.2	34	1.6

EF 340: ELECTIVE FIELD RESEARCH PROJECT (6.3 Units)

Course Description: During this course the trainee will select the medical laboratory rotation that capture interest to him/her and design a problem solving study that he/she will conduct under supervision for 8 weeks. The priority will be focused on the medical laboratory investigations research, however, trainees may also do other laboratory research pertaining to health in general, such as public microbiology, hygiene and sanitation, food processing, etc.

Aim: To impart the trainee skills on conducting medical research.

Objectives:

At the end of the course the trainee should be able to demonstrate skills for:

- Designing a medical research
- Conducting a medical research
- Summarizing, presenting, discussing and defending findings derived from a medical research.

Course content:

Module	Course Name	***Lecture***		***Practical***		***Total***	
		Hrs	Units	Hrs	Units	Hrs	Units
EF 341	Elective Field Research Project	54	3.6	592	13.2	646	16.8
	Total	54	3.6	592	13.2	280	**16.8**

ES340: ENTREPRENEURSHIP (2.3 units)

Course description: During this course the trainee will study introduction to entrepreneurship, law for Entrepreneurs, funding for entrepreneurs and entrepreneurship issues, entrepreneur marketing, innovation and creativity

Aim: To impart to the trainee knowledge and skills on: Starting and operating of an entrepreneuri al venture, basic legal concepts specifically relevant to a business start-up venture, developing and enhancing individual and organizational creativity and innovation, techniques to correctly research and define the target market to increase sales for startup businesses or to expand current businesses. Also knowledge on current and emerging entrepreneurship issues and opportunities, financial issues and needs confronting entrepreneurs attempting to grow their businesses by attracting startup and growth capital will be imparted.

Objectives

Upon completion, students should be able to:

- Demonstrate an understanding of entrepreneurship concepts and how to use the entrepreneurial mindset to succeed in their careers.
- Assess the legal responsibilities of a business start-up
- Apply innovation and creativity principles in the work place.
- Demonstrate an understanding of how to correctly target market for a start-up business with limited resources.
- Apply a variety of analytical and decision-making requirements to start a new business.
- Demonstrate an understanding of how to effectively finance a business venture.

Course content:

Module	Course Name	**Lectures**		**Practical**		**Total**	
		Hours	Units	Hours	Units	Hours	Units
ES341	Entrepreneurship	11	0.7	-	-	11	0.7
ES342	Innovation Creativity and Marketing	13	0.9	-	-	13	0.9
ES343	Funding and Entrepreneurship	10	0.7	-	-	10	0.4
	Total	**34**	**2.3**			**34**	**2.3**

BACHELOR OF MEDICAL LABORATORY SCIENCES PROGRAMME (STARTING 2018/19)

Summary of course per semester: All core courses, no elective courses.

Course code	COURSE TITTLE	LH	TH	AH	ISH	PH	Total	CU
SEMESTER I: YEAR I								
BC 140	Biochemistry	160	50	40	20	30	300	30.0
AN 140	Functional Anatomy and Histology	100	40	20	30	40	230	23.0
IT 140	Laboratory practice informatics	30	20	25	10	25	110	11.0
LP 140	Medical laboratory practices	30	20	20	10	30	110	11.0
TOTAL		320	130	105	70	125	**750**	**75.0**
SEMESTER II: YEAR I								
PH 140	Basic Physiology	100	30	20	20	20	190	19.0
MB 140	Molecular Biology	120	50	20	25	35	250	25.0
ER 140	Bio-statistics and Epidemiology	90	20	20	30	30	190	19.0
DS 140	Development studies 1	50	20	20	20	10	120	12.0
TOTAL		360	120	80	95	95	**750**	**75.0**
SEMESTER I: YEAR II								
PE 240	Parasitology and Entomology	100	20	30	40	80	270	27.0
MM 240	Microbiology/Immunology	110	20	30	70	80	310	31.0
DS 240	Development studies 2	70	30	30	30	10	170	17.0
TOTAL		280	70	90	140	170	**750**	**75.0**
SEMESTER II: YEAR II								
SM 240	Clinical Microbiology	30	10	15	15	130	200	20.0
CC 240	Clinical Chemistry	30	10	15	15	130	200	20.0
PM 240	Public Microbiology	20	5	5	5	65	100	10.0
MP 240	Pathology, Hematopathology and Blood transfusion	115	15	15	25	80	250	25.0
TOTAL		195	40	50	60	405	**750**	**75.0**
SEMESTER I: YEAR III								
HT 340	Histotechnology and Cytology	80	15	15	30	160	300	30.0
SH 340	Hematology and Blood transfusion	45	15	10	10	100	180	18.0
DT 340	Molecular diagnostics techniques	60	15	15	20	110	220	22.0
TOTAL		185	45	40	60	370	**700**	**70.0**
SEMESTER II: YEAR III								
EF 340	Elective Laboratory Rotation and Field Project	10	15	15	20	580	640	64.0
ES 340	Entrepreneurship	40	10	8	7	5	70	7.0
MG 340	Laboratory Management and Planning	30	20	10	20	10	90	9.0
TOTAL		80	45	33	47	595	**800**	**80.0**
							4500	**450.0**

KEY: LH:Lecture Hours TH:Tutorial Hours AS: Assignment hours PH:Practical or Field work hours ISH: Independent studies hours CU:10 Notional Hours= 1 Credit Unit

SEMESTER ONE

BIOCHEMISTRY (BC 140) [30.0 Credit Units]

Aims

1. To impart knowledge on structural organization of biomolecules
2. To impart knowledge on molecular and energy transformation and control of metabolism
3. To impart knowledge on signal transductions/flow and storage of genetic information

Course expected learning outcomes

At the end of the course the student should be able to:

- Describe chemistry of proteins, lipids and carbohydrates and to recognize some basic structures
- Describe cellular organization at molecular level
- Describe structure and function of Enzymes including clinical application of enzymology
- Describe principles of Biological oxidation and oxidative phosphorylation and thermodynamics
- Describe processes in intermediary metabolism
- Describe selected concepts in Molecular Biology
- Describe porphyrins and bile pigments metabolism
- Describe hormone mechanisms and signal transduction

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
BC141	Introduction of Biomolecules	30	5	2	5	5	47	4.7
BC142	Catalysis and Energy Biosynthesis	37	10	5	10	5	67	6.7
BC143	Dynamics of life	50	10	7	10	8	85	8.5
BC144	Metabolism and Signal Transduction	60	15	6	10	10	101	10.1
	Total	**177**	**40**	**20**	**35**	**28**	**300**	**30.0**

ANATOMY (AN 140) [Credit Units 23.0)

Aim: At the end of the course the student will be able to integrate the application of knowledge, skills, attitudes and values in the structure and development of the human body in health. Student will also be able to integrate the knowledge of applied anatomy in clinical conditions of human.

Course expected learning outcomes

At the end of the course students will be able to:

- Describe correctly the structure of the human body in health as seen with the naked eye
- Delineate correctly all parts of the human body
- Correctly use medical/anatomical terminologies
- Correctly identify and describe with the aid of a microscope different types of cells, tissues, organs and human body in general
- Correctly demonstrate processes and instruments involved in preparation tissue for histological observation
- Correctly explain processes involved in the development of the human body and congenital malformations
- Integrate the knowledge of applied anatomy in clinical conditions to human

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
AN141	The human body and cell biology	25	10	5	5	0	45	4.5
AN142	Regional anatomy	45	10	5	5	10	75	7.5
AN143	General and systemic histology	30	10	5	5	30	80	8.0
AN144	Applied development biology	15	5	5	5	0	30	3.0
	Total	**115**	**35**	**20**	**20**	**40**	**230**	**23.0**

LABORATORY PRACTICE INFORMATICS (IT240) [11.0 Credit Units]

Aim: To impart to the trainee with appropriate skills for analysis of current technical laboratory concepts and practices in the core use of computing information technologies.

Course expected learning outcomes

At the end of the course the students should be able to:

- Form the IT operational backbone of a Clinical Laboratory Group.
- Apply specific laboratory applications of computer and information sciences to support and manage his/her health care activities.
- Use E-mail based discussion group e.g. "Labmed" (list server) that is intended for individuals who work in, or have an interest in, laboratory medicine in general, and clinical microbiology, pathology, clinical chemistry, clinical haematology, toxicology, etc, in particular. The goal of labmed is to improve communication among clinical laboratories and ultimately, improve patient care.
- Develop costumed database application for data manipulations.
- Perform some computer hardware and software troubleshooting at first level support.

Course Content

CODE	NAME	LH	TH	AH	IS	PH	Total	CU
IT241	Introduction to Computers and Internet Browsing	10	5	5	5	13	38	3.8
IT242	Office Applications	5	3	5	4	10	27	2.7
IT243	Data Base Management	10	8	10	5	12	45	4.5
	Total	**25**	**16**	**20**	**14**	**35**	**110**	**11.0**

MEDICAL LABORATORY PRACTICE (LP 140) [11.0 Credit Units]

Aim: To impart to the trainee knowledge and skills on health Laboratory organization and basic aspects of laboratory practices and procedures.

Course expected learning outcomes

At the end of the course the trainee should be able to:

- Describe the structure and organization of health laboratory
- Collect, manage, transport and document laboratory specimens
- Describe the working principles and maintenance of different laboratory instruments/equipment Understand on how to prepare different laboratory reagents
- Understand the phases of laboratory analysis (pre-analytical, analytical and post analytical).

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
LP141	Laboratory Structure and Organization	15	5	5	5	5	35	3.5
LP142	Laboratory Practices and Ethics	11	5	3	3	5	27	2.7
LP143	Specimen collection, transportation and documentation	8	3	3	2	7	23	2.3
LP144	Laboratory instruments and equipment	10	3	2	3	7	25	2.5
	Total	**44**	**16**	**13**	**13**	**24**	**110**	**11.0**

SEMESTER TWO

BASIC PHYSIOLOGY (PH 140) [19.0 Credit Units]

Aim: To impart to the trainee knowledge on normal functions of the human body systems and their control and regulatory mechanisms.

Course expected learning outcomes

At the end of the course the trainee is expected to:

- Describe the composition, partitioning and functions of body fluids and tissues.
- Describe the metabolic and excretory functions of the digestive, respiratory and renal systems
- Describe the organization and functions of the Neuro-endocrine systems.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
PH141	Fluid and circulation	30	12	8	10	5	65	6.5
PH142	Metabolism and Excretion	30	10	4	8	3	55	5.5
PH143	Neuro-Endocrine Physiology	35	15	5	10	5	70	7.0
	Total	**95**	**37**	**17**	**28**	**13**	**190**	**19.0**

MOLECULAR BIOLOGY (MB140) [25.0 Credit Units]

Aim: To impart to the trainee knowledge and skills on cell and molecular biology as applied to laboratory diagnosis of human diseases.

Course expected learning outcomes

At the end of the course the trainee should be able to:

- Describe the molecular basis of human diseases.
- Describe the principles of heredity.
- Understand the principles of DNA transfer and recombination.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
MB141	Cell Biology and Mutations	40	15	12	8	10	85	8.5
MB142	DNA Transfer, Recombination and Inheritance	30	8	7	7	8	60	6.0
MB143	Gene expression and arrangement	30	10	5	10	5	60	6.0
MB144	Bioinformatics	10	5	5	5	20	45	4.5
	Total	**110**	**38**	**29**	**30**	**43**	**250**	**25.0**

BIOSTATISTICS AND EPIDEMIOLOGY (ER140) [19.0 Credit Units]

Aims

1. To introduce to the students the basic principles of epidemiology and research methodology and their application in the planning and provision of medical and health care services.
2. To introduce the students to environmental determinants of health and disease in human populations.

Course expected learning outcomes

At the end of the course, the student should be able to:

- Understand and utilize the basic principles of epidemiology in research and in planning provision medical and health care services
- Understand and use the epidemiological methods in research and assess community health needs
- Understand and use the research methods to collect, analyze and present critical information to stakeholders and wider audience
- Understand the epidemiology and control of the selected major diseases of public health importance in Tanzania.
- Describe the physical, biological, socio-cultural and environmental factors affecting health and disease.
- Identify the agencies and services available to families and the extent to which they meet their needs.

Course content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
ER141	Biostatistics	40	10	8	20	8	86	8.6
ER142	Epidemiology	50	10	12	24	8	104	10.4
	Total	**90**	**20**	**20**	**44**	**16**	**190**	**19.0**

DEVELOPMENT STUDIES 1 (DS140) [12.0 Credit Units]

Aim: The course exposes students to the theories, problems and contemporary issues of development in relation to health.

Course expected learning outcomes

At the end of the course, students should be able to:

- Define the concept of development
- Explain the different theories of development
- Describe the process of social and political developments in Africa
- Relate health to the theories of development

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
DS141	Social Development and Health	20	10	10	10	0	50	5.0
DS142	Education, Rural Development, Gender and Health	10	10	5	5	0	30	3.0
DS143	Population, Poverty and Health	18	10	6	6	0	40	4.0
	Total	**48**	**30**	**21**	**21**	**0**	**120**	**12.0**

SEMESTER THREE

PARASITOLOGY/MEDICAL ENTOMOLOGY (PE 240) [27.0 Credit Units]

Aims

1. To impart knowledge on identification of life cycles, epidemiological factors, host-parasite relationships
2. To impart knowledge on identification of the appropriate preventive and control measures.

Course expected learning outcomes

At the end of the course the student should be able to:

- Describe in detail the life cycles of medically important parasites
- Describe the organs commonly involved in the infection
- Describe the relationship of this infection to symptoms, relapse and the accompanying pathology.
- Describe the factors that determine endemicity of the parasite infection
- Describe the distribution and epidemiology of the parasites in East Africa
- Describe the methods of parasite control e.g. chemotherapy, molluscicide general sanitation etc.
- Describe the advantages and disadvantages of each method.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
PE141	Protozology and Immuno-Parasitology	35	15	10	18	22	100	9.5
PE142	Helminthology	40	8	12	22	30	112	11.2
PE143	Entomology	20	5	8	10	15	58	5.8
	Total	**95**	**28**	**30**	**50**	**67**	**270**	**27.0**

MICROBIOLOGY/IMMUNOLOGY (MM 240) [31.0 Credit Units]

Aim: To provide students with knowledge and skills in the subject of Microbiology and Immunology

Course expected learning outcomes

At the end of the course the student is expected to:

- Understand the main principles of general Medical Microbiology and Immunology.
- Acquire knowledge of host-parasite-environment relationship in health and in microbial diseases

- Understand the etiology of human microbial and immunological health problems
- Be familiar with the general epidemiological aspects of microbial health problems and simple preventive measures of specific health problems with special reference to sub Saharan Africa.
- Be familiar with collection and handling of appropriate specimens for Microbiological investigation.
- Be familiar with and able to perform essential microbiological and immunological laboratory procedures used in determining etiology of common microbial and immunological health problems.
- To enable them appreciate the role of the subject in problem solving in infectious disease management, prevention and control.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
MM 241	General Bacteriology	54	8	12	28	32	134	13.4
MM 242	Virology and Mycology	40	8	10	24	28	110	11.0
MM 243	Immunology	20	5	8	13	20	66	6.6
	Total	**114**	**21**	**30**	**65**	**80**	**310**	**31.0**

DEVELOPMENT STUDIES 2 (DS 240) [17.0 Credit units]

Aim: To expose students to Tanzania's development experiences and be aware of alternative development strategies existing currently

Course expected learning outcomes

At the end of the course students should be able to

- Analyze the dynamics of Tanzania's development plans/strategies and implementation in health and health related sectors.
- Compare and contrast different development strategies in developing countries.
- Analyze current development problems and issues in Tanzania and developing countries in general and how these problems relate to health.
- Should be able to plan, organize and manage a private health care facility.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
DS 241	Globalization Environment and Health	20	8	10	7	10	55	5.5
DS 242	Human Rights/ Governance	30	14	14	8	14	80	8.0
DS 243	Entrepreneurship	10	8	6	5	6	35	3.5
	Total	**60**	**30**	**30**	**20**	**30**	**170**	**17.0**

SEMESTER FOUR

CLINICAL MICROBIOLOGY (SM240) [20.0 Credit Units]

Aim: To impart to the trainee knowledge and skills on basic clinical microbiology

Course expected learning outcomes

At the end of the course the trainee should be able to:

- Collect and process appropriate samples
- Use, operate and trouble shoot common laboratory equipment
- Order, store and make an inventory of laboratory supplies
- Perform basic identification procedures for pathogens
- Interpret and issue laboratory results

Course Content

CODE	NAME	LH	TH	AH	IS	PH	Total	CU
SM241	Sample collection and processing	12	4	4	5	60	85	8.5
SM242	Lab Equipment and Supplies	10	4	4	4	18	40	4.0
SM243	Pathogen Identification and susceptibility	15	3	5	5	47	75	7.5
TOTAL	**Total**	**37**	**11**	**13**	**14**	**125**	**200**	**20.0**

CLINICAL CHEMISTRY (CC240) [20.0 Credit Units]

Aim: To impart to the trainee appropriate skills for specimen processing and analytical procedures used for diagnosis of diseases in clinical chemistry laboratory

Course expected learning outcomes

At the end of the course the students should be able to:

- Appropriately process specimens for Clinical Chemistry investigation.
- Describe and perform analytical methods used in clinical chemistry assays
- Perform procedures for quantifying biomolecules from different body compartments.
- Perform renal, intestinal, pancreatic, cardiac and liver function tests

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
CC 241	Specimen processing and Analytical Methods	11	2	4	3	20	40	4.0
CC 242	Tests of Organ Function	4	2	4	3	27	40	4.0
CC 243	Nitrogenous Metabolites	8	2	4	4	22	40	4.0
CC 244	Hormones and tumor Biomarkers	8	2	4	3	23	40	4.0
CC 245	Biochemical Analysis of body fluids	6	2	4	3	25	40	4.0
	Total	**37**	**10**	**20**	**16**	**117**	**200**	**20.0**

PUBLIC MICROBIOLOGY (PM 240) [10.0 Credit Units]

Aim: To impart to the trainee knowledge and skills on public microbiology

Course expected learning outcomes

At the end of the course the trainee should be able to

- To identify pathogens of public health importance
- To analyze water to rule of microorganisms contamination
- To process and isolate pathogens from food.
- To investigate an outbreak

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
PM 241	Water sanitation	6	2	4	8	15	35	3.5
PM 242	Food sanitation	6	2	5	4	18	35	3.5
PM 243	Role of Laboratory during outbreaks of pathogens of public health importance	4	1	6	4	15	30	3.0
TOTAL	**Total**	**16**	**5**	**15**	**16**	**48**	**100**	**10.0**

PATHOLOGY, HEMATOPATHOLOGY & BLOOD TRANSFUSION (MP240) [25.0 Credit Units]

Aim: To impart to the trainee knowledge and skills on principles of pathology and hematology.

Course expected learning outcomes

At the end of the course the student will be expected to:

- Describe causes and cellular changes in cell injury
- Describe causes and morphology of cell death
- Describe the etiology and pathogenesis of diseases
- Collection and handling specimens for disease investigation
- Describe blood cells, their disorders and blood transfusion processes

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
MP 141	Principles of Pathology	95	7	23	30	25	180	18.0
MP 142	Hematology	31	5	10	12	12	70	7.0
TOTAL	**Total**	**126**	**12**	**33**	**42**	**37**	**250**	**25.0**

SEMESTER FIVE

HISTOTECHNOLOGY & CYTOLOGY (HT240) [30.0 Credit Units]

Aim: To impart a trainee with knowledge and skills on histological/cytological procedures starting from specimen accessioning, fixation, tissue grossing, processing, embedding, sectioning and staining including special stain and molecular studies on tissue and cytology specimens. Trainee will practice all procedures in the laboratory given on lectures. To impart the skills and practices in quality control in Pathology laboratory

Course expected learning outcomes

At the end of the course the student will be able to:

- Understand and use microscopic evaluation in histology
- Understand specimen accessioning in pathology laboratory
- Describe principles of tissue/cytological fixation
- Know different methods of tissue fixation
- Assist in tissue grossing
- Perform tissue processing
- Perform tissue embedding
- Perform tissue sectioning
- Prepare a cell block from cytological samples
- Perform basic tissue and cytological stains
- Perform special stains in tissue and cytological materials
- Perform molecular diagnostic techniques in tissue and cytology specimens
- Perform cytological techniques and their use in diagnosis
- Prepare specimen for pathology museum
- Plan quality system for anatomical and histology laboratory

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
HT341	Histotechnology	60	10	10	10	120	210	21.0
HT342	Cytology	20	5	5	10	50	90	9.0
TOTAL	Total	80	15	15	20	170	300	30.0

HAEMATOLOGY AND BLOOD TRANSFUSION (SH340) [18.0 Credit Units]

Aim: To impart to the trainee knowledge and skills on basic and advanced hematological techniques and blood transfusion medicine.

Course expected learning outcomes

At the end of the course the trainee should be able to:

- Collect and process appropriate samples required for hematological testing
- Use, operate and trouble shoot common hematology equipment's
- Order, store and make an inventory of laboratory supplies
- Performance of manual hematology procedures, Performance of automated hematology procedures, Performance of coagulation procedures, Specimen processing, Organizational policies in Hematology and coagulation, Quality control, Bone narrows techniques, abnormal differentials, Performance of diagnostic coagulation tests
- Perform basic and advanced hematological techniques
- Interpret and issue laboratory results
- Screen blood donors for safe blood donation, perform tests for transfusion transmissible infections, and receive and process blood products requests.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
SH 342	Haematology	25	10	5	10	70	120	12.0
SH 343	Blood Transfusion	17	6	6	11	20	60	6.0
TOTAL	**Total**	**42**	**16**	**11**	**21**	**90**	**180**	**18.0**

MOLECULAR DIAGNOSTIC TECHNIQUES (DT 340) [22.0 Credit Units)

Aim: To impart to the trainee, appropriate skills for specimen processing and molecular procedures used for diagnosis of diseases in molecular biology laboratory.

Course expected learning outcomes

At the end of the course the students should be able to:

- Appropriately process specimens for molecular biology investigation.
- Describe and perform extraction methods for nucleic acids used in molecular diagnosis
- Perform procedures for quantifying, imaging and detection of nucleic acids and proteins.
- Perform molecular diagnostic tests and controls for potential contamination.
- Perform serological techniques
- Interpret and issue laboratory results

Course Content

CODE	NAME	LH	TH	AH	IS	PH	Total	CU
DT341	Nucleic Acid and RNA Based techniques	17	8	6	8	35	74	7.4
DT 342	Serological techniques/protein based techniques	25	10	11	15	85	146	14.6
TOTAL	**Total**	**42**	**19**	**17**	**23**	**120**	**220**	**22.0**

SEMESTER SIX

ELECTIVE LABORATORY ROTATION AND FIELD PROJECT (EF 340) [Credit Units 64.0]

Aim: To impart the trainee skills and competencies on laboratory analysis, designing, conducting and interpreting medical research findings.

Course expected learning outcomes

At the end of the course the trainee should be able to:

- Demonstrate competencies in laboratory analytical skills in area of her/his choice
- Design medical research proposal
- Demonstrate competence in presentations
- Conduct medical research
- Summarize, present, discuss and defend findings derived from a medical research

Course Content

CODE	NAME	LH	TH	AH	IS	PH	Total	CU
EF 341	Elective Laboratory Rotation	5	20	20	10	265	320	32.0
EF 342	Elective Field Project	5	10	20	20	265	320	32.0
	Total	**10**	**30**	**40**	**30**	**530**	**640**	**64.0**

ENTREPRENEURSHIP (ES340) [Credit Units 7.0]

Aim: To impart to the trainee knowledge and skills on: Starting and operating of an entrepreneurial venture, basic legal concepts specifically relevant to a business start-up venture, developing and enhancing individual and organizational creativity and innovation, techniques to correctly research and define the target market to increase sales for start up businesses or to expand current businesses. Also knowledge on current and emerging entrepreneurship issues and opportunities, financial issues and needs confronting

entrepreneurs attempting to grow their businesses by attracting startup and growth capital will be imparted.

Course expected learning outcomes

Upon completion, students should be able to:

- Demonstrate an understanding of entrepreneurship concepts and how to use the entrepreneurial mindset to succeed in their careers.
- Assess the legal responsibilities of a business start-up
- Apply innovation and creativity principles in the work place.
- Demonstrate an understanding of how to correctly target market for a start-up business with limited resources.
- Apply a variety of analytical and decision-making requirements to start a new business.
- Demonstrate an understanding of how to effectively finance a business venture.

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
ES 341	Entrepreneurship	12	4	2	4	2	24	2.4
ES 342	Innovation Creativity and Marketing	12	4	4	2	2	24	2.4
ES 343	Funding and Entrepreneurship	10	2	4	4	2	22	2.2
TOTAL	**Total**	**34**	**10**	**10**	**10**	**6**	**70**	**7.0**

LABORATORY MANAGEMENT AND PLANNING (MG340) (CU 9)

Aim: To impart to the trainee knowledge and skills on principles of Laboratory management and planning

Course expected learning outcomes

At the end of the course the trainee should be able to

- Apply knowledge and skills of Total Quality management; data management, personnel management, waste management, organization structure, customer care and equipment management
- Understand aspects of Quality assurance; Internal and External Quality controls, quality assessments.
- Develop strategic and action plans
- Assess and prioritize needs for efficient running of laboratory services

Course Content

CODE	COURSE NAME	LH	TH	AH	IS	PH	Total	CU
MG341	Laboratory management	12	10	5	13	5	45	4.5
MG342	Laboratory planning	12	10	5	13	5	45	4.5
TOTAL	**Total**	**24**	**20**	**10**	**26**	**10**	**90**	**9.0**

SCHOOL OF PHARMACY

DEAN, Prof. Gilbert Kongola,

MD (UDSM), MSc. (Manchester), PhD (Manchester)

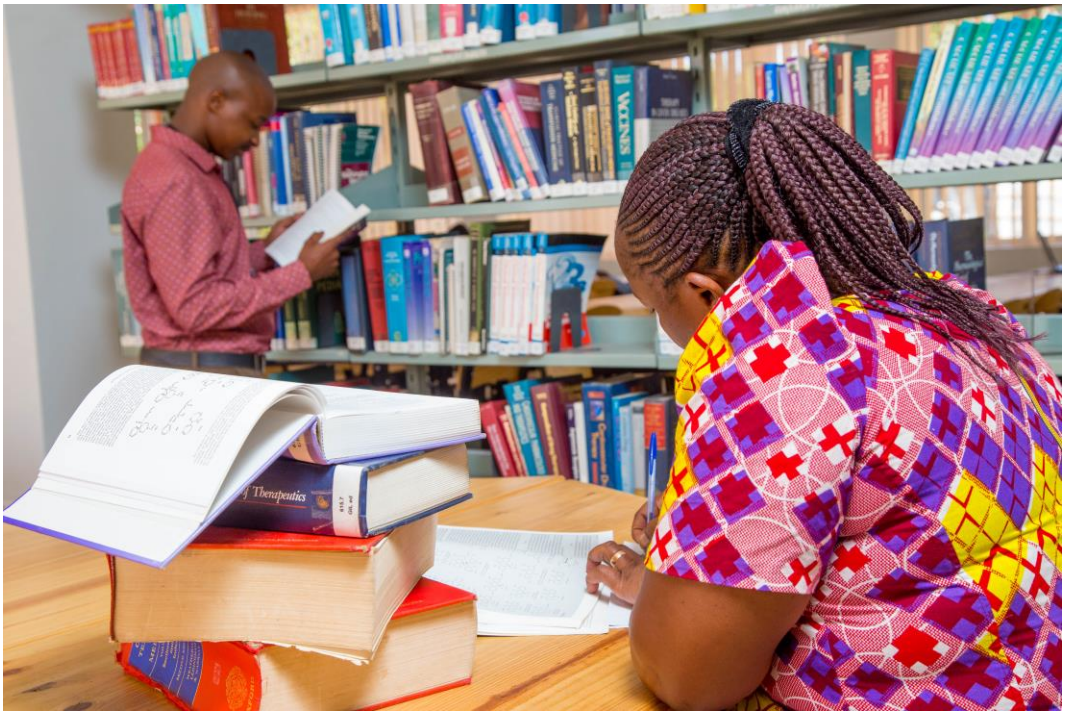
The School of Pharmacy at CUHAS- Bugando, started in 2010 with thirty six students. In accordance with the requirements laid down by the Tanzania Pharmacy Council, the Bachelor of Pharmacy degree is designed to produce healthcare professionals who are committed to meeting the pharmaceutical needs of all health seeking communities.

Vision:
To provide Highly Qualified Pharmacists who can suit the Pharmaceutical needs of Tanzania, in Health Care Systems, Community, Training and Research Institutions.

Mission:

- To provide skilled and competent human resources in the health sector that is vested with moral and ethical values.
- Search, discover and communicate the truth to advance the frontiers of knowledge and
- Provide quality services to the community

BACHELOR OF PHARMACY PROGRAMME



Broad Objectives

- To produce pharmacists who have excellent academic knowledge and competence in order to meet the pharmaceutical requirements and standard in the country.

Specific Objectives

- To produce pharmacists who have the ability to work methodically, carefully and accurately in Pharmaceutical industry, Hospital & Community Pharmacy, Pharmaceutical Quality Control & Assurance, Pharmacy Regulatory Affairs, Drug Information Services, Research & Development and Academia/Consultancy.

PROGRAMME GOALS

(i) To train highly qualified pharmacists, in order to meet the requirements of pharmaceutical services in Tanzania, who can provide pharmaceutical care to patients, who can develop and manage medication distribution and drug control system, who can manage community pharmacies properly and participate in promoting public health and provide adequate drug information and education.

(ii) To produce pharmacists suited to the needs of the country, but, also meet the general standard of competence of pharmacists from other countries in the region.

(iii) To stimulate and nurture in students and graduates the desire to initiate research in local drug problems and traditional medicinal plants as well as research into other fields of pharmaceutical and medical interests

Summary of the Eight Semester Modules for B.Pharm Programme

SEMESTER I

No.	*Course Code*	*Course Name*	*Theory*		*Practical*		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**AN120**	Anatomy	120	8.0	45	1.0	165	9.0
2.	**PC120**	Solution, Phase & Interfacial Phenomena	60	4.0	73	1.6	133	5.6
3.	**PP120**	Introduction to Dispensing	55	3.7	78	1.7	133	5.4
4.	**BC120**	Biochemistry	111	7.4	60	1.3	171	8.7
Total Hrs/Units			346	23.1	256	5.6	602	28.9

SEMESTER 2

No.	*Course Code*	*Course Name*	*Theory*		*Practical*		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**CH120**	General, Physical, Inorganic & Aliphatic Chemistry	115	7.7	69	1.6	184	9.2
2.	**PH120**	Physiology	153	10.2	75	1.7	228	11.9
3.	**PB120**	Pharmaceutical Botany	55	3.7	97	2.2	152	5.9
4.	**DS120**	Development Studies 1	65	4.3	30	0.7	95	5.0
Total Hrs/Units			388	25.9	271	6.2	659	32

SEMESTER 3

No.	*Course Code*	*Course Name*	*Theory*		*Practical*		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**PE220**	Parasitology & Medical Entomology	107	7.1	45	1.0	152	8.1
2.	**PC220**	Introduction to Pharmaceutical Technology	70	4.7	57	1.3	127	6.0

3.	**PP220**	Introduction to Pharmacy Practice	50	3.3	128	2.8	178	6.1
4.	**DS220**	Development Studies II	65	4.3	30	0.7	95	5.0
Total Hrs/Units			292	19.4	260	5.8	552	25.2

SEMESTER 4

No.	***Course Code***	***Course Name***	***Theory***		***Practical***		*Total*	
			Hrs	***Units***	***Hrs***	***Units***	***Hrs***	*Units*
1.	**CH220**	Organic Chemistry& Spectroscopy	141	9.4	50	1.1	191	10.5
2.	**ER220**	Epidemiology & Biostatics	130	8.7	40	0.9	170	9.6
3.	**PG220**	Pharmacognosy	75	5.0	205	4.6	280	9.6
4.	**MP220**	Principles of General Pathology	33	2.2	16	0.4	49	2.6
Total Hrs/Units			379	25.3	311	7	690	32.3

SEMESTER 5

No.	***Course***	***Course Name***	***Theory***		***Practical***		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**CP320**	Clinical Pharmacology 1	178	11.9	50	1.1	228	13.0
3.	**MM220**	Pharmaceutical Microbiology	166	11.1	100	2.2	266	13.3
Total Hrs/Units			344	23	150	3.3	494	26.3

SEMESTER 6

No.	***Course***	***Course Name***	***Theory***		***Practical***		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**DC320**	Drug Development and Chemotherapy	75	5.0	175	3.9	250	8.9
2.	**PT320**	Pharmaceutical Phytochemistry	80	5.3	91	2.0	171	7.3
3	**PC320**	Solid dosage forms, Sterile Products & Radiopharmaceuticals.	60	4.0	130	2.9	190	6.7
4	**PP320**	Medicine Scheduling, Patient Information, Drug Information and Pharmacy Management	75	5.0	115	2.6	190	7.6
Total Hrs/Units			290	19.3	511	11.4	801	30.5

SEMESTER 7

No.	***Code***	***Course Name***	***Theory***		***Practical***		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**CP420**	Clinical Pharmacology II	153	10.2	75	1.7	228	11.9

2.	**PC420**	Biopharmaceutics, Pharmacokinetics and Principles of Good Manufacturing Practice.	110	7.3	42	0.9	152	8.2
3.	**PP420**	Forensic Pharmacy, Pharmacy management Clinical Pharmacy Practice	95	6.3	263	5.8	358	12.1
Total Hrs/Units			358	23.8	380	8.4	738	32.2

SEMESTER 8

No.	***Course Code***	***Course Name***	***Theory***		***Practical***		*Total*	
			Hrs	***Units***	***Hrs***	***Units***	***Hrs***	*Units*
1.	**PD420**	Pharmacodynamic Agents and Drug Design	152	10.1	57	1.3	209	11.4
2.	**PG420**	Applied Pharmacognosy	80	5.3	110	2.4	190	7.8
3.	**RP420**	Research Project	0	0	209	4.6	209	4.6
Total Hrs/Units			232	15.4	376	8.3	608	23.8

KEY to B Pharm Course subjects

AN: Anatomy. BC: Biochemistry. CH: Chemistry. CP: Clinical Pharmacology DC: Drug Development and Chemotherapy DS: Developmental Studies ER: Epidemiology & Biostatistics. MM: Pharmaceutical Microbiology MP: Principle of General Pathology PB: Pharmaceutical Botany.	PC: Pharmaceutics. PD: Pharmacodynamic Agents and Drug Design PE: Parasitology & Medical Entomology. PG: Pharmacognosy. PH: Physiology. PP: Pharmacy Practice. PT: Pharmaceutical Phytochemistry. RP: Research Project.

Bachelor of Pharmacy Teaching Programme for 8 semesters

SEMESTER ONE

AN 120: ANATOMY (9.0 Units)

Introduction: Drugs are administered to a patient by various routes and once in the body these drugs need to be distributed to various body compartments before they reach the target tissues where they produce their effects. A student will need to have a good knowledge of the human anatomy so that he can appreciate these processes.

Aim: To provide the student with knowledge of the human body anatomy

Objectives

At the end of the course the students should be able to:-

1. Describe the structure of the human body as seen by the naked eye in health.
2. Identify different parts of the human body.
3. Use medical/anatomical terminology.
4. describe physiological processes in health and disease using the anatomy terms
5. Describe the processes involved in the development of the human body.
6. Describe congenital malformations and how they come about and the times when drugs can have teratological effect.

Course Content

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
AN 121	Organization of the Human Body	15	1.0	15	0.3	30	1.0
AN 122	The Skeletal & Muscular System	20	1.3	0	0.0	20	1.0
AN 123	The Alimentary, Respiratory and Cardiovascular systems	25	1.7	10	0.2	35	1.0
AN 124	Endocrine, Reproductive and Urinary systems	20	1.3	10	0.2	30	1.0
AN 125	Neurology and Sensory System	20	1.3	10	0.2	30	1.0
AN 126	Lymphoid system, skin and basic embryology	20	1.3	0	0.2	20	1.0
Total		120	8.0	45	1.0	165	9.0

PC120: SOLUTION, PHASE AND INTERFACIAL PHENOMENA (5.7 Units)

Introduction: In Pharmaceutics the student will be taught the art of compounding drugs. Many human drugs are dispensed as mixtures either as solids or solutions or ointments/gels. The student will learn how to formulate these in Pharmaceutics.

Aim: To provide the students with fundamental principles of solutions, basic knowledge of equilibrium between phases and knowledge of behaviour of interfaces.

Objectives

At the end of the course students should be able to:

1. Describe types of solutions, their physical properties and applications
2. Define solubility of solutes in solvents and various expressions.
3. Understand the dissolution process and factors affection it.
4. Describe the distribution of solutes between immiscible liquids and its application in extraction and preservation.

5. Define phase, degrees of freedom as it relates to the number of components and describe partial miscibility in liquids, eutectic mixtures and their applications.
6. Differentiate surface and interfacial tensions and describe the solubilization phenomenon.
7. Distinguish various adsorption isotherms and their application.

Course content

Code	***Title***	***Theory***		***Practical***		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Unit
PC 121	Solution Theory	20	1.3	24	0.5	44	1.9
PC 122	Phase Equilibria	20	1.3	25	0.6	45	1.9
PC 123	Surface & Interfacial Phenomena	20	1.3	24	0.5	44	1.9
Total		60	4.0	73	1.6	133	5.7

PP120: INTRODUCTION TO DISPENSING (5.4 Units)

Introduction: The student will be taught the interpretation of prescriptions and be able to explain to the patient the effect and purpose of medicines that are dispensed to the patient.

Aim : To provide students with adequate knowledge and skills in pharmaceutical calculations and communication.

Objectives

At the end of the course the students should be able to:

1. Account for pharmacy history and pharmaceutical reference materials
2. List the common delivery systems and describe systems of measurements.
3. Calculate doses of drugs, isotonicity and osmolality of pharmaceutical preparations.
4. Define and describe communication skills, the goals, types, the fidelity, and factors affecting it.
5. Know and explain the pharmacist-patient communication process.
6. Read, interpret and obtain the formula for the prescription given.
7. Perform standard weighing and measuring techniques, Compound and label.

Course content

Code	**Title**	**Theory**		**Practical**		**Total**	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	**Units**
PP 121	Pharm. Calculations	35	2.3	39	0.9	74	**3.2**
PP 122	Communication Skills	20	1.3	39	0.9	59	**2.2**
Total		**55**	**3.7**	**78**	**1.7**	**133**	**5.4**

BC120: BIOCHEMISTRY (8.8 Units)

Introduction: Most pharmaceuticals administered to man produce their effects through interaction with either biochemical reactions or enzymes or cellular components in the body systems. A sound knowledge of molecular biology will enhance the understanding of drug effects in man.

Aims:

1. To impart knowledge on structural organization of biomolecules
2. To impart knowledge on molecular and energy transformation and control of metabolism.
3. To impart knowledge on signal transductions/flow and storage of genetic information.

Objectives

At the end of the course the student should be able to:-

Describe chemistry of proteins, lipids and carbohydrates and to recognize some basic structures.

1. Describe cellular organization at molecular level.
2. Describe structure and function of Enzymes including clinical application of enzymology.
3. Describe principles of Biological oxidation and oxidative phosphorylation.
4. Describe processes in intermediary metabolism.
5. Describe structure and function of informational molecules.
6. Describe porphyrins and bile pigments metabolism.
7. Describe hormone mechanisms and signal transduction.

Course Content Summary

Code	***Title***	***Theory***		***Practical***		*Total*	
		Hours	**Units**	**Hours**	**Units**	**Hours**	Units
BC121	Chem. Of Biomolecules	25	1.7	15	0.3	40	2.0
BC122	Enzymology	20	1.3	15	0.3	35	1.7
BC123	Intermediary & Heme Metabolism	31	2.1	15	0.3	46	2.4
BC 124	Molecular Biology & Hormone systems	35	2.3	15	0.3	50	2.7
	Total	111	7.4	60	1.3	171	8.8

SEMESTER TWO

CH120: GENERAL, PHYSICAL, INORGANIC AND ALIPHATIC CHEMISTRY (9.2 units)

Introduction: Most of the medicines that are studied in pharmacy are made from chemical substances. A student of pharmacy needs to have a good knowledge in chemistry to be able to comprehend the chemical nature of medicines and be able to understand how these substances will interact with cellular components of the body.

Aim : To provide students with a sound knowledge of general, physical, inorganic and aliphatic chemistry, including practical aspects.

Objectives

At the end of this course the student should be able to;

1. Define the common concepts and parameters used in physical, general, inorganic and organic chemistry.
2. Balance acid-base, redox and other chemical equations and choose appropriate indicators for titrations.
3. Explain the electronic basis of the modern from the periodic table with particular emphasis on elements of pharmaceutical interest.
4. Demonstrate the properties and types of the bonds formed between atoms, the molecular orbital theory and the factors governing molecular geometry and hence shapes of molecules and the geometry of the carbon atom.
5. Describe the methods used in the detection and measurement of radioactivity and applications of radioisotopes and the relation between order of a reaction and the half-life.
6. Use laws of thermodynamics to predict whether a given reaction will occur spontaneously or not, and explain the relationship free energy, entropy, and the equilibrium constant.
7. Give an account of the chemistry of aliphatic compounds including alkanes, alkenes, alkyl halides, alcohols, ethers, epoxides, carboxylic acids and their derivatives using a functional group approach and name organic compounds using the IUPAC system.

Course content

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
CH 121	General Chemistry	30	2.0	19	0.4	49	2.4
CH 122	Physical Chemistry	30	2.0	19	0.4	49	2.4
CH 123	Inorganic Chemistry	16	1.1	19	0.4	49	1.5
CH 124	Aliphatic Chemistry	39	2.6	12	0.3	51	2.9
	Total	115	7.7	69	1.6	184	9.2

PH 120: PHYSIOLOGY (11.9 Units)

Introduction: The pharmacist prepares and dispenses drugs to patients. The drugs should be able to integrate with body systems so that they can produce the desired effects. It is therefore necessary for the pharmacist to know the physiological processes in the human body so that he can design drugs that can regulate these processes.

Aim: To provide the student with knowledge on composition and function body tissues, systems and organs.

Objectives

At the end of study of the course the students is expected to:

1. Describe the various homeostatic and control systems and the way they operate in the human body
2. Enumerate the international system of units which describe mass, volume, and concentration.
3. Describe the general physiology of the cell membrane; membrane potentials in excitable tissues (example; muscle cells and nerves)
4. List the major constituents of body tissues, and describe the composition and partitioning of body fluids.
5. List of composition of blood and describe the general functions of blood, the formation characteristics and functions of different blood cells.
6. List the major divisions of the circulatory system, and describe its general organization, functions and the control of the cardiovascular system.
7. Describe the functional anatomy of the respiratory system, the mechanics of breathing, alveolar gas exchange, and the control of the respiratory system.
8. Describe the functional anatomy of the kidney, the renal mechanisms of filtration, excretion and reabsorption; concentrating and diluting mechanisms and the endocrine function of the kidney.
9. Describe the functional anatomy the digestive system, the motility, secretory, digestive, absorptive and endocrine functions of the digestive system.
10. Explain the chemical nature of hormones, and describe how the hormones are secreted, transported in plasma, their functions and how they are metabolized and excreted.
11. Describe the organization of the nervous system and explain the physiological functions, sensory and motor system; autonomic nervous system; special senses.

Course content

Code	***Course Name***	***Theory***		***Practical***		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PH121	Fluid Circulation	51	3.4	25	0.6	76	4.0
PH122	Metabolism and excretory systems	51	3.4	25	0.6	76	4.0
PH123	Neuro-endocrine Physiology	51	3.4	25	0.6	76	4.0
	Total	153	10.2	75	1.7	228	11.9

PB 120: PHARMACEUTICAL BOTANY (5.8 Units)

Introduction: Many of the drugs used in the treatment of human disease are derived from plants. The drugs may be extracted from leaves, flowers, tree barks or from roots. Knowledge of the anatomy of plants becomes essential if the pharmacist will need to make drugs from portions of a tree.

Aim: To equip students with a sound knowledge of botanical aspects and taxonomy of medical plants.

Objectives

At the end of the course the student should be able to:

1. Describe the construction and functions of the plant cell and its components
2. Identify ergastic substances of diagnostic importance
3. outline the morphology and describe the microscopical characters of all plant parts
4. Use the microscope to analyze plant materials
5. outline the principles of plant taxonomy
6. Prepare and preserve herbarium specimens

Course content

Course	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PB 121	The Plant Cell & Tissues	15	1.0	32	0.7	47	1.7
PB 122	Study of Plant Organs	25	1.7	33	0.7	58	2.4
PB 123	Plant Taxonomy	15	1.0	32	0.7	47	1.7
	Total	55	3.7	97	2.2	152	5.8

DS 120: DEVELOPMENT STUDIES I (5.0 Units)

Introduction: Development studies broaden the pharmacist's awareness of the environmental factors surrounding him.

Aim : The course exposes students to the theories, problems and contemporary issues of health and development in general.

Objectives

At the end of the Semester, student should be able to:-

1. Define the concept of development
2. Explain the different theories of development
3. Describe the process of social and political developments in Africa
4. Relate health to the theories of development.

Course Content

Module	*Code*	*Title*	*Theory*		*Seminars*		*Total*	
			Hrs	Credits	Hrs	Credit	Hrs	Credits
I	**DS121**	Social Development & Health	22	1.5	10	0.2	32	1.7
II	**DS122**	Education, Gender and Health	21	1.4	10	0.2	31	1.6
III	**DS123**	Population Development and Health	22	1.5	10	0.2	32	1.7
		Total	65	4.3	30	0.7	95	5.0

SEMESTER THREE

PC220: INTRODUCTION TO PHARMACEUTICAL TECHNOLOGY (5.9 Units)

Introduction: Details of the compounding of drugs will be given to the student.

Aim : To equip students with adequate knowledge related to dispersed systems, unit processes and powder technology.

Objectives

At the end of the course the student should be able to:

1. Define all types of dispersed systems, their formulation, properties and uses.
2. Define viscosity, types of flow behavior, application and the Stoke's law.
3. Differentiate and explain the basic principles underlying fluid mechanics, heat transfer, mass transfer, evaporation drying and separation techniques
4. Define powder particles; describe their uses, various production methods and the sizes analysis.
5. Determinations of pharmaceutical parameters such as particle size, mass transfer and mixing of powders.

Course Content

Course	*Title*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PC221	Dispersed Systems and Rheology	30	2.0	19	0.4	49	2.4
PC122	Unit Processes	20	1.3	19	0.4	39	1.8
PC123	Powder Technology	20	1.3	19	0.4	39	1.8
	Total	70	4.7	57	1.3	127	5.9

PP 220: INTRODUCTION TO PHARMACY PRACTICE (6.1 Units)

Introduction: The student will be given more light on patient pharmacist interaction.

Aim : To equip the student with the knowledge on the profession ethics, policy and healthcare issues,

Objectives

At the end of the course students should be able to:

1. Define ethics, professional ethics, principles of ethics an differentiate ethics from law
2. State principles and objectives of essential drug concept
3. Identify the factors, which stimulated the development of the essential drug concept and the criteria used for the selection of drugs.
4. Describe effective distribution systems and describe the responsibility of the pharmaceutical services in the supply of drugs.
5. Describe principles of the kit, indenting systems, and handling of drugs during disaster and epidemics
6. Define food and different nutrients and describe their sources
7. Identify deficiencies/or excessiveness of these nutrients and their interactions with drugs in the body.

Course Content

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PP221	Pharmacy ethics & Pharmaceutical society	20	1.3	19	0.4	39	1.7
PP222	Essential drug policy &health care and nutrition	30	2	19	0.4	49	2.4
PP223	Community pharmacy Field work	0	0.0	90	2.0	90	2.0
	Total	50	3.3	128	2.8	178	6.1

PE 220: PARASITOLOGY AND MEDICAL ENTOMOLOGY (8.1 Units)

Introduction: The students will be taught the use of drugs in the control of bacterial and parasitic infections. Preparation of uncontaminated pharmaceuticals will be emphasized.

Objectives

At the end of the course the student be able to:

1. Describe in detail the life cycle of medically important parasites.
2. Describe the organs commonly involved in the infection
3. Describe the relationship of this infection to symptoms, relapse and the accompanying pathology.
4. describe the factors that determine endemicity of the parasite infection

5. Describe the distribution and epidemiology of the parasites in East Africa.
6. Describe the methods of parasite control, e.g. chemotherapy, molluscicding, general sanitation, etc.
7. Describe the advantages and disadvantages of each method

Course Content Summary

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PE 221	Protozoology & Immunoparasitology	36	2.4	15	0.3	51	2.7
PE 222	Helminthology	35	2.3	15	0.3	50	2.7
PE 223	Medical Entomology	36	2.4	15	0.3	51	2.7
	Total	107	7.1	45	1.0	152	8.1

DS 220: DEVELOPMENTAL STUDIES II (5.4 Units)

Introduction: Developmental studies broaden the pharmacist's awareness of the developmental experiences and alternative strategies existing in his environment.

Aim: To expose the students to Tanzania's development experiences and alternative development strategies existing currently.

Objectives

At the end of the Semester students should be able to:-

1 Analyze the dynamics of Tanzania's development plans/strategies and implementation in health and health related sectors.

2 Compare and contrast different development strategies in developing countries.

3 Analyze current development problems and issues in Tanzania and developing countries in general and how these problems relate to health.

Course Content

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
DS221	Globalization, Environment and Health	33	2.2	15	0.3	48	2.5
DS222	Human rights, Governance and Entrepreneurship	32	2.1	15	0.3	47	2.5
	Total	65	4.3	30	0.6	95	5.0

SEMESTER FOUR

CH220: ORGANIC CHEMISTRY AND ORGANIC SPECTROSCOPY (10.5 Units)

Introduction: The student will be taught the science of spectroscopy as applied in organic qualitative and quantitative analysis.

Aim: To equip students with basic knowledge of aromatic, heterocyclic and stereochemistry. To introduce students to the science of spectroscopy as applied in organic Qualitative and Quantitative analysis.

Objectives

At the end of the course students should be able to:

1. Describe the properties and chemical reactions of aromatic systems and their derivatives.
2. Describe the chemistry of the common heterocycles: systems, quinoines, isoquinolines, acridines, diazines, furas, thiophen, pyrolles, indoles, purines and xanthines.
3. Define and explain the terms optical activity, diastereomers, resolution, racemisation, geometric and conformational isomerism, symmetry and dissymmety, meso compounds.
4. Describe the stereochemistry of cyclakanes.
5. Define and differentiate between stereoselective and stereospecific reactions.
6. Define the scientific basis and application of the techniquew of ultraviolet, infrared, proton and C-13 magnetic resonance and mass spectrometry in qualitative analysis.
7. Elucidate the structure of an unknown compound using spectroscopic data.

Course Content

No.	*Code*	*Course Name*	*Theory*		*Practical*		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**CH 221**	Aromatic Chemistry	39	2.6	19	0.4	58	3.0
2.	**CH 222**	Heterocyclic Chemistry	24	1.6	15	0.3	39	1.9
3.	**CH 223**	Stereochemistry	39	2.6	11	0.2	50	2.8
4.	**CH 224**	Organic Spectroscopy	39	2.6	5	0.1	44	2.7
			141	9.4	50	1.0	191	10.4

PG220: PHARMACOGNOSY (9.6 Units)

Introduction: The student will be taught about plants and animal products that may have medicinal value. Methods of identifying the various ingredients will be described.

Aims

1. To impart knowledge to students on the sources, characteristics and medicinal or pharmaceutical application of naturally occurring drugs, pharmaceutical aids, filtering aids and fibres.

2. To give students a practical field experience and introduce them to ethnomedical surveys on medicinal plants.

Objectives

At the end of the course the student should be able to:

1. Apply the knowledge gained and be able to advise the community, on issues concerning cultivation, harvesting and processing of medicinal plants and their products.
2. Define a given drug or pharmaceutical aid and state its botanical/animal/mineral and geographical sources.
3. Describe macro-and microscopic characters of a given crude drug.
4. Identify and describe the source, characteristics, preparation, and applications of surgical dressings and filtering aids.
5. Identify and name medicinal plants in their natural environment and prepare and preserve herbarium specimens.
6. Carry out independent ethnomedical studies
7. Describe the medicinal uses and of the applications of the collected and identified medicinal plants.

Course Content

No	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
1.	**PG221**	Study of crude Drugs	60	4.0	58	1.3	118	5.3
2.	**PG222**	Natural Fibers and Filtering Aids	15	1.0	57	1.3	72	2.3
3.	**BP223**	Pharmacognosy Field work	0	0.0	90	2.0	90	2.0
		Total	75	5.0	205	4.6	280	9.0

ER 220: EPIDEMIOLOGY AND BIOSTATISTICS (9.6 Units)

Introduction: Drugs are widely used in the community the student will be taught how to evaluate the use of drugs in the community.

Aims

1. To provide students with fundamental statistical skills relevant to public health analysis.
2. To enable the student to understand the basic principles of epidemiology and research methodology and their application in planning band provision of medical and health care services.
3. To introduce the student tot environmental determination of the health and disease in human populations.

Objectives

On completing the course, the student should be able to:

1. Understand and utilize the basic principles of epidemiology in research and in planning provision medical and health care services.
2. Understand and use the epidemiological methods in research and assess community health needs.
3. Understand and utilize the research methods to collect analyze and present critical information to stake holders and wider audience.
4. Understand the epidemiology and control of the selected major diseases of public health importance in Tanzania.

Course Content

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
ER 221	Descriptive statistical methods	32	2.1	10	0.2	42	2.4
ER 222	Inferential statistics	33	2.2	10	0.2	43	2.4
ER 223	Principles of Epidemiology	32	2.1	10	0.2	42	2.4
ER 224	Research Methodology	33	2.2	10	0.2	43	2.4
	Total	130	8.7	40	0.9	170	9.6

MP 220: PRINCIPLES OF GENERAL PATHOLOGY (2.6 Units)

Introduction: Drugs are used for management of diseases and hence the pharmacist should be able to appreciate the various disease processes going on in the patient so that he can design drugs appropriate to the clinical condition.

Aim: To make the student know the etiology, pathogenesis, morphological and functional changes of the human body in disease.

Objectives

At the end of the course students should be able to:

1. Define, describe, give examples and discuss etiology and pathogenesis of diseases.

Course Content

Module	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**M P221**	Principles of General Pathology	33	2.2	16	0.4	49	2.6
		Total	33	2.2	16	0.4	49	2.6

SEMESTER FIVE

CP320: CLINICAL PHARMACOLOGY (13.0 Units)

Introduction: Clinical pharmacology teaches the student pharmacological actions, mechanisms of action, therapeutic uses and adverse effects of drugs. Information which is very essential for pharmacist.

Aim: To equip the student with appropriate knowledge and skills on uses, mechanisms of action, side effects and distribution of drugs in the body.

Objectives

At the end of this topic students should be able to:-

1. Describe the processes that precede drug absorption and factors influencing drug absorption
2. Describe different places in the body where the drug is distributed after being absorbed and factors that may influence distribution to a particular part of the body
3. Describe the organs that will finally get rid of the drug/metabolite from the body and factors influencing elimination of a particular drug for example by the kidney.
4. Describe different phases of drug metabolism
5. Describe hormones secreted by different glands and their function, the mechanisms that regulate hormone release; and the side-effects encountered when hormones are use in high doses and for prolonged period of time.
6. Describe drugs that are used in the above-mentioned conditions their mechanism of action, adverse effects, the contraindications and route of administration.
7. Describe uses and side effects, site of action and mechanism of drugs used for cardiovascular conditions and drugs acting on the central nervous system.
8. Describe the classification, mechanism and clinical application of anticoagulants, fibrinolytic agents, local anesthetics and analgesics according to their route of administration.
9. Describe chemical transmission in the autonomic nervous system and the effect of stimulating the autonomic nervous system on different organs.
10. Differentiate the drugs that mimic the endogenous transmitters at different receptors and those that antagonize the endogenous transmitters at their receptors.
11. Describe the effect of the antagonists on the receptors
12. Describe the clinical application of drugs that either mimic or antagonize the transmitters at their receptors.

Course content

Module	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	*units*	*Hrs*	*units*	*Hrs*	*units*
I	**CP321**	Drug Classification and disposition	38	2.5	10	0.2	48	2.8
II	**CP322**	Hormones, Drugs acting on the hormonal system, drugs used in asthma, GIT, coughs, colds, migraine and haematinics	36	2.4	10	0.2	46	2.6
III	**CP323**	Drugs acting on the cardiovascular system and blood, the autonomic nervous system, local and general anaesthetics	36	2.4	10	0.2	46	2.6
IV	**CP324**	Chemical transmission and drugs acting on the CNS; the non-steroidal anti-inflammatory agents	38	2.5	10	0.2	48	2.8
V	**CP325**	Chemotherapeutic agents	30	2.0	10	02	40	2.2
		Total	178	11.9	50	1.1	228	13.0

MM220: PHARMACEUTICAL MICROBIOLOGY (12.1 Units)

Introduction: The student will be taught on microorganism of pharmaceutical importance. Preparation and storage of pharmaceuticals under aseptic techniques will be emphasized.

Aim: To equip the student with knowledge on principles of Pharmaceutical Microbiology

Objectives

At the end of the course students should be able to:

1. Describe microorganisms of medical and pharmaceutical importance
2. Describe the diseases caused by microorganisms of medical importance
3. Describe basic methods for identification of microorganisms
4. Describe the immune system and immunological products
5. Carry out basic microbiological quality control tests under Good Laboratory Practice.
6. Describe methods of the production microbial vaccines
7. Evaluate disinfection, sterilization and anti-microbial activity.
8. Describe the applications of biotechnology in the pharmaceutical industry.

Course content

Module	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**MM 321**	Medical bacteriology	40	2.7	20	0.4	60	1.0
II	**MM 322**	Medical mycology & Virology	40	2.7	20	0.4	60	2.0
III	**MM 323**	Infection Control	30	2.0	20	0.4	50	3.0
IV	**MM 324**	Immunology & Vaccinology	30	2.0	20	0.4	50	4.0
V	**MM 325**	Applied Pharmaceutical Microbiology	26	1.7	20	0.4	46	2.0
		Total	166	11.1	100	2.2	266	12.0

SEMESTER 6

DC320: DRUG DEVELOPMENT AND CHEMOTHERAPY (8.9 Units)

Introduction: The student is taught on methods available for checking the quality of drugs.

Will also be taught on processes involved in development of new drugs.

Aim: To equip students with adequate knowledge and skills in drug quality assurance, drug development, and chemotherapeutic agents.

Objectives

At the end of the course the student should be able to:-

1. Analyze drugs using the various chemicals, physical and instrumental methods learnt
2. Design and establish a prototype chemical quality assurance system and develop and validate new methods of drug analysis.
3. Present the various approaches to drug development.
4. Analyze dossiers submitted for new drug registration purposes.
5. State and explain the origin of drug resistance in chemotherapy.
6. Present a comprehensive description of the chemistry of chemical agents use in the chemotherapy of pathogenic organisms and cancer, and structural relationships to pharmacological action.
7. Give advice to patients and other health professionals on the proper use of chemotherapeutic agents in human and veterinary medicine

Course content

Module	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**DC321**	Chemical and instrumental methods of QA	25	1.7	85	1.9	110	3.6
II	**DC322**	Drug Development and Chemotherapy	50	3.3	0	00	50	3.3
III	**DC323**	Medicinal chemistry fieldwork	0	0.0	90	2.0	90	2.0
		Total	75	5.0	175	3.9	250	8.9

PT320: PHARMACEUTICAL PHYTOCHEMISTRY (7.4 Units)

Introduction: The student will be taught the chemistry of natural products obtained from plants.

Aim: To equip the student with knowledge of naturally occurring compounds of medicinal and pharmaceutical importance, and their biosynthetic pathways and extraction and isolation techniques

Objectives

At the end of the course students should be able to:

1. Describe the principles and techniques of extraction and isolation of plant metabolites
2. Describe and predict the biosynthetic pathway of a given compound if provided with a structure
3. Select appropriate methods of extraction and isolation of various secondary metabolites.
4. Explain the medicinal, pharmaceutical and commercial uses of various secondary metabolites

Course content

Module	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**PT321**	Isolation of bioactive compounds	20	1.3	41	0.9	61	2.2
II	**PT322**	Study of plant metabolites	60	4.0	50	1.1	110	5.1
		Total	80	5.3	91	2.0	171	7.4

PC320: SOLID DOSAGE FORMS, STERILE PRODUCTS AND RADIOPHARMACEUTICALS (6.9 Units)

Introduction: In this course the students will be taught how to handle solid dosages, radioactive and sterile products which are frequently used in clinical practice.

Aims: To equip the student with adequate skills on solid dosage form, radiopharmaceuticals and sterile products.

Objectives

At the end of this course students should be able to:

1. Define and describe all types of solid dosage forms, methods of production and factors influencing them.
2. Describe coating technique and identify solid dosage forms requiring coating.
3. Explain the science of modified release drug dosage forms
4. Describe the different types of radioisotopes used for radiopharmaceuticals, their uses and their control in nuclear pharmacy/medicine.
5. Formulate the various types of sterile products.
6. Describe and apply different methods of packaging, labeling and pharmaceutical products and explain the importance of closures.
7. Carry out all activities necessary in the manufacture and in-process control of pharmaceuticals.

Course content

Module	***Code***	***Title***	***Theory***		***Practical***		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	**PC321**	Solid dosage forms	20	1.3	43	1.0	63	2.3
II	**PC322**	Radiopharmaceuticals	20	1.3	43	1.0	63	2.3
III	**PC323**	Sterile products and packaging	20	1.3	43	1.0	63	2.3
		Total	60	4.0	130	2.9	190	6.9

PP320: MEDICINE SCHEDULING, PATIENT DRUG INFORMATION AND PHARMACY MANAGEMENT (7.6 Units)

Introduction: The student is taught to cultivate the habit of taking a drug history before dispensing over- the - counter medicines in order to avoid the possibility of drug interaction.

Also the student will be taught to be critical about the appropriateness of the drugs prescribed for the clinical condition of the patient.

Aim: Equip students with adequate skills in over the counter products, patient records drug management and clinical pharmacy.

Objectives

Students should be able to:

1. Distinguish and describe the prescription and OTC departments and the legal operating aspects.

2. Determine specific symptoms amenable to self-medication and give advice to patient and refer patients to physicians, where necessary.
3. Describe patient's record systems and policy of prescription medicine return.
4. explain regulations prohibiting the return of medication by patients
5. Explain the need, source, evaluation, poison control and dissemination of drug information.
6. Describe and apply the drug supply management and analyze the management functions.
7. Describe the different sections of the hospital pharmacy and community pharmacy.
8. Handle DDA and problems associated with drugs e.g. poisons, allergies etc.

Course content

Module	*Code*	*Title*	*Theory*		*Practical*		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	PP321	Prescription and over the counter departments	40	2.7	38	0.8	78	3.5
II	PP322	Patient record system, medical returns and drug information	15	1.0	39	0.9	54	1.9
II	PP323	Pharmacy Management	20	1.3	38	0.8	58	2.2
		Total	75	5.0	115	2.6	190	7.7

SEMESTER SEVEN

CP 420: CLINICAL PHARMACOLOGY II[THERAPEUTICS] (11.9 Units)

Introduction: The students will be taught how drugs are used in various clinical situations.

Aim: To provide students with the knowledge of signs and symptoms of the diseases, therapeutic uses of drugs and their side effects.

Objectives

At the end of the course the student should be able to:

1. Describe the classification, uses, side effects, mechanism and site of action of chemotherapeutic agents.
2. Describe the importance adverse effects and interactions of drugs.
3. Give advice on environmental toxicity.
4. Give on environmental toxicity.
5. Describe the basic steps in drug development and drug evaluation.
6. Carry out pharmacological evaluation of applications for drug registration.
7. Describe the essential drugs concept and give advice on rational drug use.

8. Identify the symptoms and signs of different diseases and describe the investigations to be carried out to confirm the differential diagnosis.
9. Describe therapeutic and non-therapeutic approaches to the problems.

Course Content

Code	***Course Name***	***Theory***		***Practical***		*Total*	
		Hrs	***Units***	***Hrs***	***Units***	***Hrs***	*Units*
CP 421	Chemotherapeutic Agents	50	3.3	0	0.0	50	3.0
CP 422	Adverse Effects of Drugs, Drug interactions, Environmental Toxicity and Drug Abuse	50	3.3	15	0.3	65	3.0
CP 423	Drug Development, Evaluation, & Registration; Prescription sampling & Case studies.	53	3.5	60	1.3	113	4.0
	Total	153	10.2	75	1.7	228	11.0

PC420: BIOPHARMACEUTICS, PHARMACOKINETICS AND PRINCIPLES OF GOOD MANUFACTURING PRACTICE (8.3 Units)

Introduction: The student will be taught how drugs are handled by the body. The relationship between physicochemical characteristics and drug handling in the body will be described.

Aim: To provide the student with adequate knowledge on biopharmaceutical & pharmacokinetics, drug development and GMP

Objectives:

At the end of the course students should be able to:

1. Define biopharmaceutics, pharmacokinetics, bioequivalence, bioavailability, and pharmacokinetics and describe the mechanism and parameters affecting drug absorption.
2. Explain how drugs absorption can be optimized.
3. Describe the role of pharmacokinetics in dosage regimen design, adjustment and interpretation of data.
4. Describe stages in drug development, production and define GMP, quality assurance.
5. Describe a prototype pharmaceutical industry and standard operating procedures for pharmaceutical industrial processes.
6. Carry out computer simulations of blood profiles given the necessary parameters determining drug pharmacokinetic models.

Course Content

Code	*Title*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PC 421	Biopharmaceutics	45	3.0	14	0.3	59	3.3
PC 422	Pharmacokinetics	50	3.3	14	0.3	64	3.6
PC 423	Drug Development, Production and Good Manufacturing Practices	15	1.0	14	0.3	29	1.3
	Total	110	7.3	42	0.9	152	8.3

PP420: FORENSIC PHARMACY, PHARMACY MANAGEMENT AND CLINICAL PHARMACY PRACTICE (12.2 Units)

Introduction: The student will be taught on legal aspects of the pharmacy practice and entrepreneurship.

Aim: To equip the students with knowledge of legal, social and clinical pharmacy and entrepreneurial skills.

Objectives

1. Define pharmacy laws and describe the steps taken to control narcotic, psychotropic and dangerous drugs.
2. Differentiate management from entrepreneurship and also prepare, monitor and evaluate business plans.
3. Define community pharmacy and also differentiate business from professional services in community pharmacy.
4. Describe social aspects of pharmacy and approaches of solving problems related to ethics and drug abuse and misuse.
5. Differentiate disease conditions and also diagnose, manage adverse drug effects.
6. Describe the different sections in a pharmaceutical plant or hospital pharmacy and assess whether Good Manufacturing or Good Dispensing Practice or recommended standards are adhered to.
7. Use computers for storing, processing, retrieving, sending data and improving pharmaceutical operations

Course Content

Code	*Course Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PP421	Forensic Pharmcy and Drug abuse	15	1.0	10	0.2	25	1.2
PP422	Community and Social Pharmacy	15	1.0	10	0.2	25	1.2
PP423	Computer Applications in Pharmacy	15	1.0	10	0.2	25	1.2
PP424	Therapeutics	30	2.0	8	0.2	38	2.2
PP425	Management Entrepreneurship	20	1.3	0	5.0	225	5.0
BP426	Hospital and industrial Pharmacy Fieldwork	0	0.0	225	5.0	225	12.2
	Total	95	6.3	263	5.8	358	12.2

SEMESTER EIGHT

PD 420: PHARMACODYNAMIC AGENTS AND DRUG DESIGN (11.4 Units)

Introduction: The student will be given more details on how drugs are developed and evaluated. The pharmacodynamic effects of drugs in animal models and in human beings will be described.

Aims:

1. To equip students with concise knowledge of the chemistry and mechanism of action of pharmacodynamic agents.
2. To expose students to the basic principles of the design and development of new drugs.

Objectives

1. At the end of the course the student should be able to:-
2. Describe the chemistry of drugs acting on the central nervous system and non-steroidal anti-inflammatory drugs (NSAIDS).
3. Predict the metabolic fates of the drugs studied.
4. Show the relationship between chemical structure and pharmacological action.
5. Classify drugs according to chemical and pharmacological groups.
6. Describe the precise mode or mechanisms of drug action
7. Give professional advice, using a simple language, to patients and other health care workers on drug effects and side effects from a chemical point of view.
8. Describe the procedures used in the development in the new drugs

Course Content

Code	*Title*	*Theory*		*Practical*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
PD 421	Pharmacodynamic Agent	137	9.1	25	0.6	162	9.7
PD 422	Drug Design	15	1.0	32	0.7	47	1.7
	Total	152	10.1	57	1.3	209	11.4

PG420: APPLIED PHARMACOGNOSY (7.8 Units)

Introduction: The student will be taught quality control tests of crude extracts of plant origin and current development in pharmacognosy.

Aims:

1. To equip students with knowledge and skills used in quality of crude drugs and pharmaceutical aids.
2. To familiarize students with methods which are used to discover new drugs from natural sources and make them aware of current development in pharmacognosy.

Objectives:

At the end of the course the student should be able to:-

1. Describe a monograph and carry out quality control tests on crude drugs and pharmaceutical aids according to monograph specification
2. Formulate quality assurance guidelines for crude drugs and pharmaceutical aids.
3. Select potential medicinal plants using appropriate criteria for biological screening and appropriate biological assay methods
4. Describe types of culture techniques, their applications, advantages and disadvantages.
5. Show the importance of alternative systems of medicine, with emphasis on traditional medicine practice in Tanzania and their contribution to modern medicine.
6. Give examples and explain the mechanisms of newly discovered drugs, such as anticancer, antimalarials and antiviral drugs.
7. Describe the chemical nature, action of natural pesticides, hallucinogens, dermatogens and poisonous plants and their products.

Course Content

Code	*Title*	*Theory*		*Practical*		*Total*	
		Hrs	***Units***	***Hrs***	***Units***	***Hrs***	*Units*
PG 421	Quality Control of Crude Drugs	20	1.3	37	0.8	57	2.2
PG 422	Discovery of Drugs from Natural sources	30	2.0	36	0.8	66	2.0
PG 423	Poisonous plants	50	2.0	37	0.8	67	2.8
	Total	80	5.3	110	2.4	190	7.8

RP420: RESEARCH PROJECT (4.6 Units)

Introduction: Students will be taught how to collect data and make meaningful conclusion from data collected.

Aim: To equip the student with data collecting skills

Objectives

At the end of the course the student should be able to:

1. Collect data by doing bench work in the laboratory or through surveys
2. Analyze data using statistical, computing or other techniques learned in earlier semesters
3. Compile the literature, procedures collected data and analytical results into a scientific report.

Course content summary

Module	***Code***	***Name of course***	***Lectures***		***Practical***		*Total*	
			Hrs	**Units**	**Hrs**	**Units**	**Hrs**	Units
I	RP 420	Elective Field 56 days and research	-	-	209	4.6	209	4.6
		Total	-	-	209	4.6	209	4.6

ARCHBISHOP ANTHONY MAYALA SCHOOL OF NURSING (AAMSoN)

DEAN, Dr. Rose Laisser

ADNE (MUHAS);M.Sc (Leeds Metropolitan University), PhD (University of Umea – Sweden)

Archbishop Anthony Mayala School of Nursing (AAMSoN) started in 2010 under Catholic University of Health and Allied Sciences (CUHAS). This Nursing School produces well equipped Nurse Teachers with Bachelor of Science in Nursing Education and nurses with Bachelor of Science in Nursing. The programmes are geared towards producing innovative, creative and flexible nurses and nurse teachers who will cope with the dynamic changes of their professions, technology and socio-economic needs. Emphasis is on nursing standards, ethical issues and values of human life in the nursing and midwifery profession.

The Archbishop Anthony Mayala School of Nursing offers the Bachelor of Science in Nursing Education (B.Sc. NED) under the following categories:

- A 2- year programme for those with Advanced Diploma in Nursing Education
- A 3- year Programme for those with Diploma in Nursing
- A 4- year programme for those who are direct form six leavers.

BACHELOR OF SCIENCE IN NURSING EDUCATION (BSc.NED)

The growing demand for high quality nursing provision, increase level of education and growing of technology among communities in Tanzania has contributed to the need for highly qualified nurse tutors, who will then produce the competent nurses. Furthermore, there is a growing demand for higher quality nursing provision in Tanzania due to the increasing population, health seeking behavior and growth of health risks in a changing global environment. Currently there is no any training school which aims to convert Nurse Teachers (Advance Diploma in Nursing Education) to degree level in Tanzania. Collectively, all these factors have resulted into a high demand of qualified nurses and hence the serious needs to start conversional programme in nursing education at CUHAS which will produce the highly qualified nurse teachers in degree level.

BACHELOR OF SCIENCE IN NURSING EDUCATION (BSc.NED)

INTRODUCTION

CUHAS has been granted permission to run the Bachelor of Science in Nursing Education (B.Sc. NED) degree programme. During the academic year 2010/2012 the Governing Board approved the establishment of the Archbishop Anthony Mayala School of Nursing with the responsibility for administering the B.Sc.NED degree programme. The degree programme is offered to three categories of applicants as follows:

i) Category I: B.Sc. NED conversion programme, this is a 2 years programme for holders of Advanced diploma in Nursing education.

ii) Category II: B.Sc. NED 3 years programme for holders of Diploma in Nursing.

iii) Category III: B.Sc. NED 4 years programme for holders Advanced Level Certificate (Direct entrants)

BACKGROUND

The training of health personnel in Tanzania has not kept pace with the increasing needs for health services. According to staffing levels approved in 1999 the country requires a workforce of 53,481 in its 5,500 health facilities. However, the staffing level stands at 21,248; implying a workforce deficit of 32,403. Therefore, nearly 60% of the posts in the health sector are vacant. The deficit for enrolled nurses is the highest. It stands at 18,878. The nursing sector therefore contributes more than half of the deficit in the entire health sector.

The low number of nursing staff may be a result of few training positions. However, there are over fifty institutions that offer a diploma and/or certificate in nursing in Tanzania. But these are poorly staffed. Each has an average of four professionally trained and registered nurse tutors; most of them had Advance Diploma in Nursing Education. Shortage of nurse tutors in Tanzania may have contributed to the inadequate qualified nurses. None the less there is a growing demand for higher quality nursing care in Tanzania; brought about by changes in health seeking behavior and growth of health risks in a changing global environment. Unfortunately, Tanzania has for a long time depended upon overseas Universities for higher education in nursing. The numbers of degree opportunities remain quite limited compared with the local demand for more highly educated nursing professionals. Due to significant growing of levels of education, these tutors need to be upgraded to degree level. Currently there is no any training school which produces Nurse Teachers to degree level in Tanzania, hence the need to start a conversion Degree Programme in Nursing Education at CUHAS. This will provide more and highly qualified nurse teachers to keep pace with the technological and social changes relevant to the nursing profession. CUHAS is well placed. It is in close proximity to the Bugando Medical Centre (BMC) a teaching, referral and consultant hospital with

capacity of 870 beds. BMC is responsible for health services in the Lake Zone, serving a population of approximately 10 million people.

PROGRAMME GOALS

(i) To upgrade Nurse tutors with Advance Diploma in Nursing Education to degree level, in order to meet the general standard of competence in nursing education.

(ii) To produce Nurse Tutors suited to the needs of the country, but also meet the general standard of competence in nursing education.

PROGRAMME OBJECTIVES

Broad Objectives

- To produce competent university graduates in nursing education who will have: sound knowledge of nursing education and health science adapted to suit local needs, real commitment to the health needs of people and role models
- Create a pool of nurses endowed with a quality scientific base necessary to enable them to be innovative and to handle nursing problems in Tanzania; able to rehabilitate the sick, to prevent or minimize the adverse sequelae of disease and to promote health.

Specific Objectives

The graduate of BSc Nursing Education conversion programme should be able to:

- Interpret and base nursing practice on philosophy, purpose, policy and standards of the institution at which he/she belongs.
- Relate health of the community to socio-economic and political development in providing health and education services
- Conduct research, publish and utilize research findings for evidence based practice,
- Recognize limits of her/his competence in the provision of health care in the community and refer such issues to higher levels
- Manage health care and educational institutions
- Improve the health and wellbeing of all clients by quality-nursing care based on their needs, problems, ongoing reforms and advances in science and technology.
- Utilize concepts of educational media and technology in teaching and learning environment
- Utilize concepts of sociology both at learning institution and community
- Facilitate effectively and efficient learning and teaching activities to nurses and other personnel
- Apply concepts of educational psychology in teaching and learning settings

JUSTIFICATION

The growing demand for high quality nursing provision, increase level of education and growing of technology among communities in Tanzania has contributed to the need for highly qualified nurse tutors, who will then produce the competent nurses. Furthermore, there is a growing demand for higher quality nursing provision in Tanzania due to the increasing population, health seeking behavior and growth of health risks in a changing global environment. Currently there is no any training school which aims to convert Nurse Teachers (Advance Diploma in Nursing Education) to degree level in Tanzania. Collectively, all these factors have resulted into a high demand of qualified nurses and hence the serious needs to start conversional programme in nursing education at CUHAS which will produce the highly qualified nurse teachers in degree level.

PROGRAMME ORGANIZATION

B.Sc. NED (2 years) Conversion Programme

1. The programme will be of two academic years. Consisting of 40 teaching weeks in each academic year. The academic year shall be the basic accounting time unit.
2. The programme will be structured in semesters. Each academic year will consist of two semesters; each semester lasting for 20 weeks including examinations.
3. There will be a total of 20 courses. The content in each course will be made up of modules using a course unit weighting system in which each 15 hours of theory will constitute one unit, while 45 hours of practical or clinical session will constitute one unit.
4. During the course of study students will have a total of five weeks (185 hrs.) for field work practice for research data collection (2nd semester), community health nursing practice and teaching practice in diploma schools of nursing (4th semester).
5. There will be a mid-semester break (breather) offered in the middle of each semester. The breather in the first semester will last for three weeks organized to coincide with X-Mass Holiday.
6. Allow a one-week inter-semester vacation.
7. There will be University examinations at the end of each semester. External examiners/moderators will be invited during these examinations.
8. The grade point average (GPA) is adopted for the process of disposal of students, these includes supplementary, discontinuation and repeating a semester (year).

STRUCTURE AND FEATURE OF THE B.Sc. NED (Conversion) PROGRAMME

Semester 1

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
AN100	Anatomy	129	8.6	232	5.2	361	13.8
BC100	Biochemistry	148	9.9	41	0.9	189	10.8
BE100	Bioethics I	19	1.3	-	-	19	1.3
TOTAL		296	19.8	353	6.1	569	25.9

Semester 2

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PH100	Physiology	113	7.5	74	1.6	187	9.1
BS100	Behavioural Science and Biostatistics	134	8.9	74	1.6	208	10.5
DS100	Development studies	60	4.0	30	0.6	90	4.6
ER100	Epidemiology and Research	65	4.3	0	0	65	4.3
ER104	Field work Research	0	0	70	1.6-	70	1.6
BE100	Bioethics II	19	1.3	0	0	19	1.3
TOTAL		391	26	248	5.4	639	31.4

Semester 3

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
LM200	Leadership and management	50	3.3	-		50	3.3
PH 200	Clinical Physiology	57	3.8	-	-	57	3.8
CP200	Clinical Pharmacology	167	11.1	16	0.4	183	11.5
DS200	Development studies	65	4.3	30	0.7	95	5.0
MC200	Maternal and child health Nursing	85	5.7	100	2.2	185	7.8
TOTAL		427	28.2	186	4.2	600	32.2

Semester 4

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
EP200	Applied Educational Psychology	40	2.7	0	0.0	40	2.7
CH203	FIELD WORK (COMMUNITY HEALTH NURSING)	0	0	40	0.9	40	0.9
AP200	Advanced principles of Nursing	89	5.9	80	1.8	169	7.7
HE200	Health Education Media and Technology	62	4.1	15	0.3	77	4.4
CD200	Curriculum development	80	5.3	0	0.0	80	5.3
CD206	FIELD WORK (Teaching Practice I Diploma Schools)	0	0	75	1.7	75	1.7
MS200	Medical Surgical Nursing	62	4.2	110	2.4	172	6.2
TOTAL		333	22.2	320	7.1	653	28.9

BACHELOR OF SCIENCE IN NURSING EDUCATION (2 Years conversion)

SEMESTER ONE

AN 100: ANATOMY (13.8 Units)

Course Description: The course of anatomy is a fundamental subject for understanding the structure and organization of the human body in relation to its basic function.

Aim: Impart knowledge to the students on the structure and development of the human body in health

Objectives

At the end of the course the student should be able to:

1. Describe the structure of the human body in health as seen with the naked eye.
2. Identify different parts of the body
3. Define the medical/anatomical terminology
4. Describe the structure of the human body in health at microscopic level
5. Identify different types of cells, tissues and organs with the aid of microscope
6. Understand the processes involved in the development of the human Body
7. Describe congenital malformations
8. Identify the causes of congenital malformation

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
AN101	Human Biology and Genetics	45	3.0	30	0.7	75	3.9
AN102	Upper limb, thorax, head and neck.	21	1.4	117	2.6	138	4.0
AN103	Lower limb, abdomen, perineum and pelvis	21	1.4	75	1.7	96	3.1
AN104	Neurobiology and Developmental Biology	42	2.6	10	0.2	52	2.9
	Total	**129**	**8.6**	**232**	**5.2**	**361**	**13.8**

BC 100: BIOCHEMISTRY (10.8 Units)

Course Description: Biochemistry is a basic science subject on which most biological sciences find their foundation. It entails the fundamental concepts of chemistry of life, which include structural organization, energy interconvention, signal transduction and genetic information storage and flow. Recent developments in Molecular Biology are also embodied in Biochemistry.

Aims

1. To impart knowledge on structural organization of biomolecules.
2. To impart knowledge on Molecular and energy transformation and control of metabolism.
3. To impart knowledge on Signal transduction / flow and storage of genetic information.
4. To understand the enzymatic effects on food substances
5. To interpret laboratory results
6. To observe the effects of treatment on patients in order to plan and implement nursing care accordingly and to take appropriate actions

Objectives

Upon completion of the course, the student should be able to:

- Describe chemistry of proteins, lipids and carbohydrates and to recognize some basic structures.
- Describe cellular organization of molecular level
- Describe the structure and function of enzymes including clinical application of
- enzymology
- Describe principles of biological oxidation and oxidative phosphorylation and
- thermodynamics.
- Describe processes in the intermediary metabolism
- Describe selected concepts in molecule biology
- Describe porphyrins and bile pigments metabolism
- Describe hormone mechanisms and signal transduction

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
BC101	Chemistry of biomolecules	25	1.7	-	-	25	1.7
BC102	Enzymology Energy Transformation	30	2.0	11	0.2	41	2.2
BC103	Proteins, Carbohydrates, Lipids Metabolism	50	3.3	10	0.2	60	3.5
BC104	Molecular biology and hormone systems	43	2.9	20	0.4	63	3.3
	Total	**148**	**9.9**	**41**	**0.8**	**189**	**10.8**

BE 100: BIOETHICS (2.6 units)

Course description: This is the vertical course to be taught during semesters 1-5. No student shall be allowed to graduate until and unless he/she has completed and passed examination in bioethics. The course uses a topical approach to ethics based on philosophical examination of self-interest ethics, virtue ethics, consequentialist (utilitarian) ethics, duty-based ethics, and rights-based ethics.

Aims

1. To develop working knowledge of current ethical guidelines, professional codes of practice.
2. To relate ethical guidelines in relation to nursing practice and research.

Objectives

- Discuss some of the moral frameworks in relation to professionalism, self-awareness and ethical decision-making
- Discuss the ethical and legal issues in the care of clients throughout the life span.
- Apply knowledge about the legal and ethical responsibilities of the nurse, and assume responsibility for own learning and growth.
- Explain the concept of rights and duties of a nurse.
- Explain the concept of consent to treatment, medical procedure and participation in nursing research.
- List the ethical issues involved in screening
- List the ethical issues involved in research involving animals
- Identify the ethical and legal issues involved in nursing negligence.
- Explain the abortion act and its implications
- Identify the ethical and legal issues involved in obstetrics where there is conflict between care of mother and fetus
- Identify the ethical and legal issues in care and research in psychiatry.
- List situations where confidentiality may be broken and give reasons.
- Procure and preserve materials for forensic and toxicological investigations.

Course content

Code	*Course Name*	*Lectures*		*Practicals*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
BE 201	Bioethics I	19	1.3	-	-	19	1.3
BE 202	Bioethics II	19	1.3	-	-	19	1.3
	Total	**38**	**2.6**	**-**	**-**	**38**	**2.6**

SEMESTER TWO

PH 100: PHYSIOLOGY (9.1 units)

Course description: For nursing students, this knowledge will enable them to critically plan, implement and evaluate the nursing care of the patient in a more rational and scientific way. Some of the competences that the nursing student will be able to do include performing a nursing assessment, making observations, determining nursing diagnoses, performing nursing interventions and determining client outcomes as a result of nursing care.

Aim: The course is aimed at providing knowledge on normal functioning of the human body and how the various normal functions are controlled and regulated.

Objectives

Upon completion of the course, the student should be able to:

1. Describe the various homeostatic and control systems and the way they operate in the human.
2. Enumerate the international system of units which describe mass, volume and concentration
3. Describe the general physiology of the cell membrane; membrane potentials in excitable tissues (example muscle cells and nerves)
4. List the major co constituents of body tissues and describe the composition and partitioning of body fluids.
5. List the composition of blood and describe the general functions of blood; the formation characteristics of and functions of different blood cells.
6. List the major divisions of the circulatory system, and describe its general organization, functions and the control of the cardiovascular system.
7. Describe the functional anatomy of the respiratory system, the mechanism of breathing alveolar gas exchange and the control of the respiratory system
8. Describe functional anatomy of the kidney, the renal mechanism, filtration excretion and absorption; concentrating and diluting mechanisms and the endocrine function of the kidney.
9. Describe the functional anatomy of the digestive system, motility, secretory, digestive, absorptive, and endocrine functions of the digestive system.
10. Explain the chemical nature of hormones, and how the hormones are secreted, transported in plasma, their functions and how they are metabolized and excreted.
11. Describe the organization of the nervous system and the physiological functions, sensory, and motor system, autonomic nervous system; special senses

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PH 151	Fluids and circulation	35	2.3	36	0.8	71	3.1
PH 152	Metabolism and Excretion	36	2.4	26	0.6	62	3.0
PH 153	Neuro-endocrine Physiology	42	2.8	12	0.3	54	3.1
	Total	**113**	**7.5**	**74**	**1.6**	**187**	**9.1**

BS 100: BEHAVIOURAL SCIENCE AND BIOSTATISTICS (10.5 Units)

Course description: The psychology aspect provides students with a basic understanding of fundamental psychological theory and research essential for nursing care. The knowledge acquired should enable the student to understand peoples' psychological reactions to for examples, illness, hospitalization, stress and anxiety.

The sociology part enables the students to understand health attitudes, beliefs and practices of patients and health professionals of culturally diverse groups. The knowledge on sociology provides some of the conceptual tools to help the students understand the relationships between social structures and people's health experiences. The Biostatistics part of the course is relevant for nurses in enabling them to use the knowledge in research and in compiling, analyzing and interpreting patients/clients records. This course will also enable nurses to read quantitative nursing and related research articles effectively.

Aims

1. To provide a course that is relevant to current public health problems and their interventions
2. To provide students with fundamental statistical skills relevant to public health analysis.
3. To introduce students to specific concepts and models that explain ill health and diseases.

Objectives

Upon completion of the course, the student should be able to:

1. Understand the relationship between illness and human behaviour.
2. Recognize social cultural and psychological factors that influence ill-health.
3. Describe the different models that explain health behaviour in the community.
4. Measure health related knowledge and behaviour in the community.
5. Understand the relationship between culture and health.
6. Appreciate the role of traditional medicine in health service provision.
7. Understand and analyze factors that affect utilization of health services
8. Analyze risk behaviour pertaining to health.

9. Identify the social, cultural and psychological factors that may lead to adverse health outcomes in human populations.
10. Identify broad based social issues that are important in public health interventions.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
BS 101	Medical Sociology	52	3.4	24	0.5	76	3.9
BS 102	Health Psychology	45	3.0	25	0.6	70	3.6
BS 103	Biostatistics and Demography	37	2.5	25	0.5	62	3.0
	Total	**134**	**8.9**	**74**	**1.6**	**208**	**10.5**

DS 100: DEVELOPMENT STUDIES (4.6 units)

Course description: The course exposes students to the theories, problems and contemporary issues of development in relation to health. The course will also contribute to the self and professional development of a nurse who is aware of the social, economic and political environment in which she/he functions.

Aim: The course in important for nurses in order to understand the process of social development, practical development perspectives, economic and social-political consequences and their implications on health, health policies, health care systems and nursing practice.

Objectives

Upon completion of the course, the student should be able to:

1. Define the concept of development
2. Explain the different theories of development
3. Describe the process of social and political developments in Africa.
4. Relate health to the theories of development.
5. Describe the concept of entrepreneurship

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
DS 101	Social Development and Health	25	1.7	10	0.2	35	1.9
DS 102	Education, Rural Development, Gender and Health	15	1.0	10	0.2	25	1.2
DS 103	Population, poverty and Health	20	1.3	10	0.2	30	1.5
	Total	**60**	**4.0**	**30**	**0.6**	**90**	**4.6**

ER 100: EPIDEMIOLOGY AND RESEARCH METHODOLOGY (4.3 units)

Course description: The students oriented with the principle and methods of epidemiology and research. The epidemiological control of diseases of public importance will be discussed. During this course students will have field work on research work.

Aims

1. To introduce to the students the basic principles of epidemiology and research methodology and their application in the planning and provision of medical and health care services
2. To introduce the students to environmental determinants of health and disease in human populations.

Objectives

At the end of the course, the student should be able to:

1. Understand and utilize the basic principles of epidemiology in research and in planning provision medical and health care services.
2. Understand and use the epidemiological methods in research and assess community health needs.
3. Understand and use the research methods to collect, analyze and present critical information to stakeholders and wider audience.
4. Understand the epidemiology and control of the selected major diseases of public health importance in Tanzania.
5. Describe physical, biological, socio-cultural and environmental factors affecting health and disease.
6. Identify the agencies and services available to families and the extent to which they meet their needs.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
ER 101	Principles of Epidemiology	31	2.1	0	0	31	2.1
ER 102	Research Methodology	20	1.3	0	0	20	1.3
ER 103	Environmental Health and Family Case Study	14	0.9	0	0	14	0.9
ER 104	Field work (Research)	0	0	70	1.6	70	1.6
	Total	65	4.3	70	1.6	135	5.9

SEMESTER THREE

LEADERSHIP AND MANAGEMENT OF HEALTH CARE AND HEALTH EDUCATION INSTITUTION (LM200) (5.7 Units)

Course description: The course orients the students in leadership and management issues. These include resource and project management, also exposed on audit and supervision of health care.

Aims

1. To enable the learner to acquire managerial skills for solving problems in the Health and Educational Institutions. Special attention will be given to resources management, project planning and quality assurance within the context of health sector reforms.
2. To equip the learner with knowledge, skills and attitudes to manage health and educational institutions.

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
LM 201	Introduction to Management and Leadership	5	0.3	0	0.0	5	0.3
LM 202	Resource management	10	0.7	10	0.2	20	0.9
LM 202	Project management	15	1	15	0.3	30	0.4
LM 203	Innovation in health system	5	0.3	5	0.1	10	0.4
LM 204	Supervision of Health-care & Health-educational institutions	15	1.0	10	0.2	25	1.2
	Total	**50**	**3.3**	**40**	**0.8**	**90**	**4.1**

CP 200: CLINICAL PHARMACOLOGY (11.5 Units)

Course description: The course will base in basic principles of drug action and its application to the rational clinical use during administration of drugs in the practice of nursing so as to evaluate expected therapeutic responses in patients, as well as to evaluate for possible adverse effects.

Aims

1. To introduce the student to the basic concepts of pharmacology.
2. To provide the student with knowledge of chemical agents found in environment

Objectives

Upon completion of course, the student should be able to:

1. Apply and discusses in satisfactory and professional manner the use and actions of drugs in the wards and clinics.

2. Recognize where required and in accordance with the law when prescriptions are written correctly.
3. Understand the importance of pharmacology in patient care.
4. Keep current with new developments and contribute new knowledge as need may arise.
5. Assesses patient condition for safe medication and outcomes of drug administration.
6. Use the instrumental skills related to drug administration in provision of quality nursing care.

Course Content

Code	*Name*	*Theory*		*Practicals*		*Total*	
		Hrs	Units	Hrs			Hrs
CP 201	Chemical Mediators	35	2.3	12	0.27	47	2.57
CP 202	Drug Disposition	19	1.3	4	0.09	23	1.39
CP 203	Systemic Pharmacology	73	4.8	-	-	73	4.8
CP 204	Chemotherapy of Parasites	24	1.6	-	-	24	1.6
CP 205	Applied Pharmacology	16	1.1	-	-	16	1.1
	Total	**167**	**11.1**	**16**	**0.4**	**183**	**11.5**

PH 200: CLINICAL PHYSIOLOGY (3.8 Units)

Aim: To provide students with knowledge on normal and disordered functioning of the human body and how to use this knowledge in making correct diagnosis and management of disease conditions.

Objectives

At the end of study of this course the student should be able to:

- Explain the concept of reserve, compensation and failure.
- Describe the body fluid compartments, derangements of body fluid and how the kidneys compensate for such derangements.
- Describe the abnormalities in erythropoiesis, anaemia, haemostasis and bleeding tendencies.
- Describe the normal and abnormal functioning of the digestive system, including malabsorption and excess secretion of hydrochloric acid and its effects.
- Describe the various mechanisms that lead to disordered cardiovascular functions including hypertension, cardiac failure and circulatory shock.
- Describe the disordered function of the Respiratory system including impairment of the alveolar capillary gas transfer, respiratory insufficiency and failure, hypoxia, hypercapnoea.
- Describe the abnormalities in the endocrine functions including diabetes mellitus, thyroid dysfunction, adrenal gland dysfunction and parathyroid gland dysfunction.
- Describe the disorders of motor and sensory functions as well as disorders of the autonomic nervous system.

Course content

The course will be offered in modules as shown in the table below.

Module	***Code***	***Name***	***Lectures***		*Total*	
			Hrs	*Units*	*Hrs*	***Units***
I	**PH 201**	Clinical Physiology of fluid and circulation	20	1.3	20	**1.3**
II	**PH 202**	Clinical Physiology of Metabolism and excretory systems	19	1.2	19	**1.3**
III	**PH 203**	Clinical Physiology of Neurophysiology and Endocrinology	18	1.2	18	**1.2**
		Total	57	3.7	57	3.8

DS 200: DEVELOPMENT STUDIES (5.0 units)

Course description: The student nurse teachers will identify some developmental issues including plans and strategies including health plans.

Aim: To expose students to Tanzania's development experiences and be aware of alternative development strategies existing currently.

Objectives

At the end of the course students should be able to:

1. Analyze the dynamics of Tanzania's development plans/strategies and implementation in health and health related sector
2. Compare and contrast different development strategies in developing countries
3. Analyze current development problems and issues in Tanzania and developing countries in general and how these problems relate to health
4. Should be able to plan, organize and manage a private health care facility

Course Content

Code	***Name***	***Theory***		***Practicals***		***Total***	
		Hrs	Units	Hrs	Units	Hrs	Units
DS 201	Globalization Environment and health	20	1.3	10	0.2	30	1.5
DS 202	Human Rights, Governance and Entrepreneurship	45	3.0	20	0.4	65	3.4
	Total	**65**	**4.3**	**30**	**0.7**	**95**	**5.0**

MC 200: MATERNAL AND CHILD HEALTH NURSING (7.8 Units)

Course description: This course is designed to emphasize human development and family and centred care. Through this course, the student is expected to become acquainted with the knowledge of women's role and adaptation to normal and high-risk pregnancy, delivery, as well as postpartum period and the characteristics of the new-born. The course also teaches how to take care of the expectant mother, the new-born, and under five children in Maternal and Child Health clinics.

Aims

1. To enable learner to take care to the mothers in pre-natal, intra natal and post-natal.
2. To be able to take care to the children in order to prevent the diseases.

Objectives

Upon completion of the course, the student should be able to:

1. Understand the national and global policies and guidelines related to women and children's health
2. Understand the psychosocial and gender issues in reproductive health
3. Provide appropriate family planning methods to clients
4. Integrate STD/HIV care in reproductive health
5. Provide quality nursing care to women in the inter-partum and post -partum periods
6. Provide quality nursing care to the newborn baby.
7. Provide necessary information to regarding breastfeeding to new mothers.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MC 201	Family planning, sexuality and STDs, HIV/AIDS	20	1.3	20	0.4	40	1.7
MC 202	Antepartum, Intrapartum and Postpartum Haemorrhage	47	3.1	40	0.9	87	4.0
MC 203	Newborn & Under-Five Child Assessment and Management	18	1.2	40	0.9	58	2.1
	Total	85	5.6	100	2.2	185	7.8

SEMESTER FOUR

EP 200: APPLIED EDUCATIONAL PSYCHOLOGY (2.7 Units)

Course description

The course is designed to enable the learner to apply the psychological perspectives in teaching and learning. The content of the course has been selected to cater for the needs of the nurse teacher in specified subject areas of personality development and education, the nature and learning process. It also assists the learner acquire basic principles in adult learning,

guidance and counseling. Introduce special aspects of dealing with individuals with academic problems in learning situations.

Aims

1. To enable learners, internalize the main concepts of educational psychology and apply it to various situations.
2. Make the learner have an inventory of the theoretical and practical skills in dealing with adult learners and problem solving in teaching and learning environment.

Objectives

At the end of the course the learner is expected to be able to:

1. Identify the key concepts of psychology, educational psychology, learning, counseling and personality.
2. Promote learning focusing on factors which influence personality development at various developmental phases
3. Utilize various theories of learning in teaching and learning situations.
4. Facilitate adult learning in health institutions and community
5. Demonstrate and counseling skill in dealing with learning and teaching aspects.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
EP 201	Personality development	5	0.3	0	0	5	0.3
EP 202	The learning process	15	1.0	0	0	15	1.0
EP 203	Psychology of adult learning	10	0.7	0	0	10	0.7
EP 204	Guidance and Counseling	10	0.7	0	0	20	0.9
	Total	**40**	**2.7**	**-**	**-**	**40**	**2.7**

AP 200: ADVANCED PRINCIPLES OF NURSING (7.7 Units)

Course description: The course uses a topical approach to ethics based on a philosophical examination of self-interest ethics, virtue ethics, consequentialist (utilitarian) ethics, duty-based ethics, and rights-based ethics. Care of elderly and dying are included in the cases. It exposes leaners to the contribution of nurse/midwife theorists to the practice. The issues and trends important to contemporary nursing are explored. Various theories in personality and cognitive development are discussed. It covers interpersonal communication skills necessary for communicating with clients and colleagues in health care settings.

Aims

1. The learner examines and applies ethics to the life span of patients/clients.
2. To provide the student with increased awareness in nursing process.
3. Understand the process of growth and development throughout the life span

4. Able to identify specific nutrition related aspects of nursing.

Objectives

At the end of the course, the student should be able to:

1. Describe the steps of the nursing process.
2. Describe the major components of nursing/midwifery theory.
3. Examine the evolution of current trends in professional nursing utilizing leadership and change theory
4. Discus socio-cultural factors that affect ethical decision making for nurses.
5. Build self-confidence in the use of English to communicate ideas/views and arguments both verbally and in written forms.
6. Develop effective communication skills with clients, co-workers and the community at large.
7. Develop and maintains effective and positive interpersonal relationship at work, within families, clients and the community at large.
8. Plan and implement relevant nutrition interventions
9. Understand the physical, cognitive, affective and psychosocial domains of an individual's growth and development.

Course Content

Code	***Module Name***	***Theory***		***Practical***		***Total***	
		Hrs	Units	Hrs	Units	Hrs	Units
AP 101	Trends, Concepts and Skills in Nursing/Midwifery Care	15	1.0			15	1.0
AP 102	Communication Skills	18	1.2			18	1.2
AP 103	Fundamentals of Nursing	35	2.3	80	1.8	115	2.3
	Total	**89**	**5.9**	**80**	**1.8**	**169**	**7.7**

HE 100: HEALTH EDUCATION MEDIA AND TECHNOLOGY (4.4 Units)

Course Description: The course is designed to enable the learner to identify the health educational media and technology in teaching and learning. This includes the visual aids and textual materials for learning and teaching purposes.

Aims

1. To simplify the work of the trainer and trainee
2. To improve teaching and learning processes in a learner

Objectives

Upon completion of the course, the student should be able to:

1. Identify the effectiveness of health educational media and technology in teaching and learning.

2. Produce visual aids and textual materials for teaching and learning purposes.
3. Utilize, care and maintain health educational media commonly used in teaching and learning in health training settings
4. Initiate and maintain a health learning resource centre in health training institution.

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
HE 101	Producing visual aids and textual material	23	1.5	6	0.1	29	1.6
HE 102	Health educational equipment	21	1.4	5	0.1	26	1.5
HE 103	Health learning resource centre	18	1.2	4	0.1	22	1.3
	Total	**62**	**4.1**	**15**	**0.3**	**77**	**4.4**

CD 200: CURRICULUM DEVELOPMENT (7.0 Units)

Course description: Curriculum development is a scientific technical skill applied in the process of inventing or modifying a guide containing suitable and relevant knowledge, skills and attitudes precisely cultivated by a learner.

The course will give emphasis on developing, within the learner, abilities in assessing and utilizing health education needs of a selected community.

During this course students will need to go for field work teaching practice in various selected Diploma and certificate nursing schools.

Aims

1. To provide a learner with theoretical conceptual framework and sufficient learning experience of programme building process, implementation and evaluation of a programme utilizing available human and non-human resources.
2. The learner will develop solid foundation for concepts, skills and attitudes of teaching and learning processes

Objectives

At the end of this course the learner is expected to:

1. Utilize appropriate key curriculum development concepts when developing any curriculum
2. Adapt accurately curriculum models and design in planning a curriculum.
3. Integrate effectively basic elements of a curriculum when developing a curriculum
4. Apply skillfully steps of curriculum development process in developing a curriculum.
5. Utilize effectively communication skills during teacher – learner interaction.
6. Apply relevant principles and methods of learning at a given teaching and learning situation.

7. Apply without difficulties appropriate principles and methods of teaching at any setting.
8. Develop skills in evaluating performance of a learner and achievements of an educational programme
9. Demonstrate competence in facilitating learning to a learner in nursing utilizing available human and non-human resources

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
CD 201	The nature of curriculum development	10	0.7	0	0	10	0.7
CD 202	Curriculum elements	10	0.7	0	0	10	0.7
CD 203	Curriculum development process	25	1.7	0	0	25	1.7
CD 204	Communication skills in teaching and learning	15	1.0	0	0	15	1.0
CD 205	Principles and methods of learning and teaching	20	1.2	0	0	20	1.2
CD 206	Field work (Teaching practice in diploma nursing schools)	0	0	75	1.7	75	1.7
	Total	80	5.3	75	1.7	155	7

MS 200: MEDICAL SURGICAL NURSING (6.6 units)

Course Description: This course builds on the Basic Nursing courses by considering the nursing care of patients and treatment in more depth. Using case studies and clinical practice, the students will gain knowledge in the assessment, planning implementation and evaluation of care of patients with medical conditions including common psychiatric disorders. The students will have the opportunity to acquire the pre-requisite knowledge necessary to assess, plan implement and evaluate care for surgical patient.

Aims

1. To equip learners with necessary knowledge, skills and attitude for the practice in the care of the patient undergoing surgery in more depth.
2. To enable students to give holistic care to the medical conditions.

Objectives

Upon completion of the course, the student will be able to

1) Understand the methods of caring for patients with medical and surgical conditions.
2) Use the nursing process to implement appropriate nursing care for clients with medical and surgical conditions in general and acute care setting.
3) Give appropriate counselling, education and psychological support to patients undergoing surgery.
4) Understand the methods of Theatre technique.

5) Utilize the problem-solving approach (nursing process) in management the clients with mental health problems.
6) Apply selected theoretical perspectives to nursing care of clients with mental disorders.
7) Design and implement treatment plans for patients and families with common mental health problems and comorbid conditions.
8) Promote and maintain mental health and manage the effects of mental illness through teaching and counseling.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MS 201	Nursing management of patients with medical and Surgical conditions	30	2.0	90	2.0	120	4.0
MS 203	Theatre techniques	10	0.7	10	0.2	20	0.9
MS 204	Managing patients with specific mental health problems.	22	1.5	10	0.2	32	1.7
	Total	**62**	**4.2**	**110**	**2.4**	**172**	**6.6**

B.Sc. NED (3 AND 4 YEARS PROGRAMME)

PROGRAMME ORGANIZATION

The programme will be of three academic years for nurses with diploma and four academic years for direct entrants. It will consist of 40 teaching weeks in each academic year. The academic year shall be the basic accounting time unit.

The programme will be structured in semesters. Each academic year will consist of two semesters; each semester lasting for 20 weeks including examinations. There will be a total of 25 courses. The content in each course will be made up of modules using a course unit weighting system in which each 15 hours of theory will constitute one unit, while 45 hours of practical or clinical session will constitute one unit.

The course will cover a total of 13 weeks field work practice for research data collection (4th semester), community health nursing practice (semester 6) and teaching practice in the diploma schools of nursing during semester 6.

There will be a mid-semester break (breather) offered in the middle of each semester. The breather in the first semester will last for three weeks organized to coincide with X-Mass Holiday.

Allow a one-week inter-semester vacation.

There will be University examinations at the end of each semester. External examiners/moderators will be invited during these examinations.

The grade point average (GPA) is adopted for the process of disposal of students, these includes supplementary, discontinuation and repeating a semester (year).

The clinical modules of Principles of Nursing Course will be made up of twelve weeks of practice for diploma entrants and one year and twelve weeks for direct entrants.

The field work modules will be made up of 4 weeks for Community Health Nursing Course.

There will be 20 weeks of field work in Curriculum Development and Management of Health Care and Educational Institutions. Field work for research course will be done during the second year long vacation.

STRUCTURE AND FEATURE OF THE PROGRAMME (B.Sc. NED 3 and 4 years)

Semester 1

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
AN100	Anatomy	129	8.6	232	5.2	342	3.8
BC100	Biochemistry	148	9.9	41	0.9	189	10.8
BE100	Bioethics I	19	1.3	-	-	19	1.3
TOTAL		296	19.8	273	6.1	550	31.9

Semester 2

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PH100	Physiology	113	7.5	74	1.6	187	9.1
BS100	Behavioural Science and Biostatistics	134	8.9	74	1.6	208	10.5
DS100	Development studies	60	4.0	30	0.6	90	4.6
BE100	Bioethics II	19	1.3	-	-	19	1.3
TOTAL		446	29.7	178	3.8	624	33.5

Semester 3

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MM200	Microbiology/Immunology	114	7.6	76	1.7	190	9.3
PE 200	Parasitology/ Entomology	91	6.0	61	1.3	152	7.3
DS200	Development studies	57	3.8.	30	-0.7	-95	3.8
PH 200	Clinical physiology	57	3.8	-	-	57	3.8
TOTAL		327	21.3	167	3.7	494	25.7

Semester 4

Code	*Name of Course*	*Theory*		*Practice/Field*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
ER200	Epidemiology & Research	65	4.3	-	-	65	4.3
BN200	Basic Nursing II	135	9.1	80	1.8	215	10.9
MS200	Medical Surgical Nursing	166	11.1	150	3.3	316	14.4
MA200	Mental Health & Psychiatric Nursing	56	3.7	70	1.6	126	7.3
ER204	**FIELD WORK (RESEARCH)**	0	0	70	1.6	70	1.6
TOTAL		422	28.2	370	8.3	792	38.5

Semester 5

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PD300	Paediatric Nursing	69	4.6	139	3.1	208	7.7
MC300	Maternal and Child Health Nursing	130	8.7	150	3.3	280	12.0
CH300	Community Health Nursing	80	5.3	-	-	80	8.0
CP300	Clinical Pharmacology	167	11.1	16	0.4	183	11.5
TOTAL		446	29.7	305	6.8	751	39.2

Semester 6

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	***Units***	***Hrs***	***Units***	***Hrs***	*Units*
LM300	Leadership and Management	55	3.7	80	1.8	135	5.4
AP300	Applied Educational Psychology	80	5.3	0	0	80	5.3
HE300	Health Educational Media Technology	73	4.9	90	2.0	163	6.9
CD300	Curriculum Development	99	6.6	0	0	99	6.6
		0		435	9.6	435	9.6
CD 306	**Field Work (Teaching Practice**						
CH 307	**& Community Health Nursing)**		0				
TOTAL		307	20.5	605	13.6	912	33.8

Semester 7

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MW 400	Matternal and Child Health Nursing	-	-	600	13.3	600	13.3
PD400	Paediatric Nursing			100	2.2	100	2.2
TOTAL		-	-	700	15.6	700	15.6

Semester 8

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PN 400	Principles of Nursing	-	-	600	13.3	600	13.3
MA400	Mental Health & Psychiatric Nursing	-	-	100	2.2	100	2.2
TOTAL		-	-	700	15.5	700	15.5

TEACHING PROGRAMME (B.Sc. NED 3 and 4 years)

AN 100: ANATOMY (13.8 units)

Course Description: The course of anatomy is a fundamental subject for understanding the structure and organization of the human body in relation to its basic function.

Aim: Impart knowledge to the students on the structure and development of the human body in health

Objectives:

At the end of the course the student should be able to:

1. Describe the structure of the human body in health as seen with the naked eye.
2. Identify different parts of the body
3. Define the medical/anatomical terminology
4. Describe the structure of the human body in health at microscopic level
5. Identify different types of cells, tissues and organs with the aid of microscope
6. Understand the processes involved in the development of the human Body
7. Describe congenital malformations
8. Identify the causes of congenital malformation

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
AN 101	Human Biology and Genetics	45	3.0	30	0.7	75	3.9
AN 102	Upper limb, thorax, head and neck.	21	1.4	117	2.6	138	4.0
AN 103	Lower limb, abdomen, perineum and pelvis	21	1.4	75	1.7	96	3.1
AN 104	Neurobiology and Developmental Biology	42	2.6	10	0.2	52	2.9
	Total	**129**	**8.6**	**232**	**5.2**	**361**	**13.8**

BC 100: BIOCHEMISTRY (10.8 units)

Course Description: Biochemistry is a basic science subject on which most biological sciences find their foundation. It entails the fundamental concepts of chemistry of life, which include structural organization, energy interconvention, signal transduction and genetic information storage and flow. Recent developments in Molecular Biology are also embodied in Biochemistry.

Aims

1. To impart knowledge on structural organization of biomolecules.
2. To impart knowledge on Molecular and energy transformation and control of metabolism.
3. To impart knowledge on Signal transduction / flow and storage of genetic information.
4. To understand the enzymatic effects on food substances
5. To interpret laboratory results
6. To observe the effects of treatment on patients in order to plan and implement nursing care accordingly and to take appropriate actions

Objectives:

Upon completion of the course, the student should be able to:

- Describe chemistry of proteins, lipids and carbohydrates and to recognize some basic structures.
- Describe cellular organization of molecular level
- Describe the structure and function of enzymes including clinical application of enzymology
- Describe principles of biological oxidation and oxidative phosphorylation and thermodynamics.
- Describe processes in the intermediary metabolism
- Describe selected concepts in molecule biology
- Describe porphyrins and bile pigments metabolism
- Describe hormone mechanisms and signal transduction

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
BC 101	Chemistry of biomolecules	25	1.7	-	-	25	1.7
BC 102	Enzymology Energy Transformation	30	2.0	11	0.2	41	2.2
BC 103	Proteins, Carbohydrates, Lipids Metabolism	50	3.3	10	0.2	60	3.5
BC 104	Molecular biology and hormone systems	43	2.9	20	0.4	63	3.3
	Total	148	9.9	41	0.8	189	10.8

BE 100: BIOETHICS (2.6 units)

Course description: This is the vertical course to be taught during semesters 1-5. No student shall be allowed to graduate until and unless he/she has completed and passed examination in bioethics. The course uses a topical approach to ethics based on philosophical examination of self-interest ethics, virtue ethics, consequentialist (utilitarian) ethics, duty-based ethics, and rights-based ethics.

Aims

1. To develop working knowledge of current ethical guidelines, professional codes of practice.
2. To relate ethical guidelines in relation to nursing practice and research.

Objectives

- Discuss some of the moral frameworks in relation to professionalism, self-awareness and ethical decision-making
- Discuss the ethical and legal issues in the care of clients throughout the life span.
- Apply knowledge about the legal and ethical responsibilities of the nurse, and assume responsibility for own learning and growth.
- Explain the concept of rights and duties of a nurse.
- Explain the concept of consent to treatment, medical procedure and participation in nursing research.
- List the ethical issues involved in screening
- List the ethical issues involved in research involving animals
- Identify the ethical and legal issues involved in nursing negligence.
- Explain the abortion act and its implications
- Identify the ethical and legal issues involved in obstetrics where there is conflict between care of mother and fetus
- Identify the ethical and legal issues in care and research in psychiatry.

- List situations where confidentiality may be broken and give reasons.
- Procure and preserve materials for forensic and toxicological investigations.

Course content

Code	*Course Name*	*Lectures*		*Practicals*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
BE 201	Bioethics I	19	1.3	-	-	19	1.3
BE 202	Bioethics II	19	1.3	-	-	19	1.3
	Total	**38**	**2.6**	**-**	**-**	**38**	**2.6**

SEMESTER TWO

PH 100: PHYSIOLOGY (9.1units)

Course description: For nursing students, this knowledge will enable them to critically plan, implement and evaluate the nursing care of the patient in a more rational and scientific way. Some of the competences that the nursing student will be able to do include performing a nursing assessment, making observations, determining nursing diagnoses, performing nursing interventions and determining client outcomes as a result of nursing care.

Aim: The course is aimed at providing knowledge on normal functioning of the human body and how the various normal functions are controlled and regulated.

Objectives

Upon completion of the course, the student should be able to:

- Describe the various homeostatic and control systems and the way they operate in the human.
- Enumerate the international system of units which describe mass, volume and concentration
- Describe the general physiology of the cell membrane; membrane potentials in excitable tissues (example muscle cells and nerves)
- List the major co constituents of body tissues and describe the composition and partitioning of body fluids.
- List the composition of blood and describe the general functions of blood; the formation characteristics of and functions of different blood cells.
- List the major divisions of the circulatory system, and describe its general organization, functions and the control of the cardiovascular system.
- Describe the functional anatomy of the respiratory system, the mechanism of breathing alveolar gas exchange and the control of the respiratory system
- Describe functional anatomy of the kidney, the renal mechanism, filtration excretion and absorption; concentrating and diluting mechanisms and the endocrine function of the kidney.

- Describe the functional anatomy of the digestive system, motility, secretory, digestive, absorptive, and endocrine functions of the digestive system.
- Explain the chemical nature of hormones, and how the hormones are secreted, transported in plasma, their functions and how they are metabolized and excreted.
- Describe the organization of the nervous system and the physiological functions, sensory, and motor system, autonomic nervous system; special senses

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PH 151	Fluids and circulation	35	2.3	36	0.8	71	3.1
PH 152	Metabolism and Excretion	36	2.4	26	0.6	62	3.0
PH 153	Neuro-endocrine Physiology	42	2.8	12	0.3	54	3.1
	Total	**113**	**7.5**	**74**	**1.6**	**187**	**9.1**

BS 100: BEHAVIOURAL SCIENCE AND BIOSTATISTICS (10.5 units)

Course description: The psychology aspect provides students with a basic understanding of fundamental psychological theory and research essential for nursing care. The knowledge acquired should enable the student to understand peoples' psychological reactions to for examples, illness, hospitalization, stress and anxiety. The sociology part enables the students to understand health attitudes, beliefs and practices of patients and health professionals of culturally diverse groups. The knowledge on sociology provides some of the conceptual tools to help the students understand the relationships between social structures and people's health experiences. The Biostatistics part of the course is relevant for nurses in enabling them to use the knowledge in research and in compiling, analyzing and interpreting patients/clients records. This course will also enable nurses to read quantitative nursing and related research articles effectively.

Aims:

1. To provide a course that is relevant to current public health problems and their interventions
2. To provide students with fundamental statistical skills relevant to public health analysis.
3. To introduce students to specific concepts and models that explain ill health and diseases.

Objectives:

Upon completion of the course, the student should be able to:

- Understand the relationship between illness and human behaviour.
- Recognize social cultural and psychological factors that influence ill-health.
- Describe the different models that explain health behaviour in the community.
- Measure health related knowledge and behaviour in the community.
- Understand the relationship between culture and health.

- Appreciate the role of traditional medicine in health service provision.
- Understand and analyze factors that affect utilization of health services
- Analyze risk behaviour pertaining to health.
- Identify the social, cultural and psychological factors that may lead to adverse health outcomes in human populations.
- Identify broad based social issues that are important in public health interventions.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
BS 101	Medical Sociology	52	3.4	24	0.5	76	3.9
BS 102	Health Psychology	45	3.0	25	0.6	70	3.6
BS 103	Biostatistics and Demography	37	2.5	25	0.5	62	3.0
	Total	**134**	**8.9**	**74**	**1.6**	**208**	**10.5**

DS 100: DEVELOPMENT STUDIES (4.6 units)

Course description: The course exposes students to the theories, problems and contemporary issues of development in relation to health. The course will also contribute to the self and professional development of a nurse who is aware of the social, economic and political environment in which she/he functions.

Aim: The course in important for nurses in order to understand the process of social development, practical development perspectives, economic and social-political consequences and their implications on health, health policies, health care systems and nursing practice.

Objectives:
Upon completion of the course, the student should be able to:

- Define the concept of development
- Explain the different theories of development
- Describe the process of social and political developments in Africa.
- Relate health to the theories of development.
- Describe the concept of entrepreneurship

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
DS 101	Social Development and Health	25	1.7	10	0.2	35	1.9
DS 102	Education, Rural Development, Gender and Health	15	1.0	10	0.2	25	1.2
DS 103	Population, poverty and Health	20	1.3	10	0.2	30	1.5
	Total	**60**	**4.0**	**30**	**0.6**	**90**	**4.6**

SEMESTER THREE

MM 200: MICROBIOLOGY/IMMUNOLOGY (9.3 units)

Course description: The course provides students with a basic understanding of the general microbiology and immunology, fundamental psychological theory and research essential for nursing care. The knowledge acquired should enable the student to be familiar with etiology of health problems and the laboratory procedures.

Aims

1. To provide students with knowledge and skills in the subject of Microbiology and Immunology.
2. To identify measures for infection prevention.
3. To interpret laboratory findings of microbiological investigations.

Objectives

Upon completion of the course, the student should be able to:

- Understand the main principles of general medical microbiology and immunology.
- Acquire the knowledge of the host- parasite environment relationship in health and in microbial diseases.
- Understand the etiology of known microbial and immunological health problems.
- Become familiar with general Epidemiological aspects of microbial health problems, that is modes of transmission of microbial infections, role of "carriers" in certain cases, sources of infecting agents, nosocomial infections, and simple preventive measures of specific health problems with special reference to sub Saharan Africa.
- Be familiar with the laboratory procedures used for determining the etiology of common microbial and immunological health problems.
- To enable them appreciate the role of the subject in problem solving in infectious disease management, prevention and control.

Course Content

Code	***Module Name***	***Theory***		***Practical***		***Total***	
		Hrs	Units	Hrs	Units	Hrs	Units
MI 201	General Bacteriology	54	3.6	62	1.4	116	5.0
MI 202	Virology and Mycology	39	2.6	6	0.1	45	2.7
MI203	Immunology	21	1.4	8	0.2	29	1.6
	Total	**114**	**7.6**	**76**	**1.7**	**190**	**9.3**

PE 200 PARASITOLOGY/ ENTOMOLOGY (7.3 units)

Course description: The course will include the life cycle of different parasites and the parts of the body affected. They also provided the methods of parasite control. This knowledge will be utilized by nurses in health/ nursing care.

Aims

1. To impart knowledge on identification of life cycles, epidemiological factors, host-parasite relationships
2. To impart knowledge on identification of the appropriate preventive and control measures.

Objectives

Upon completion of the course, the student should be able to:

- Describe in detail the life cycle of medically important parasite.
- Describe the organs most commonly involved in infection
- Describe the relationship of this infection to symptoms, relapses and accompanying pathology
- Describe the factors that determine endemicity of the parasite infection.
- Describe the distribution and epidemiology of the parasites in East Africa
- Describe the methods of parasite control e.g. chemotherapy, mollusciding, general sanitation etc.
- Describe the advantages and disadvantages of each method.
- Provide the qualify health/nursing care by utilizing knowledge of the parasitic infective process i.e host-parasitic relationship, classification and how parasites cause diseases.

Course Content

Code	***Module Name***	***Theory***		***Practical***		***Total***	
		Hrs	Units	Hrs	Units	Hrs	Units
PE 201	Protozoa & Immuno-Parasitology	35	2.3	19	0.4	54	2.7
PE 202	Helminthology	36	2.4	29	0.6	65	3.0
PE 203	Entomology	20	1.3	13	0.3	33	1.6
	Total	91	6.0	61	1.3	152	7.3

DS 200: DEVELOPMENT STUDIES (5.0 units)

Course description: The student nurse teachers will identify some developmental issues including plans and strategies including health plans.

Aim: To expose students to Tanzania's development experiences and be aware of alternative development strategies existing currently.

Objectives

At the end of the course students should be able to:

- Analyze the dynamics of Tanzania's development plans/strategies and implementation in health and health related sector
- Compare and contrast different development strategies in developing countries

- Analyze current development problems and issues in Tanzania and developing countries in general and how these problems relate to health
- Should be able to plan, organize and manage a private health care facility

Course Content

Code	*Name*	*Theory*		*Practicals*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
DS 201	Globalization Environment and health	20	1.3	10	0.2	30	1.5
DS 202	Human Rights, Governance and Entrepreneurship	45	3.0	20	0.4	65	3.4
	Total	**65**	**4.3**	**30**	**0.7**	**95**	**5.0**

PH 200: CLINICAL PHYSIOLOGY (3.8 Units)

Aims: To provide students with knowledge on normal and disordered functioning of the human body and how to use this knowledge in making correct diagnosis and management of disease conditions.

Objectives

At the end of study of this course the student should be able to:

- Explain the concept of reserve, compensation and failure.
- Describe the body fluid compartments, derangements of body fluid and how the kidneys compensate for such derangements.
- Describe the abnormalities in erythropoiesis, anaemia, haemostasis and bleeding tendencies.
- Describe the normal and abnormal functioning of the digestive system, including malabsorption and excess secretion of hydrochloric acid and its effects.
- Describe the various mechanisms that lead to disordered cardiovascular functions including hypertension, cardiac failure and circulatory shock.
- Describe the disordered function of the Respiratory system including impairment of the alveolar capillary gas transfer, respiratory insufficiency and failure, hypoxia, hypercapnia.
- Describe the abnormalities in the endocrine functions including diabetes mellitus, thyroid dysfunction, adrenal gland dysfunction and parathyroid gland dysfunction.
- Describe the disorders of motor and sensory functions as well as disorders of the autonomic nervous system.

Course content

The course will be offered in modules as shown in the table below.

Module	*Code*	*Name*	*Lectures*		*Total*	
			Hrs	*Units*	*Hrs*	***Units***
I	**PH201**	Clinical Physiology of fluid and circulation	20	1.3	20	**1.3**
II	**PH202**	Clinical Physiology of Metabolism and excretory systems	19	1.2	19	**1.3**
III	**PH203**	Clinical Physiology of Neurophysiology and Endocrinology	18	1.2	18	**1.2**
		Total	57	3.7	57	3.8

SEMESTER FOUR

ER 200: EPIDEMIOLOGY AND RESEARCH METHODOLOGY (5.9) Units

Course description: The students oriented with the principle and methods of epidemiology and research. The epidemiological control of diseases of public importance will be discussed. During this course students will have field work on research.

Aims

1. To introduce to the students the basic principles of epidemiology and research methodology and their application in the planning and provision of medical and health care services
2. To introduce the students to environmental determinants of health and disease in human populations.

Objectives

At the end of the course in Principles of Epidemiology the student should be able to:

- Understand and utilize the basic principles of epidemiology in research and in planning provision medical and health care services.
- Understand and use the epidemiological methods in research and assess community health needs.
- Understand and use the research methods to collect, analyze and present critical information to stakeholders and wider audience.
- Understand the epidemiology and control of the selected major diseases of public health importance in Tanzania.
- Describe physical, biological, socio-cultural and environmental factors affecting health and disease.
- Identify the agencies and services available to families and the extent to which they meet their needs.

At the end of the course in Environmental Health and Family case studies course the student should be able to:

- Describe the physical, biological and socio-cultural environmental factors affecting health and disease.
- Identify the agencies and services available to families and the extent to which they meet their needs.
- Have a longitudinal and not merely episodic view of family health and its determinants.
- Describe the implications of a disease to a family and not merely to an individual
- To develop social attitudes of
    - Seeking ways to promote and maintain the health of the family, understanding that it is better to prevent than cure disease.
    - Viewing patients not as purely clinical entities or individuals afflicted by disease but as a member of family, a work group and as part of the society in which they live.
- Develop skills in:
    - Gathering data and analysing it in an epidemiological manner.
    - Communicating with patients and their families, and visiting homes.
    - adapting preventive and curative measures to psychosocial, cultural and economic background of patients and their families
    - Analysing the stressful or health promotive factors operating within a family group, including observations of environmental factors.
    - Health education of a family group, as related to their specific education needs.

Course Content

Code	*Name*	*Theory*		*Practicals*		*Total*	
		Hrs	Units	Hrs		**Hrs**	Units
ER201	Principles of Epidemiology	31	2.1	-	-	31	2.1
ER202	Research Methodology	20	1.3	-	-	20	1.3
ER203	Environmental Health and Family Case Study	14	0.9	-	-	14	0.9
ER204	FIELD WORK Research	0	0	70	1.6	70	1.6
	Total	**65**	**4.3**	**-**	**1.6**	**135**	**5.9**

BN 200: BASIC NURSING (12.6 units)

Course description: This course is builds the foundation in nursing. Students will learn different theories and practices of nursing according to guidelines and contemporary practices including the use of technology in nursing. Students will be exposed to human growth and development to enable them understand different human needs for them to plan and implement nursing care effectively

Aim: Enables student to understand the process of growth and development throughout the life span. It makes students understands the background and the recent approaches/concepts in nutritional problems affecting society, and specific nutrition related aspects of nursing.

Objectives

- Describe concepts and theories used in nursing practice
- Assess clients' needs and develop nursing care care plans
- Identify the aetiologies, manifestations and effects of the major nutrition disorders.
- Understand the physical, cognitive, affective and psychosocial domains of an individual's growth and development.
- Implement evidence based nursing care to clients
- Apply relevant nursing procedures as per guidelines
- Apply principles of nursing practice to clients of different levels of care e.g total care, self-care and assisted care

Course Content

Code	***Name***	***Theory***		***Practicals/Skills laboratory***		***Total***	
		Hrs	***Units***	***Hrs***	***Units***	***Hrs***	***Units***
BN201	Basic Concepts and Theories in Nursing	19	1.3	-	-	19	1.3
BN202	Human growth and Development	31	2.1	-	-	31	2.1
BN203	Basic and advanced Nursing procedures	40	2.7	76	1.7	117	4.4
BN204	Principals of Nursing	45	3.0	80	1.8	125	4.8
	Total	**135**	**9.1**	**156**	**3.5**	**291**	**12.6**

MS 200: MEDICAL SURGICAL NURSING (14.4 UNITS)

Course Description: This course builds on the Basic Nursing courses by considering the nursing care of patients and treatment in more depth. Using case studies and clinical practice, the students will gain knowledge in the assessment, planning implementation and evaluation of care of patients with medical and surgical conditions.

Aims

1. To equip learners with necessary knowledge, skills and attitude for the practice in the care of the patient undergoing surgery in more depth.
2. To enable students to give holistic care to the medical conditions.

Objectives

Upon completion of the course, the student will be able to

- Understand the methods of caring for patients with medical and surgical conditions.
- Use the nursing process to implement appropriate nursing care for clients with medical and surgical conditions in general and acute care setting.

- Give appropriate counselling, education and psychological support to patients undergoing surgery.
- Understand the methods of Theatre technique.
- Use the instrumental skills in caring for patients with surgical problems and undergoing operation.
- Give appropriate counseling, education and psychological support to patients undergoing surgery.

Course Content

Code	*Name*	*Theory*		*Practicals*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MS 201	Management of Patients with Medical & Surgical Conditions	138	9.2	104	2.3	242	11.5
MS 202	Theatre Techniques	28	1.9	46	1	74	2.9
	Total	**166**	**11.1**	**150**	**3.3**	**316**	**14.4**

MA 200: MENTAL HEALTH &PSYCHIATRIC NURSING (5.3 Units)

Course description: Emphasis will be on personality structures and common psychiatric disorders. History of mental health in Tanzania and the use of specific neurological drugs will be covered. The course is also designed to expose learners to dealing with criminal clients with mental disorders.

Aims

1. The primary purpose of the course is to equip learners with necessary knowledge, skills and attitude for the practice in the promotion of community mental health
2. Be able to function as first level nurses in mental health institutions and communities.

Objectives

Upon completion of the course, the student should be able to:

- Appreciate the influence of historical events and recent trends in mental health services in the country.
- Make biopsycho-social health assessments that are culturally sensitive.
- Utilize the problem-solving approach (nursing process) in management of clients with mental health problems.
- Apply selected theoretical perspectives to nursing care of clients with mental disorders.
- Design and implement treatment plans for patients and families with common mental health problems and comorbid conditions.
- Demonstrate awareness of community resources for mental health and give guidance to individuals, families and groups appropriately.

- Engage in case management activities, such as organizing, accession, negotiating and integrating services and benefits for individuals and families.
- Promote and maintain mental health and manage the effects of mental illness through teaching and counseling.
- Practice mental health and psychiatric nursing according to legal, ethical, and professional standards.

Course Content

Code	***Module Name***	***Theory***		***Practical***		***Total***	
		Hrs	Units	Hrs	Units	Hrs	Units
MA 201	Mental disorders and behaviour pathology	12	0.8	-	-	12	0.8
MA 202	Managing patients with specific mental health problems.	32	2.1	51	1.1	83	3.2
MA 203	Community Mental health Nursing	12	0.8	20	0.4	32	1.2
	Total	**56**	**3.7**	**71**	**1.6**	**127**	**5.3**

SEMESTER FIVE

PD 300: PAEDIATRIC NURSING (7.7 Units)

Course description: The course is designed to help students understand the potential health problems and needs of children based on their development process. Commonly seen diseases, communication skills, the impact of illness and hospitalisation on the children and their families are emphasized.

Aim: It gives students a foundation of paediatric knowledge and skills on which to build a long-life learner approach to caring for children in a range of acute, critical and chronic care situations.

Objectives

Upon completion of the course, the student should be able to:

- Explain the Psychosocial, cultural, religion developmental and communication influence on child and family.
- Apply special consideration in the care of sick children.
- Utilize the nursing process in the care of a sick new born, infants, early childhood, middle childhood and adolescence.
- Plan and implement appropriate nursing care of children with common medical and surgical health problems.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PD 301	Paediatric medical conditions	47	3.1	81	1.8	128	4.9
PD 302	Paediatric surgical conditions	22	1.5	58	1.3	80	2.8
	Total	**69**	**4.6**	**139**	**3.1**	**208**	**7.7**

MC 300: MATERNAL AND CHILD HEALTH NURSING (10.8 Units)

Course description: This course is designed to emphasize human development and family and centred care. Through this course, the student is expected to become acquainted with the knowledge of women's role and adaptation to normal and high-risk pregnancy, delivery, as well as postpartum period and the characteristics of the new-born. The course also teaches how to take care of the expectant mother, the new-born, and under five children in Maternal and Child Health clinics.

Aims

1. To enable learner to take care to the mothers in pre-natal, intra natal and post natal.
2. To be able to take care to the children in order to prevent the diseases.

Objectives

Upon completion of the course, the student should be able to:

- Understand the national and global policies and guidelines related to women and children's health
- Understand the psychosocial and gender issues in reproductive health
- Provide appropriate family planning methods to clients
- Integrate STD/HIV care in reproductive health
- Provide quality nursing care to women in the inter-partum and post -partum periods
- Provide quality nursing care to the newborn baby.
- Provide necessary information to regarding breastfeeding to new mothers.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MC 301	Policies, Guidelines in Reproductive Health and MCH	5	0.3	-	-	5	0.3
MC 302	Family Planning, STD and HIV/AIDS	25	1.7	35	0.8	75	2.5
MC 303	Ante partum, Intrapartum & Postpartum Haemorrhage	56	3.7	70	1.6	170	5.3
MC 304	Newborn, Under-Five Child Management	25	1.7	45	1.0	100	2.7
	Total	111	7.4	150	3.4	261	10.8

CH 300: COMMUNITY HEALTH NURSING (8.0 units)

Course description: The course focuses on the principles underlying community health nursing practice, as well as the roles and functions of community health nurses in primary, secondary, and tertiary prevention. Knowledge of epidemiology and the nursing process provide a framework for maximizing a community's health. The influence of culture, economics, politics, environments, and ethics as they impact community health nursing practice are explored throughout the course. **Students will have fieldwork practice on community health nursing**.

Aims

1. This practicum provides opportunities for students to apply community/public health nursing concepts, theories, and processes in the care of individuals, families, aggregates and the total community.
2. The aim of community health nursing is prevention of illness, disability, and disease; early identification of risk factors; and promotion of optimal health for the total community and its people.

Objectives

At the end of the course, the student should be able to:

- Identify the role of the community health nurse
- Understand the concepts of primary, secondary and tertiary prevention in the community
- Develop health promotion strategies appropriate for communities.
- Identify and examiner selected community resources appropriate for specific groups in the community.
- Discuss current demographic and economic factors influencing health care issues.
- Understand the methods of influencing/motivating/educating//changing people
- Implement the nursing process as an interdisciplinary team member to meet the health care needs of individuals, families, and groups throughout the life span in a variety of community settings.
- Apply epidemiological data to meet the health and nursing care needs of individuals, families, aggregates, and communities.
- Incorporate cultural assessment into nursing care of individuals, families and aggregates
- Identify ethical, environmental political, and economic factors that influence the health of individuals, families, aggregates and the community.
- Practice nursing in community settings using principles of health promotion, disease promotion, health restoration with individuals, families, aggregates, and the community.
- Participate in case management activities such as administration of nursing care in a community context, referral to community resources, multidisciplinary collaboration, and coordination of activities.
- Apply theories and models of health education to individuals, families, and the community.
- Select and use appropriate nursing research findings that related to the nursing care of assigned caseload of families, aggregates, and the community.

- Demonstrate progression from a dependent to a more independent role in providing nursing care in the community.
- Practice community health nursing according to legal, ethical, and professional standards.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
CH301	Community Assessment Planning Interventions	10	0.7	0	0	10	0.7
CH302	Primary Health Care/Health Promotion	20	1.3	0	0	20	1.3
CH303	COHE Nurse as Educator, Developer, Evaluator	20	1.3	0	0	20	1.3
CH304	Community Health (COHE) Nurse and the Community	30	2.0	0	0	30	2.0
	Total	80	5.3			80	5.3

CP 200: CLINICAL PHARMACOLOGY (11.5 Units)

Course description: The course will base in basic principles of drug action and its application to the rational clinical use during administration of drugs in the practice of nursing so as to evaluate expected therapeutic responses in patients, as well as to evaluate for possible adverse effects.

Aims

1. To introduce the student to the basic concepts of pharmacology.
2. To provide the student with knowledge of chemical agents found in environment

Objectives

Upon completion of course, the student should be able to:

- Apply and discusses in satisfactory and professional manner the use and actions of drugs in the wards and clinics.
- Recognize where required and in accordance with the law when prescriptions are written correctly.
- Understand the importance of pharmacology in patient care.
- Keep current with new developments and contribute new knowledge as need may arise.
- Assesses patient condition for safe medication and outcomes of drug administration.
- Use the instrumental skills related to drug administration in provision of quality nursing care.

Course Content

Code	*Name*	*Theory*		*Practicals*		*Total*	
		Hrs	Units	Hrs			Hrs
CP201	Chemical Mediators	35	2.3	12	0.27	47	2.57
CP202	Drug Disposition	19	1.3	4	0.09	23	1.39
CP203	Systemic Pharmacology	73	4.8	-	-	73	4.8
CP204	Chemotherapy of Parasites	24	1.6	-	-	24	1.6
CP205	Applied Pharmacology	16	1.1	-	-	16	1.1
	Total	**167**	**11.1**	**16**	**0.4**	**183**	**11.5**

SEMESTER SIX

LM 300: LEADERSHIP AND MANAGEMENT (5.4 units)

Course description: The course orients the students in leadership and management issues. These include resource and project management, also exposed on audit and supervision of health care.

Aims

1. To enable the learner to acquire managerial skills for solving problems in the Health and Educational Institutions. Special attention will be given to resources management, project planning and quality assurance within the context of health sector reforms.
2. To equip the learner with knowledge, skills and attitudes to manage health and educational institutions.

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
LM 301	Resource Management	20	1.3	30	0.7	35	2.0
LM 302	Project Management	20	1.3	40	0.9	60	2.2
LM 303	Innovation in Health System	15	1	10	0.2	25	1.2
	Total	**55**	**3.6**	**80**	**1.8**	**135**	**5.4**

APPLIED EDUCATIONAL PSYCHOLOGY (AP 300)

Course description; The course is designed to enable the learner to apply the psychological perspectives in teaching and learning. The content of the course has been selected to cater for the needs of the nurse teacher in specified subject areas of personality development and education, the nature and learning process. It also assists the learner acquire basic principles in adult learning, guidance and counseling. Introduce special aspects of dealing with individuals with academic problems in learning situations.

Aim

1. To enable learners, internalize the main concepts of educational psychology and apply it to various situations.

2. Make the learner have an inventory of the theoretical and practical skills in dealing with adult learners and problem solving in teaching and learning environment.

Objectives

At the end of the course the learner is expected to be able to:

- Identify the key concepts of psychology, educational psychology, learning, counseling and personality.
- Promote learning focusing on factors which influence personality development at various developmental phases
- Utilize various theories of learning in teaching and learning situations.
- Facilitate adult learning in health institutions and community
- Demonstrate and counseling skill in dealing with learning and teaching aspects.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
EP 301	Personality development	10	0.7	-	-	10	0.7
EP 302	The learning process	35	2.3	-	-	35	2.3
EP 303	Psychology of adult learning	15	1.0	-	-	15	1.0
EP 304	Guidance and Counseling	20	1.3	-	-	20	1.3
	Total	**80**	**5.3**	**-**	**-**	**80**	**5.3**

HE 300: HEALTH EDUCATION MEDIA AND TECHNOLOGY (6.9 Units)

Course Description: The course is designed to enable the learner to identify the health educational media and technology in teaching and learning. This includes the visual aids and textual materials for learning and teaching purposes.

Aim

1. To simplify the work of the trainer and trainee
2. To improve teaching and learning processes in a learner

Objectives

Upon completion of the course, the student should be able to:

- Identify the effectiveness of health educational media and technology in teaching and learning.
- Produce visual aids and textual materials for teaching and learning purposes.
- Utilize, care and maintain health educational media commonly used in teaching and learning in health training settings
- Initiate and maintain a health learning resource centre in health training institution.

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
HE301	Producing visual aids and textual material	28	1.9	90	2.0	118	3.9
HE302	Health educational equipment	26	1.7	-	-	26	1.7
HE303	Health learning resource centre	19	1.3	-	-	19	1.3
	Total	**73**	**4.9**	**90**	**2.0**	**163**	**6.9**

CD 300: CURRICULUM DEVELOPMENT (13.7 Units)

Course description: Curriculum development is a scientific technical skill applied in the process of inventing or modifying a guide containing suitable and relevant knowledge, skills and attitudes precisely cultivated by a learner.

The course will give emphasis on developing, within the learner, abilities in assessing and utilizing health education needs of a selected community. During this course students will need to go for field work teaching practice in various selected Diploma and certificate nursing schools.

Aims

1. To provide a learner with theoretical conceptual framework and sufficient learning experience of programme building process, implementation and evaluation of a programme utilizing available human and non-human resources.

2. The learner will develop solid foundation for concepts, skills and attitudes of teaching and learning processes

Objectives

At the end of this course the learner is expected to:

- Utilize appropriate key curriculum development concepts when developing any curriculum
- Adapt accurately curriculum models and design in planning a curriculum.
- Integrate effectively basic elements of a curriculum when developing a curriculum
- Apply skillfully steps of curriculum development process in developing a curriculum.
- Utilize effectively communication skills during teacher – learner interaction.
- Apply relevant principles and methods of learning at a given teaching and learning situation.
- Apply without difficulties appropriate principles and methods of teaching at any setting.
- Develop skills in evaluating performance of a learner and achievements of an educational programme
- Demonstrate competence in facilitating learning to a learner in nursing utilizing available human and non-human resources

Course content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
CD 301	The nature of curriculum development	10	0.7	-	-	10	0.7
CD 302	Curriculum elements	15	1.0	-	-	15	1.0
CD 303	Curriculum development process	20	1.3	-	-	20	1.3
CD 304	Communication skills in learning and teaching	15	1.0	-	-	15	1.0
CD 305	Principles and methods of learning and teaching	39	2.6	-	-	39	2.6
CD 306	FIELD WORK Teaching Practice in Nursing Schools	-	-	320	7.1	320	7.1
CH 307	FIELD WORK (COMMUNITY HEALTH NURSING)	-	-	105	2.3	105	2.3
	Total	**99**	**6.6**	**425**	**9.4**	**524**	**16**

SEMESTER SEVEN

Course description: In this semester students will be exposed to principals of nursing clinical practice.

Course Content

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
MW 400	Midwifery Practice	-	-	600	13.3	700	13.3
PD 400	Paediatric Nursing Practice			100	2.2	100	2.2
	Total	-	-	700	15.5	700	15.5

SEMESTER EIGHT

Course description: The semester involves practical exposure to the field of maternal and Child Health Nursing as well as Mental Health & Psychiatric Nursing.

Course Content

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Units	Hrs	Units	Hrs	Units
PN400	Principles of Nursing	-	-	600	13.3	600	13.3
MA400	Mental Health & Psychiatric Nursing	-	-	100	2.2	100	2.2
	Total	-	-	700	15.5	700	15.5

BACHELOR OF SCIENCE IN NURSING (BScN)

BACKGROUND

In the Tanzania Development Vision 2025, the main objective is to achieve high quality livelihood of all Tanzanians. So, training of highly qualified professionals will enable meet this objective. AAMSON-CUHAS is therefore, in line with the Tanzanian vision of 2025. The Archbishop Anthony Mayala School of Nursing (AAMSON), of the Catholic University of Health and Allied Sciences(CUHAS),is undertaking an expansion of its academic programmes. The AAMSON-CUHAS aims at running a four-year Generic Basic Bachelor of Science in Nursing (B. Sc. N) programme which will provide room for Form six leavers to continue with higher learning. The programme aims at producing highly competent nurse graduates who will be responsible for providing quality nursing services to the people of Tanzania and elsewhere.

BACHELOR OF SCIENCE IN NURSING (BScN)

BACKGROUND

Tanzania is facing a human resource crisis in the health sector. This shortage is mainly caused, amongst other factors, by a low output of qualified staff and mal-distribution in health facilities in the country. The Ministry of Health and Social Welfare intends to minimize the problem of human resource shortage by increasing training output, expansion of students' intake and involvement of the private sector in training health workers who will be able to provide quality health care services. It is in this spirit that the Tanzania Episcopal Conference decided to start a medical school in order to participate in addressing this health human resource crisis.

In the Tanzania Development Vision 2025, the main objective is to achieve high quality livelihood of all Tanzanians. So, training of highly qualified professionals will enable meet this objective. AAMSON-CUHAS is therefore, in line with the Tanzanian vision of 2025. The Archbishop Anthony Mayala School of Nursing (AAMSON), of the Catholic University of Health and Allied Sciences(CUHAS),is undertaking an expansion of its academic programmes. The AAMSON-CUHAS aims at running a four-year Generic Basic Bachelor of Science in Nursing (B. Sc. N) programme which will provide room for Form six leavers to continue with higher learning. The programme aims at producing highly competent nurse graduates who will be responsible for providing quality nursing services to the people of Tanzania and elsewhere.

Like other professional nursing training programs, the programme is intended to prepare nurses who are accountable and responsible for health care in a dynamic society. To this end nurses must be educated to assume current nursing roles and to adapt to future health needs.

We believe graduates of this programme will create a pool that can later focus on clinical practice and those who may wish to join the teaching profession. These different focus areas may later form the basis for the development of various Masters Programmes in line with the current thinking of the Nursing Council.

AIM OF THE PROGRAM

To strengthen the nursing profession by developing competent nurses with knowledge, skills and positive attitude pertaining to nursing and midwifery care utilising evidence based practice and thus display professional, moral and ethical conduct in order to handle the growing health care needs nationally, regionally and internationally.

EXPECTED COMPETENCIES

On completion of the programme, the graduate is expected to be able to do the following competently:

Professional Cognitive skills

- Apply the knowledge of basic sciences in caring for client/patient with different health conditions.
- Apply effective interpersonal relationship skills at work, within families, clients and the community at large.
- Utilize ethical principles when providing care to clients/patients, families and the community at large
- Apply entrepreneurship skills for self, professional and institutional development in the social, economic and political context.
- Apply the principles of infection prevention and control when caring for clients/patients in all settings.
- Utilize computer skills in processing health information.
- Demonstrate quality nursing care utilizing nurse practice acts and standards.
- Use the research knowledge in provision of evidence based care to client/ patients.
- Utilize nursing process when managing patients/clients in health-related setting.
- Utilize the public health/ Community health knowledge in managing community health problems.
- Apply the principles of teaching/learning during provision of care to patients, co-workers and the community at large.
- Apply leadership and management skills in nursing practice.

Professional Psychomotor Skills

- Demonstrate skills in providing quality care to patients with various conditions in all settings.
- Maintain effective interpersonal relationship skills at work, within families, clients and the community at large.
- Demonstrate ethical principles when providing care to clients/patients, families and the community at large
- Design entrepreneurship project for self, professional and institutional development.
- Maintain the principles of infection prevention and control when caring for clients/patients in all settings.
- Apply computer skills in processing health information.
- Conduct health related research and utilize research findings for evidence-based practice
- Use nursing process when managing patients/clients in health-related setting.
- Demonstrate public health/ Community health skills in managing community health problems.
- Use principles of teaching & learning during provision of care to patients, co-workers and the community at large.
- Demonstrate leadership and management skills and act as a change agent within the political, social, and health care systems in the practice of nursing
- Respond efficiently and effectively to emergency and disaster situations.

- Demonstrate skills in managing client with STI and HIV/AIDS

Professional affective skills

- Share empathetically relevant information regarding sensitive health problems with patients/ clients and families
- Practice ethically and with integrity in maintaining patient's confidentiality, obtaining appropriate informed consent and responding to medical evidence
- Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when providing care to clients.
- Value standards of professional conducts when providing care to patients/clients.
- Observe compassion, respect and sensitivity to patient/client's individuality when giving nursing care
- Use information technology to access medical information and assimilate evidence from scientific studies to manage patients effectively.

SEMESTERISATION / MODULARISATION OF THE PROGRAMME

The BSc.N programme is a four-year semesterized programme. There are eight semesters with courses and modules specified. For basic science courses, they will be taught in a tailored manner. The total number of Credits in this programme is 728. During this programme students will have field practice i.e. research data collection in semester 6, Community health Nursing II in semester 7; Mental Health Nursing II in semester 8.

Important Features in the Semesterized Programme

- The academic year will have two semesters of twenty weeks each.
- Use a weighting system in which 1 Credit = 10 notion hours. These hours include lectures, seminars and tutorials, Assignments, independent studies & Research and Practical training.
- Have a one-week mid-semester break
- Have a two week break between each semester
- Conduct final university examinations at the end of each semester
- Invite external examiners at the end of each semester
- Use the GPA system to assist in disposal of students
- Each course should have at least one continuous assessment

STRUCTURE OF MODULES

Semester 1

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
AN100	Anatomy	129	12.9	232	23.4	361	36.1
BC100	Biochemistry	148	14.8	41	4.1	189	18.9
PS100	Philosophy	40	4.0	-	-	40.0	40.0
NI 100	Nursing Informatics	35	3.5	70	7.0	105	10.5
TOTAL		**352**	**35.2**	**343**	**34.3**	**695**	**69.5**

Semester 2

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BS 100	Behavioural Science and Biostatistics	140	14.0	-	-	140	14.0
PH 100	Physiology	114	11.4	74	7.4	188	18.8
PC100	Professional Communication Skills ,advocacy and counselling	45	4.5		4.6	91	9.1
NE 100	Nursing Ethics	75	7.5	-	-	75	7.5
DS100	Development studies I	65	6.5	30	3.0	95	9.5
TOTAL		**439**	**43.9**	**150**	**15.0**	**589**	**58.9**

Semester 3

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MM200	Microbiology/Immunology	114	11.4	76	7.6	190	19.0
PE 200	Parasitology/ Entomology	91	9.1	61	6.1	152	15.2
PH 200	Clinical Physiology	57	5.7	-	-	57	5.7
BN 200	Basic Nursing	135	13.5	90	9.0	145	14.5
DS 200	Developmental Studies II	65	6.5	30	3.0	95	9.5
TOTAL		**398**	**39.8**	**257**	**25.7**	**639**	**63.9**

Semester 4

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
ER 200	Epidemiology and Research Methodology I	60	6.0	20	2.0	80	8.0
MS 200	Medical & Surgical Nursing	90	9.0	150	15.0	240	24.0
AD200	Advanced concepts in Nursing	90	9.0	-	-	90	9.0
MP 200 200	Mental Health &Psychiatric Nursing	70	7.0	70	7.0	140	14.0
ER 200	Research FIELD WORK	-	-	35	3.5	35	3.5
TOTAL		**310**	**31.6.**	**275**	**27.5**	**585**	**58.5**

Semester 5

Code	*Name of Course*	*Theory*	*Practice*			*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
CP300	Clinical Pharmacology	167	16.7	16	1.6	183	18.3
MW 300	Midwifery	140	14.0	140	14.0	280	28.0
PD 300	Paediatric Nursing	69	6.9	135	13.5	204	20.4
CH300	Community Health Nursing	70	7.0	70	-	140	14.0
TOTAL		**446**	**44.6**	**361**	**36.1**	**807**	**80.7**

Semester 6

Code	*Name of Course*	*Theory*		*Practice/Field*		*Total*	
		Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
LM 300	Leadership and Management	70	7.0	105	10.5	175	17.5
PL 300	Principles of Learning and Teaching	60	6.0	-	-	60	6.0
CH 300	Community health nursing FIELD PRACTICE	-	-	140	14	140	14.0
NT 300	Nutrition	80	8.0	35	3.5	115	11.5
EP 300	Entrepreneurship	30	3.0	45	4.5	75	7.5
TOTAL		**240**	**24.0**	**325**	**32.5**	**565**	**56.5**

Semester 7

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MW400	Midwifery Practice	-	-	600	60.0	600	60.0
PD 400	Paediatric Nursing Practice			100	10.0	100	10.0
TOTAL		**-**	**-**	**700**	**70..0**	**700**	**70.0**

Semester 8

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PN 400	Principles of Nursing	-	-	600	60.0	600	60.0
MA 400	Mental Health and Psychiatric Nursing	-	-	100	10.0	100	10.0
TOTAL						**700**	**70.0**

THE TEACHING PROGRAMME

SEMESTER ONE

AN 100: Anatomy (36.1 Credits)

Course Description : The course of anatomy is a fundamental subject for understanding the structure and organization of the human body in relation to its basic function. A sound knowledge of anatomy will enable the nursing students to plan and implement care in a more rational and scientific way during and after graduation as professional nurses. A sound knowledge of anatomy will enable the nursing students to plan and implement care in a more rational and scientific way during and after graduation as professional nurses.

Expected competencies

Professional cognitive skills	• Define the medical/anatomical terminology • Describe the structure of the human body in health as seen with the naked eye. • Identify different parts of the body • Describe the structure of the human body in health at microscopic level

	• Identify different types of cells, tissues and organs with the aid of microscope • Understand the processes involved in the development of the human body • Describe congenital malformations • Identify the causes of congenital malformation
Professional psychomotor skills	• Locate areas for checking vital signs • Locate areas for injection • Use effectively body mechanics when handling patients. • Maintain good bone alignment when caring patients with fractures • Perform physical assessment to identify normal and abnormal structures of the body
Professional affective skills	• Express respect, compassion and integrity in providing nursing care • Observe sensitivity and responsiveness to culture, race / ethnicity, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity and identity when providing care to clients

Course Content

Code	***Module Name***	***Theory***		***Practical***		***Total***	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
AN 101	Cell Biology and Genetics	45	4.5	30	3.0	75	7.5
AN 102	Upper limb, thorax, head and neck.	21	2.1	117	11.7	138	13.8
AN 103	Lower limb, abdomen, perineum and pelvis	21	2.1	75	7.5	96	9.6
AN 104	Neurobiology and Developmental Biology	42	4.2	10	1.0	52	5.2
	Total	**129**	**12.9**	**232**	**23.2**	**361**	**36.1**

BC 100: BIOCHEMISTRY (18.9 Credits)

Course Description: Biochemistry is a basic science subject on which most biological sciences find their foundation. It entails the fundamental concepts of chemistry of life, which includes structural organisation, energy interconversion, signal transduction and finally genetic information storage and flow. Recent developments in Molecular Biology are also embodied in Biochemistry.

This course will enable nursing student to understand the enzymatic effects on food substances, to interpret laboratory results, to observe the effects of treatment on patients in order to plan and implement nursing care accordingly and to take appropriate actions.

Expected competencies

Professional cognitive skills	• Describe the functions of each biomolecule in the human body • Describe the concepts in molecular biology • Explain the metabolism of carbohydrates, lipids, proteins and nucleic acids • Explain the role of enzymes in the body • Apply the knowledge of genetics in managing patients with hereditary conditions/diseases • Apply the knowledge of the different biomolecules (proteins, carbohydrates, lipids) in managing a patient with various medical and surgical problems
Professional psychomotor skills	• Approach patients, families and /or caretakers in addressing appropriate biomolecules to patients with medical/surgical conditions. • Illustrate the different categories of food stuff that are relevant for a particular patient's condition. • Design patient care plan according to the biochemistry laboratory findings
Professional affective skills	• Share empathetically relevant information regarding hereditary/genetic problems with patients and families

Course content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BC 101	Chemistry of Biomolecules	25	2.5	-	-	25	2.5
BC 102	Enzymology, Co-enzymes and Energy Transformation	30	3.0	10	1.0	40	4.0
BC 103	Metabolism of Carbohydrates, Lipids, Proteins, heme and Nucleic Acid	50	5.0	11	1.1	51	5.1
BC 104	Molecular Biology and Horrmone Systems	43	4.3	20	2.0	63	6.3
	Total	**148**	**14.8**	**41**	**4.1**	**189**	**18.9**

PS 100: PHILOSOPHY (40.0 Credits)

Course Description: The course of Philosophy is a fundamental subject of understanding the things happening in life and influence the nursing professional in the delivery of nursing care.

This course enables nursing students to understand the importance of philosophy in order to care for individuals in a holistic manner and reach an adequate personal understanding of those things happening in life and influence the nursing profession, for example, ethical issues, value of human life and dilemmas in the nursing and midwifery professions.

Expected competencies

Professional cognitive skills	• Explain the historical developments and trends in philosophy • Describe the ancient and contemporary philosophers relevant in nursing profession • Discuss the common theoretical and practical problems in the nursing profession. • Describe Philosophical Problems in Man-Medicine Relations • Analyse philosophical Problems in Man (Health) - Nurse Relation
Professional psychomotor skills	• Display profession philosophy when providing care • Disclose one's errors including medical errors, patient's data gathering errors, or misinterpretation of data to appropriate supervisor.
Professional affective skills	• Practice ethically and with integrity in maintaining patients confidentiality, obtaining appropriate informed consent and responding to medical evidence • Accept own gaps in knowledge and skills when providing care to patients and be ready to seek for help when necessary. • Develop a positive self-image and confidence as a professional nurse. • Approach all nursing actions with integrity, honest and authenticity

Course Content

Code	Name	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PS 101	Introduction to Philosophy	10	1.0	-	-	10	1.0
PS 102	Philosophical Problems in Man-Medicine Relations	15	1.5	-	-	15	1.5
PS 103	Philosophical Problems in Man (Health) - Nurse Relation	15	1.5	-	-	15	1.5
	Total	**40**	**4.0**	**-**	**-**	**40**	**4.0**

NI 200: NURSING INFORMATICS (10.5 Credits)

Course description : Nursing informatics is the use of computer information systems, the most common computer hardware and software nurses may come across in the nursing setting. The course emphasizes the need for nurses to design and adopt computer processes to enhance client care, education, administration and management and nursing research.

Expected competencies

Professional cognitive skills	• Describe the common components of desktop computers • Apply word processing, database, spreadsheets and communication software in nursing • Describe computer application in nursing education • Discuss the advantages and concern of computerized patient documentation systems • Use computer in direct client monitoring and diagnosis. • Explain the ways computers may be used by nurse administrators in the area of personnel, facility management, finance, quality assurance and accreditation • Explain the role of computers in each step of the nursing and research process • Apply principles in disclosure of individually identifiable health information
Professional psychomotor skills	• Demonstrate the use of different data management systems • Demonstrate skills in maintaining privacy and confidentiality in relation to accessing electronic data • Demonstrate computer applications used in direct client monitoring and diagnosis.
Professional affective skills	• Use information technology to locate scientific studies related to individual patient's/client's health problems. • Use information technology to access medical information and assimillate evidence from scientific studies to manage patients effectively.

Course content

Code	Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
NI 201	General Concepts	05	0.5	10	1.0	15	1.5
NI 202	Computers in Nursing Education	05	0.5	10	1.0	15	1.5
NI 203	Computers in Nursing Practice	05	0.5	20	2.0	25	2.5
NI 204	Computers in nursing administration	05	0.5	15	1.5	20	2.0
NI 205	Computers in nursing research	15	1.5	15	1.5	30	3.0
	Total	**35**	**3.5**	**70**	**7.0**	**105**	**10.5**

SEMESTER TWO

BS 100: BEHAVIOURAL SCIENCE AND BIOSTATISTICS (14.0 Credits)

Course Description : This course comprises of three components namely Psychology, Sociology and Biostatstics. The psychology aspect provides student with a basic understanding of fundamental psychological theory and research essential for nursing care. The knowledge acquired should enable the student to understand peoples' psychological reactions to for example; illness, hospitalization, stress and anxiety.

The sociology part enables the student to understand health attitudes, beliefs and practices of patients and health professionals of culturally diverse groups. The knowledge on sociology provides some of the conceptual tools to help the students understand the relationships between social structures and people's health experiences.

The Biostatistics part of the course is provide a student with fundamental statistics skills relevant to public health analysis. It is also relevant for nurses in enabling them to use the knowledge in research and in compiling, analysing and interpreting patients/clients records. This course will also enable nurses to read quantitative nursing and related research articles effectively.

Expected competencies

Professional cognitive skills	• Describe the relationship between illness and human behaviour. • Differentiate models that explain health behaviour. • Measure health related knowledge and behaviour in the community. • Analyse the relationship between culture and health. • Appreciate the role of traditional medicine in health service provision. • Analyse factors that affect utilization of health services • Analyse risk behaviour pertaining to health. • Identify the social, cultural and psychological factors that may lead to adverse health outcomes in human populations. • Identify broad based social issues that are important in public health interventions.
Professional psychomotor skills	• Discover socio-cultural differences during caring clients/patients • Design culturally sensitive care plan for clients/patients • Prepare statistical presentations of the health information collected.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients • Express compassion, respect and sensitivity to patient/client individuality when giving nursing care.

	• Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals.

Course Content

Code	Name of Module	Theory		Seminars		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BS 101	Medical Sociology	50	5.0	-	-	50	5.0
BS 102	Health Psychology	45	4.5	-	-	45	4.5
BS 103	Biostatistics and Demography	45	4.5	-	-	45	4.5
	Total	**140**	**14.0**	-	-	**140**	**14.0**

PH 100: PHYSIOLOGY (18.8 Credits)

Course Description: The course is aimed at providing knowledge on normal functioning of the human body and how the various normal functions are controlled and regulated.

For nursing students, this knowledge will enable them to critically plan, implement and evaluate the nursing care of the patient in a more rational and scientific way.

Expected competencies

Professional cognitive skills	• Describe the various homeostatic and control systems and the way they operate in the human body. • Explain the international system of units which describe mass, volume and concentration • Describe the general physiology of the cell membrane; membrane potentials in excitable tissues (example muscle cells and nerves) • Describe the major constituents of body tissues and the composition and partitioning of body fluids. • Describe the composition and its general functions of blood, formation characteristics and functions of different blood cells. • Describe the major divisions of the circulatory system, its general organization, functions and the control of the cardiovascular system. • Explain the functional anatomy of the respiratory system, the mechanism of breathing alveolar gas exchange and the control of the respiratory system • Explain the functional anatomy of the kidney, the renal mechanism, filtration excretion and absorption;

	concentrating and diluting mechanisms and the endocrine function of the kidney. • Describe the functional anatomy of the digestive system, motility, secretory, digestive, absorptive, and endocrine functions of the digestive system. • Explain the chemical nature of hormones, and how the hormones are secreted, transported in plasma, their functions and how they are metabolised and excreted. • Describe the organisation of the nervous system and the physiological functions, sensory, and motor system, autonomic nervous system; special senses
Professional psychomotor skills	• Determine normal and abnormal vital signs of the patients/clients • Determine patients/clients responses to stressors • Use effectively body mechanics when handling patients. • Demonstrate accuracy in giving injections to patients through various routes. • Maintain good bone alignment when caring patients with fractures • Demonstrate ability in monitoring intake and output of electrolyte and fluid balance of clients/patients. • Perform physical assessment to identify normal and abnormal functions of the human body systems
Professional affective skills	• Express respect, compassion and integrity in providing nursing care • Observe sensitivity and responsiveness to clients'/patients' coping mechanisms when providing care

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PH 101	Fluids and circulation	36	3.6	36	3.6	72	7.2
PH 102	Metabolism and Excretory system	36	3.6	26	2.6	62	6.2
PH 103	Neuro-endocrine Physiology	42	4.2	12	1.2	54	5.4
	Total	**114**	**11.4**	**74**	**7.4**	**188**	**18.8**

PC 100: PROFESSIONAL COMMUNICATION SKILLS, ADVOCACY AND COUSELLING(9.1 Credits)

Course Description: The course covers therapeutic and interpersonal communication skills necessary for communicating with clients, families and colleagues in health care settings. This course will also equip students with knowledge, skills and attitudes to manage advocacy for change in health and health related issuesusing effective counselling skills.

The student will be expected to demonstrate professional communication skills, advocacy and counselling competencies with clients, co-workers and the community at large.

Expected competencies

Professional cognitive skills	• Describe effective communication skills when dealing with clients, co-workers and the community at large. • Relate communication competences to the conceptual framework of the nursing process. • Discuss the unique communication needs of client with special problems. • Apply effective interpersonal relationship skills at work, within families, clients and the community at large. • Explain the concepts of advocacy and counselling • Discuss incidences where by advocacy can be a challenge • Discuss values that are basic to the client during advocacy • Review the goals of clients' counselling • Identify the models of counselling • Describe the co values for counselling • Discuss the qualities and the characteristics of a good counsellor. • Describe the process of counselling
Professional psychomotor skills	• Demonstrate effective communication skills with clients, co-workers and the community at large when providing nursing care. • Maintain principles of effective communication skills when relating with co-workers, patients/clients and the community at large. • Demonstrate advocacy skills when giving care to patients/clients. • Demonstrate effective counselling skills when dealing with patients in difficulty situations • Use lobbying skills to effect change.
Professional affective skills	• Share experiences with client through setting of mutually chosen goals. • Value the confidentiality of information gathered from the patients/clients • Express compassion, respect and sensitivity to patient/client individuality when communicating and during counselling. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when communicating.

Course Content

Code	Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PC101	Communication, advocacy and counselling skills in Nursing	15	1.5	15	1.5	30	3.0
PC102	The nurse patient relationship	15	1.5	16	1.6	31	3.1
PC103	Communication and counselling for special groups	15	1.5	15	1.5	30	3.0
	Total	**45**	**4.5**	**46**	**4.6**	**91**	**9.1**

NE 100: NURSING ETHICS (7.5 Credits)

Course description: The course uses a topical approach to ethics based on philosophical examination of self-interest ethics, virtue ethics, consequentialist (utilitarian) ethics, duty-based ethics, and rights-based ethics.

It also emphasizes the use of ethical theories that provide a structured approach, moral reasoning in nursing practice. Ethical issues in nursing are better understood if the nurse explores the various methods of moral reasoning that are used to make judgements about the moral values of action. Sharpening fundamental principles of each theory increases its applicability and usefulness to the student. The learner examines and applies ethics to the life span of patients/clients

Expected competencies

Professional cognitive skills	• Describe moral frameworks in relation to professionalism, self-awareness and ethical decision-making. • Discuss the ethical and legal issues in the care of clients throughout the life span. • Apply knowledge about the legal and ethical responsibilities of the nurse, and assume responsibility for own learning and growth. • Apply the ethical principles in the care of clients throughout the life span • Utilize ethical principles in decision making when providing care to clients/patients • Explain ethical issues involved in screening • Explain ethical issues involved in research involving human • Describe the abortion act and its implications
Professional psychomotor skills	• Design an ethical appropriate plan in dealing with professional misconduct. • Demonstrate moral reasoning when providing care to clients • Demonstrate nursing professional ethics when providing care to clients/patients • Determine abortion act and its implications when providing care to clients/patients
Professional affective skills	• Value standards of professional conducts when providing care to patients/clients. • Practice ethically with integrity in maintaining patient confidentiality when providing care.

Course Content

Code	Module Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
NE 101	Moral Pathways in Nursing	15	1.5	-	-	15	1.5
NE 102	Ethical theories and Principles	15	1.5			15	1.5
NE 103	Nursing Ethics Through the Life Span	26	2.6	-	-	26	2.6
NE 104	Bioethics	19	1.9	-	-	19	1.9
	Total	**75**	**7.5**	**-**	**-**	**75**	**7.5**

DS 100: DEVELOPMENT STUDIES I (9.5 Credits)

Course description: The course exposes students to the theories, problems and contemporary issues of health and development in general.

The course is important for nurses to understand the process of social development, practical development perspectives, economic and social-political consequences and their implications on health, health policies, health care systems and nursing practice. It will also contribute to the self and professional development of a nurse who is aware of the social, economic and political environment in which she/he functions

Expected competencies

Professional cognitive skills	• Define the concept of development • Explain the different theories of development • Describe the process of social and political developments in Africa. • Relate health to the theories of development. • Describe the concept of entrepreneurship
Professional psychomotor skills	• Design business plan which enhancing the wellbeing of the people in the community you live and foster own self economic development
Professional affective skills	• Accept culture, race / ethnicity, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity and identity when providing care to clients • Weigh the policies in place whether they influence the wellbeing of client/patient cared. • Adhere to the development policies of the country that address the needs of the clients/patient when providing care

Course Content

Code	***Name***	***Theory***		***Practical***		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
DS 101	Social Development and Health	25	2.5	-	-	25	2.5
DS 102	Education, Health and Gender	25	2.5	15	1.5	40	4.0
DS 103	Population Health and Entrepreneurship	15	1.5	15	1.5	30	3.0
	Total	65	6.5	30	3.0	95	9.5

SEMESTER THREE

MM 200: MICROBIOLOGY / IMMUNOLOGY (19.0 Credits)

Course Description: The course provides students with a basic understanding the general microbiology and immunology.

The knowledge acquired should enable the student to be familiar with etiology of health problems and the laboratory procedures and infection prevention.

Expected competencies

Professional cognitive skills	• Describe the main principles of general medical microbiology and immunology. • Apply the knowledge of the host- parasite environment relationship in health and in microbial diseases. • Discuss the etiology of known microbial and immunological health problems. • Describe the general Epidemiological aspects of microbial health problems, that is modes of transmission of microbial infections, role of "carriers" in certain cases, sources of infecting agents, nosocomial infections, and simple preventive measures of specific health problems with special reference to sub Saharan Africa. • Explain the laboratory procedures used for determining the etiology of common microbial and immunological health problems. • Interpret the role of the Nurse based on the knowledge of microbiology in solving problems of the patients with infectious disease, prevention and control.
Professional psychomotor skills	• Prepare specimen of the patient/client for laboratory investigation • Determining the etiology of common microbial and immunological health problems • Design a plan of care for the patient based on microbial and immunological results.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients investigations. • Observe compassion, respect and sensitivity to patient/client individuality when taking and giving laboratory results. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, spirituality, disabilities and other aspects of diversity when taking and giving laboratory results

Course Content

Code	***Name of Module***	***Theory***		***Practical***		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MM 201	General Bacteriology and Microbial infections	30	3.0	15	1.5	45	4.5
MM 202	Virology, mycology and Immunology	30	3.0	25	2.5	55	5.5
MM 203	Protozoology and immuno parasitology	30	3.0	16	1.6	46	4.6
MM 204	Helminthology and Entomology	24	2.4	20	2.0	44	4.4
	Total	114	11.4	76	7.6	190	19.0

PE 200: PARASITOLOGY/ ENTOMOLOGY (15.2 Credits)

Course description: The course will include the life cycle of different parasites, identification of life cycles, epidemiological factors, host-parasite relationships and the parts of the body affected. It also provides the appropriate methods of prevention and control measures of parasite. This knowledge will be utilized by nurses in nursing care.

Expected competencies

Professional cognitive skills	• Review in detail the life cycle of medically important parasite. • Describe the organs most commonly involved in infection • Discuss the relationship of this infection to symptoms, relapses and accompanying pathology • Explain the factors that determine endemicity of the parasite infection. • Describe the distribution and epidemiology of the parasites in East Africa • Apply methods of parasite control e.g. chemotherapy, mollusciding, general sanitation etc. • Explain the advantages and disadvantages of each method.
Professional psychomotor skills	• Provide nursing care to patient by utilizing knowledge of the parasitic infective process i.e host-parasitic relationship, classification and how parasites cause diseases.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients with parasitic infection • Observe compassion, respect and sensitivity to patient/client individuality when giving nursing care to a patient with parasitic infection.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PE 201	Protozoa & Immuno-Parasitology	35	3.5	19	1.9	54	5.4
PE 202	Helminthology	36	3.6	29	2.9	65	6.5
PE 203	Entomology	20	2.0	13	1.3	33	3.3
	Total	**91**	**9.1**	**61**	**6.1**	**152**	**15.2**

BN 200: BASIC NURSING (22.5 Credits)

Course description : The course provides opportunity for the students to orient themselves to a range of activities that constitute nursing and nursing core skills associated with the following activities of living: maintaining a safe environment, communication, breathing, personal cleansing and dressing; maintaining body temperature and mobilizing.

Orientation to this at an early stage of professional development provides the student with the confidence to proceed to more complex skills and procedures. The course will also expose the learners to the use of the nursing process in patient care

Expected competencies

Professional cognitive skills	• Define terms related to nursing profession • Discuss historical and contemporary factors influencing the development of nursing • Describe the essential aspects of nursing • Discuss four major areas within the scope of nursing practice • Explain the purposes of nurse practice acts and standards for nursing practice. • Describe the roles of nurses • Describe the expanded carrier roles and their functions • Describe the criteria of profession and the professionalization of nursing • Explain the functions of national, international nurses associations and Tanzania Nurses and Midwifery Council (TNMC) • Describe concepts, models and theories applied in nursing practice • Describe vital /cardinal signs • Describe hygienic care that nurses provide to clients • Describe the nursing process • Describe ways of maintaining a safe environment during provision of care • Describe effective communication to patents during provision of care • Explain the physiological needs of the patient when providing nursing care
Professional psychomotor skills	• Locate areas for taking vital /cardinal signs • Determine the normal and abnormal vital signs when providing care. • Design a nursing care plan to meet the physiological and hygiene needs of patients using the nursing process. • Demonstrate effective communication skills when providing nursing care
Professional affective skills	• Relate essential nursing values to personal attitudes, qualities and behaviours • Adhere on nursing code of conduct when caring patients/clients • Value the confidentiality of information gathered from the patients/clients • Express compassion, respect and sensitivity to patient/client individuality when giving nursing care. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals.

Course content

Code	Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BN 201	Basic Concepts & Methodologies of Nursing Practice	45	1.0	-	-	10	1.0
BN 202	Assessment of patients Health status & promoting patients Hygiene, comfort, Rest & Sleep	40	2.5	30	3.0	45	4.5
BN 203	Maintaining Safe Environment of Patient/Client	25	1.5	30	3.0	45	4.5
BN 204	Interpersonal relationship & Principles of Admission, Transferring & Discharging Patients	35	1.5	30	3.0	45	4.5
	Total	**135**	**13.5**	**90**	**9.0**	**225**	**22.5**

DS 200: DEVELOPMENT STUDIES II (9.5 Credits)

Course description:' The course exposes student to Tanzania's development experiences and to be aware of alternative development strategies existing currently.

The importance of the course to nursing student is to develop positive attitude towards independent and lifelong learning as professionals. The student nurse is also able to network with other categories of students (Medicine, Dentistry & Pharmacy) by sharing knowledge, skills and experiences.

Expected competencies

Professional cognitive skills	• Describe the dynamics of Tanzania's development plans/strategies and implementation in health and health related sectors. • Compare and contrast different development strategies in developing countries. • Examine current development problems and issues in Tanzania and developing countries in general and how these problems relate to health • Plan, organize and manage a private health facility.
Professional psychomotor skills	• Demonstrate networking skills with other categories of students within and outside the institution by sharing knowledge, skills and experiences. • Demonstrate knowledge and skills in planning, organising and managing a private health facility • Design health strategies to overcome problems of youth resulting from globalisation.
Professional affective skills	• Express positive attitude towards independent learning and lifelong learning as professionals • Value patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, and other aspects of diversity when giving nursing care globally. • Observe respect, compassion, accountability, and integrity while interacting with people nationally and internationally.

Course Content

Code	Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
DS 201	Globalization, Environment and Health	35	3.5	15	1.5	50	5.0
DS 202	Human Rights, Governance and Entrepreneurship	30	3.0	15	1.5	45	4.5
	Total	**65**	**6.5**	**30**	**3.0**	**95**	**9.5**

PH 200: CLINICAL PHYSIOLOGY (3.8 Units)

Aim: To provide students with knowledge on normal and disordered functioning of the human body and how to use this knowledge in making correct diagnosis and management of disease conditions.

Objectives

At the end of study of this course the student should be able to:

- Explain the concept of reserve, compensation and failure.
- Describe the body fluid compartments, derangements of body fluid and how the kidneys compensate for such derangements.
- Describe the abnormalities in erythropoiesis, anaemia, haemostasis and bleeding tendencies.
- Describe the normal and abnormal functioning of the digestive system, including malabsorption and excess secretion of hydrochloric acid and its effects.
- Describe the various mechanisms that lead to disordered cardiovascular functions including hypertension, cardiac failure and circulatory shock.
- Describe the disordered function of the Respiratory system including impairment of the alveolar capillary gas transfer, respiratory insufficiency and failure, hypoxia, hypercapnoea.
- Describe the abnormalities in the endocrine functions including diabetes mellitus, thyroid dysfunction, adrenal gland dysfunction and parathyroid gland dysfunction.
- Describe the disorders of motor and sensory functions as well as disorders of the autonomic nervous system.

Course content

The course will be offered in modules as shown in the table below.

Module	***Code***	***Name***	***Lectures***		*Total*	
			Hrs	*Units*	*Hrs*	***Units***
I	**PH 201**	Clinical Physiology of fluid and circulation	20	1.3	20	**1.3**
II	**PH 202**	Clinical Physiology of Metabolism and excretory systems	19	1.2	19	**1.3**
III	**PH 203**	Clinical Physiology of Neurophysiology and Endocrinology	18	1.2	18	**1.2**
		Total	57	3.7	57	3.8

SEMESTER FOUR

ER 200: EPIDEMIOLOGY & RESEARCH METHODOLOGY I (8.0 Credits)

Course description: The course comprises of two components, namely Epidemiology and Research methodology.

The Epidemiology part introduces the students to environmental determinants of health and disease in human populations. The aim of the course is to enable the student understand the basic principles of epidemiology and its application in the planning and provision of medical and health care services.

The research methodology part explores the type and method for nursing and midwifery research, examine the steps in the development of a research, review and evaluates current research findings in nursing for its applicability to nursing theory and practice and to study the process of scientific investigation.

Students will be introduced to a range of research methodologies and the principles underpinning research activity in nursing, midwifery and health care. Skills in searching for evidence and critical reading are enhanced.

Expected competencies

Professional cognitive skills	• Describe the basic principles of epidemiology in research and in planning provision medical and health care services. • Explain the epidemiological methods in research and assessing the community health needs. • Use the research methods to collect, analyse and present critical information to stakeholders and wider audience. • Describe the control of major diseases of public health importance in Tanzania. • Describe physical, biological, socio-cultural and environmental factors affecting health and disease. • Describe the stages of the research process. • Explain the methods of utilizing research findings in nursing and midwifery practice.

	• Evaluate research findings
Professional psychomotor skills	• Determine the epidemiological methods in research and assess community health needs • Use the research methods to collect, analyse and present critical information to stakeholders and wider audience. • Prepare the research proposal • Demonstrate skills in writing research report • Produce research findings to improve the standard of nursing and midwifery care in Tanzania. • Use skills in critiquing nursing research.
Professional affective skills	• Value the importance of evidence-based practice in nursing and midwifery. • Use research findings to improve the standard of nursing and midwifery care in Tanzania. • Value the confidentiality of information gathered from the patients/clients during research process • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when collecting the research data • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals in research process.

Course Content

Code	Module Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
ER 201	Principles of Epidemiology	20	2.0	-	-	20	2.0
ER 202	The Research Process	20	2.0	10	1.0	30	3.0
ER 203	Contexts for nursing and midwifery research	20	2.0	10	1.0	30	3.0
	Total	**60**	**6.0**	**20**	**2.0**	**80**	**8.0**

AD 200: ADVANCED CONCEPTS IN NURSING (19.5 Credits)

Course description: This course focuses on building nursing skills in areas of assessment and diagnosis based on physiological, pathophysiological, psychosocial, pharmacological, cultural and spiritual concepts. This course will also emphasizes on intervention based on concepts and theories which will increase student's critical thinking and problem solving skills and become self-directed learners.

Expected competencies

Professional cognitive skills	• Apply effective interviewing skills and observation techniques to obtain data from the patients / clients. • Describe relevant scientific approaches (Gordon Functional Health Patterns, nursing process) in assessing patients/clients. • Assess clients / patients in varying developmental stages through physical examination.

	• Evaluate critically the assessment data of the patients/clients by incorporating physical, psychological, pharmacological, social and spiritual aspects of care. • Formulate nursing diagnoses based on analysis of assessment data. • Plan nursing care in relation to formulated nursing diagnoses for management of patients / clients. • Record accurately medical and nursing information. • Differentiate the various nursing theories in improving nursing care • Apply the different nursing theories in providing evidence based care
Professional psychomotor skills	• Demonstrate effective communication skills when interacting and interviewing patients. • Demonstrate professional responsibility and accountability in clinical practice. • Demonstrate knowledge and skills in physical assessment • Develop a plan of care utilizing the nursing process in the management of patients / clients. • Demonstrate knowledge and skills when interviewing special groups of patients (silent patients, over talkative, seductive patients, angry patients, aggressive patients, paranoid patients, demanding patients)
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients • Express compassion, respect and sensitivity to patient/client individuality when giving nursing care. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals.

Course Content

Code	***Module Name***	***Theory***		***Practical***		*Total*	
		Hrs	Credits	**Hrs**	Credits	**Hrs**	Credits
AD 201	Theories and theorists	10	1.0	-	-	10	1.0
AD 202	Advanced concepts in Medical, Surgical and Geriatric Nursing	25	2.5	50	5.0	75	7.5
AD 203	Advanced concepts in Mental Health	15	1.5	50	5.0	65	6.5
AD 204	Advanced concepts in Maternal and neonatal Nursing	15	1.5	30	3.0	45	4.5
	Total	65	6.5	130	13.0	195	19.5

MS 300: MEDICAL SURGICAL NURSING (28.0 Credits)

Course description: This course integrates the knowledge, skills and attitudes the student has obtained from the basic nursing courses. The course exposes students to patients with different medical surgical conditions which facilitates learning and allows them to achieve the necessary competences. Through the use of theory, case studies and clinical practice, the students will gain knowledge in the assessment, planning implementation and evaluation in order to provide quality care to patients with medical surgical conditions.

Expected competencies

Professional cognitive skills	• Describe various medical surgical conditions. • Describe health care system and recognize ways to assess and improve health care. • Assess the patients with various medical and surgical conditions. • Design a nursing care plan using the nursing process in caring for patients with medical and surgical conditions. • Evaluate the nursing care plan and re-plan according to the needs of patient with medical and surgical condition. • Apply a family centred approach in the education and care of patients with medical and surgical conditions in general and acute care setting. • Demonstrate the methods of theatre techniques when caring for patients undergoing surgery. • Describe the pathophysiology of human disease at molecular, cellular, systems, and whole organism levels of different diseases/conditions • Discuss the natural history of illness and strategies for promoting health and preventing illness in the patient with medical and surgical condition. • Apply universal precautions and sterile technique when giving care to the patient with medical and surgical conditions. • Explain the importance of documentation when giving care to the patient with medical and surgical conditions. • Manage patients with acute and chronic surgical and medical conditions. • Describe common procedures used to patients with medical and surgical conditions
Professional psychomotor skills	• Demonstrate skills in assessing the patients with various medical and surgical conditions. • Design a nursing care plan using the nursing process in caring for medical and surgical patients. • Describe of basic science subjects and evidence-based medicine when caring patients with medical and surgical conditions • Demonstrate skills in family centred approach in the education and care of patients with medical and surgical conditions in various care setting. • Demonstrate advocacy skills when dealing with patients with medical and surgical conditions including their families, and their communities • Demonstrate skills in giving education to patients with medical and surgical conditions

	• Maintain ethical principles effectively when faced with ethical challenges when caring for patients with medical and surgical conditions
Professional affective skills	• Value the confidentiality of information gathered when caring for patients with medical and surgical conditions. • Express compassion, respect and sensitivity to patient/client individuality when caring for patients with medical and surgical conditions. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals when caring for patients with medical and surgical conditions.

Course Content

Code	Module Name	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	credits
MS 301	An overview to adult medical surgical nursing	10	1.0	-	-	10	1.0
MS 302	Nursing Management of Patients with Cardiovascular system disorders	25	2.5	25	2.5	50	5.0
MS 303	Nursing Management of Patients with Respiratory, Gastrointestinal and nutritional disorders.	25	2.5	35	3.5	60	6.0
MS 304	Nursing Management of Patients with Renal and genitourinary, Endocrine and metabolic disorders	20	2.0	20	20	40	4.0
MS 305	Nursing Management of Patients with Cardiovascular, Circulatory and Hematologic, Musculoskeletal and Neurological disorders	30	3.0	30	30	60	6.0
MS 306	Nursing Management of Patients with Oncology disorders and Infectious/Communicable Diseases	30	3.0	30	30	60	6.0
	Total	**140**	**14.0**	**140**	**14.0**	**280**	**28.0**

MP 200: MENTAL HEALTH & PSYCHIATRIC NURSING I (16.0 Credits)

Course Description: This course emphasises on personality traits and common psychiatric disorders. History of mental health in Tanzania and the use of specific neurological drugs will be covered. In addition, it will also emphasise biopsycho-social health assessments that are culturally sensitive utilising problem-solving approach (nursing process) in management of clients with mental health problems. It will also enable the students to design and implement treatment plans for patients and families with common mental health problems and co-morbid conditions.

Expected competencies

Professional cognitive skills	• Explain the influence of historical events and recent trends in mental health services in the country. • Explain human adjustive /mental mechanisms • Describe the common anxiety disorders • Describe legal aspects of mental health practice nationally and internationally. • Describe epidemiology of mental illness nationally and internationally • Discuss biopsycho-social health assessments that are culturally sensitive to clients with mental health problems. • Explain psychiatric evaluation of clients/patients • Explain classification of mental health disorders according to Diagnostic Statistical Manual for mental illness and international Classification of Diseases 10 (DSM IV and ICD 10 respectively). • Explain the problem-solving approach (nursing process) in management of clients with mental health problems. • Relate selected theoretical perspectives to nursing care of clients with mental health disorders. • Explain treatment modalities for patients and families with common mental health problems and co-morbid conditions.
Professional psychomotor skills	• Design treatment modalities for patients and families with common mental health problems and co-morbid conditions. • Demonstrate skills of treatment modalities in managing patients and families with common mental health problems and co-morbid conditions. • Design a nursing care plan for clients/patients with mental health problems by utilizing nursing process • Demonstrate skills in application of the selected theoretical perspectives to nursing care of patient/client with mental health disorders • Demonstrate skills in managing patients with mental health disorders
Professional affective skills	• Value the confidentiality of information gathered from patients with mental health disorders • Express compassion, respect and sensitivity to individual patient with mental health disorders during provision of nursing care • Respond professionally to patient's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual

	orientation, spirituality, disabilities and other aspects of diversity when caring a patient with mental health disorders. • Observe respect, compassion, accountability, and integrity while interacting with peers and other professionals when managing patients with mental health disorders.

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MP 201	Psychiatric/ Mental Health Nursing Practice	20	2.0	15	1.5	35	3.5
MP 202	Mental disorders and behaviour pathology	20	2.0	30	3.0	50	5.0
MP 203	Managing patients with specific mental health problems.	30	3.0	45	4.5	75	7.5
	Total	**70**	**7.0**	**90**	**9.0**	**160**	**16.0**

SEMESTER FIVE

CP 300: CLINICAL PHARMACOLOGY (18.3 Credits)

Course Description: This course aims at introducing the student to the basic concepts of pharmacology, with emphasis on how drugs act in human beings and chemical agents found in the environment. It will also help students to use the knowledge for effective clinical judgments when providing nursing care.

The student can apply this knowledge during administration of drugs in the practice of nursing so as to evaluate expected therapeutic responses in patients, as well as to evaluate for possible adverse effects.

Expected competencies

Professional cognitive skills	• Apply the principles of drug administration when administering drugs to patients. • Review prescriptions if written correctly in accordance with the law. • Describe the importance of pharmacology in patient care. • Assess patients' condition for safe medication and outcome of drug administration. • Apply different methods of drug administration when providing nursing care.
Professional psychomotor skills	• Determine new developments in pharmacology when caring patients/client with different health conditions. • Determine the common drugs used in the wards and clinic • Demonstrate knowledge and skills when administration drugs to the patients/client. • Illustrate the importance, action, adverse effect and compliance of drugs when giving care to the patient.

	• Determine patient condition for safe medication and outcomes of drug administration • Develop a plan in accordance with the law to detect any incorrectly written prescriptions for Dangerous Drug Act (DDA).
Professional affective skills	• Value new knowledge in the development of pharmacology in nursing. • Value the confidentiality of information gathered from the patients/clients during drug administration. • Express compassion, respect and sensitivity to patient/client individuality when giving medication. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving medication to patients • Express respect, compassion, accountability, and integrity while interacting with peers and other health professionals in case of drug errors during the process of drug administration.

Course Content

Code	***Name of Module***	***Theory***		***Practical***		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
CP201	Chemical Mediators	35	3.5	12	1.2	47	4.7
CP 202	Drug Disposition	19	1.9	4	0.4	23	2.3
CP 203	Systemic Pharmacology	73	7.3	-	-	73	7.3
CP 204	Chemotherapy of Parasites	24	2.4	-	-	24	2.4
CP 205	Applied Pharmacology	16	1.6	-	-	16	1.6
	Total	167	16.7	16	1.6	183	18.3

PD 300: PAEDIATRIC NURSING (Credits 22.0)

Course Description: The course gives a student a foundation of paediatric knowledge, skills and attitudes on which builds a long-life learner approach to caring for children in a range of acute, critical and chronic care situations.

The course is designed to help student understand the potential health problems and needs of children and families based on their development process. Commonly seen diseases, communication skills, the impact of illness and hospitalisation on the children and their families are emphasized.

Expected competencies

Professional cognitive skills	• Discuss the changing perspectives of child rearing in Tanzania • Review the role of the Paediatric Nurse in promoting the health of children and families • Describe the family centred model of care • Explain the nursing process for caring for a paediatric patient and family • Examine the Social, cultural, and religious influences on child health promotion • Differentiate complete health assessment to paediatric patients/clients • Discuss principles of taking vital signs in a paediatric patient and use of appropriate equipment • Employ different methods of specimens collection in paediatric patients • Practice personal hygiene of patients/clients in different setting. • Use different techniques for communicating with children and families • Review factors influencing communication process in children and families • Discuss guidelines for communication and interviewing children and families • Evaluate the nutritional status of children according to developmental stages. • Review the immunizations scheduled of children for proper administration of vaccine • Discuss safety hazards and appropriate preventive measures for the developmental age of client and family. • Explain nursing measures to promote patients/clients comforts, rest and sleep. • Describe the management of common medical and surgical conditions in children. • Calculate medication dosages for the paediatric patient (weight based) • Choose the different routes of drug administration according to developmental stage of the child. • Discuss the effects of hospitalization on children and families. • Discuss techniques for counselling families of ill children • Describe basic needs of the terminally ill child and his/her family • Discuss care of the child after death and its family • Discuss needs of the bereaved family in paediatric • Discuss home based care for children with chronic illnesses/disability
Professional psychomotor skills	• Design the nursing care of a child and family utilizing the nursing process.

	• Discover socio-cultural, economic and religious influences the growth and development of child when providing nursing care. • Demonstrate family centered model of care when providing nursing care to children. • Demonstrate skills in assessment of pain to a child. • Determine normal and abnormal vital signs when caring for sick child by using appropriate equipment. • Demonstrate skills in collecting different specimens for diagnostic purposes from a child. • Demonstrate communication skills when communicating with children and families of various developmental stages. • Develop nutritional plans appropriate to child's age and condition with families • Determine immunization status of a child • Design child's injury prevention and safety plan with family. • Determine developmental milestones of the paediatric patient and the family • Demonstrate skills in drug administration according to the prescribed routes. • Demonstrate skills in caring for a family with terminally ill child. • Demonstrate skills in caring for a paediatric dead body. • Demonstrate skills in counselling for the grieving family and significant others • Prepare home based care plan for children with chronic illness/disability
Professional affective skills	• Value the confidentiality of information gathered from a child. • Express compassion, respect and sensitivity to a child's individuality when giving nursing care. • Respond professionally to a child/family's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals when giving care to children and families.

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PD 301	Introduction to Paediatric Nursing	15	1.5			15	1.5
PD 302	Nursing process in the care of the child and family	15	1.5	25	2.5	40	4.0
PD 303	Assessment of the child and family	15	1.5	25	2.5	40	4.0
PD 304	Health promotion for child and family	20	2.0	25	2.5	45	4.5
PD 305	Management of the child with common medical and surgical conditions and with special needs	20	2.0	60	6.0	80	8.0
	Total	**85**	**8.5**	**135**	**13.5**	**220**	**22.0**

CH 300: COMMUNITY HEALTH NURSING I (4.0 Credits)

Course Description: The course focuses on the principles underlying community health nursing practice, as well as the roles and functions of community health nurses in primary, secondary, and tertiary prevention. The influence of culture, economics, politics, environments, and ethics as they impact community health nursing practice are explored throughout the course.

This course enables the students to provide quality care to individuals, families and community at large. They will also have field work on community health nursing.

Expected competencies

Professional cognitive skills	• Explain the role of the community health nursing • Describe the concepts of primary, secondary and tertiary prevention in the community context. • Design health promotion strategies appropriate for communities. • Evaluate the selected community resources appropriate for specific groups in the community. • Discuss current demographic and economic factors influencing health care issues. • Describe the methods used to influence, motivate, educate, and change people
Professional psychomotor skills	• Design health promotion strategies appropriate for communities. • Demonstrate the role of the community health nurse. • Adapt the concepts of primary, secondary and tertiary prevention in the community context when working with the community. • Develop a plan in relation to the current demographic and economic factors influencing health care issues.
Professional affective skills	• Value the confidentiality of information gathered from the community. • Express compassion, respect and sensitivity to patient/client individuality while working with the people in the community. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to the community. • Observe respect, compassion, accountability, and integrity while interacting with peers and other professionals in the community.

Course Content

Code	Name of Module	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
CH301	Community Assessment Planning Interventions	20	2.0	-	-	20	2.0
CH302	Primary Health Care/Health Promotion	10	1.0	-	-	10	1.0
CH303	Community Health Nurse as an Educator, Developer, Evaluator	10	1.0	-	-	10	1.0
	Total	**40**	**4.0**	**-**	**-**	**40**	**4.0**

MW 300: MIDWIFERY (9.0 Credits)

Course Description: This course teaches how to take care for the expectant mother, the new-born, and under-five children in Maternal and Child Health clinics.

The course also emphasizes human development and family centred care. Through this course, the student is expected to become acquainted with the knowledge of women's role and adaptation to normal and high-risk pregnancy, delivery, as well as postpartum period and the characteristics of the new-born.

Expected competencies

Professional cognitive skills	• Describe the national and global policies and guidelines related to women and children's health • Discuss the psychosocial and gender issues in reproductive health • Describe family planning methods currently used by clients • Explain gender dynamic in improving mother and child health • Integrate STD/HIV care in reproductive health • Describe the nursing care of women in the ante, inter and post -partum periods • Describe the nursing care to the new-born baby. • Describe the necessary information regarding breastfeeding to new mothers.
Professional psychomotor skills	• Maintain the national and global policies and guidelines related to women and children's health when caring for women in their reproductive age. • Determine the psychosocial and gender issues in reproductive health when caring for women in their reproductive age • Illustrate appropriate family planning methods to clients according to needs. • Demonstrate skills in provision of quality nursing care to women in the ante-partum, inter-partum and post -partum periods utilizing the nursing process. • Demonstrate skills in provision of quality nursing care to the new-born baby utilizing the nursing process.

	• Develop a plan for giving necessary information to regarding breastfeeding to new mothers.
Professional affective skills	• Value the confidentiality of information gathered from women in their reproductive age during provision of care. • Express compassion, respect and sensitivity to individual woman in her reproductive age during provision of care. • Respond professionally to women's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during provision of care in their reproductive age. • Observe respect, compassion, accountability, and integrity while interacting with peers and other professionals when providing care to women in their reproductive age.

Course Content

Code	Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MW301	National and Global trends, Policies, Guidelines in Reproductive Health and Maternal and Child Health	05	0.5	-	-	05	0.5
MW302	Gender in Health and Gender based violence	05	0.5	-	-	05	0.5
MW303	Family planning, sexuality and STDs, HIV/AIDS	10	1.0	10	1.0	20	2.0
MW304	Assessment and Management in the Antepartum, Intra partum and Postpartum Periods	25	2.5	15	1.5	40	4.0
MW305	New-born and under-five child assessment and management	10	1.0	10	10	20	2.0
	Total	**55**	**5.5**	**35**	**3.5**	**90**	**9.0**

ER 300: EPIDEMIOLOGY AND RESEARCH METHODOLOGY II (10.6 Credits)

Course description: The focus of this course is on assisting the learners to acquire skills in research proposal and report writing. Health institutions will be contacted to provide relevant areas of study from which students will select a topic for research. Students will be directing their work with the support of a supervisor, which will provide an opportunity to enhance their experiences of management and collaborative activities. During this course students will have field work on research.

Expected competencies

Professional cognitive skills	• Describe the steps in research proposal writing. • Identify the appropriate research topic • Explain the process of grant application. • Identify major sources of funding for research projects. • Describe the process of dissemination of research findings.
Professional psychomotor skills	• Develop a research proposal on a selected topic • Demonstrate knowledge and skills in grant application • Demonstrate skills from research methodology in data collection analysis and presentation. • Develop a research report from research findings and publish to enhance clinical practice. • Determine areas for dissemination of research findings at Faculty symposia, meetings and scientific conferences at national and international forums.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients when conducting research. • Express compassion, respect and sensitivity to patient/client individuality when conducting research. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when conducting research. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals when conducting research.

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
ER 301	Writing a research proposal			10	1.0	10	1.0
ER 302	FIELD WORK and Report writing	-	-	25	2.5	25	2.5
	Total	**-**	**-**	**35**	**3.5**	**35**	**3.5**

SEMESTER SIX

LM 300: LEADERSHIP & MANAGEMENT IN NURSING (17.5 Credits)

Course description: The course will address the importance of leadership within nursing and the need to recognize and develop leadership skills and potential within the profession.

Students will be afforded the opportunity to explore their own leadership skills and knowledge through fieldwork underpinned by relevant theoretical constructs in order to provide quality nursing care. Action learning sets will be used to integrate the theoretical base of leadership with fieldwork within an identified health care setting.

Expected competencies

Professional cognitive skills	• Differentiate leadership and management. • Describe effective roles of the leader and the manager • Apply critical thinking in leadership and management roles in nursing practice. • Describe leadership and management in health care organization. • Use appropriate decision making in assisting clients toward recovery and/or improving their health. • Employ suitable managerial and planning skills for proper development of human resource necessary for provision of health services in Tanzania. • Employ suitable managerial and planning skills for proper management of non-human resource necessary for provision of health services in Tanzania.
Professional psychomotor skills	• Demonstrate skills in leadership and management roles in nursing practice. • Demonstrate effective decision-making skills in assisting clients toward recovery and/or improving their health. • Demonstrate and knowledge and skills suitable for managerial and planning human resource necessary for the development of good nursing leadership and services in Tanzania.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients during leadership and management practice. • Express compassion, respect and sensitivity to patient/client individuality during leadership and management practice. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during leadership and management practice. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals during leadership and management practice.

Course Content

Code	**Name of Module**	**Theory**		**Practicals**		**Total**	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
LM 401	An overview of Nursing Leadership and Management.	15	1.5	-	-	15	1.5
LM 402	Nursing Leadership and Management Skills	15	1.5	15	1.5	30	3.0
LM 403	Leadership and Management in Nursing Practice	20	2.0	35	3.5	55	5.5
LM 404	Leadership and Management in Health Care Organisations	20	2.0	30	3.0	50	5.0
	Total	**70**	**7.0**	**70**	**7.0**	**140**	**14.0**

PL 300: PRINCIPLES OF LEARNING AND TEACHING (6.0 Credits)

Course Description: This course helps students understand the nature of curriculum development, planning, implementation and evaluation. It will also focus on the principles of learning and teaching using a variety of teaching strategies with emphasis on health teaching to different groups in the clinical setting.

It seeks to equip students with appropriate knowledge, skills and attitudes necessary to effectively identify, analyse and utilize learning, teaching and assessment opportunities in relation to clients, their significant others and staff within the clinical setting primarily. The course adopts the view that effective teaching, learning, mentoring, assessment and evaluating employ a number of common approaches although the contexts in which these activities take place may vary, for example, in a clinical setting as opposed to a classroom.

Expected competencies

Professional cognitive skills	• Describe the conditions necessary to bring about learning. • Explain the principles for the selection of appropriate teaching/learning methods. • Discuss the methods of teaching, supervising facilitating and coaching. • Describe the learning process and different ways of learning. • Explain the conditions necessary to bring about learning. • Discuss the nature of curriculum development and planning.
Professional psychomotor skills	• Set up an environment necessary to bring about learning. • Determine the principles necessary for the selection of appropriate teaching/learning methods. • Demonstrate the skills of supervising, facilitating, coaching and tutoring in health settings. • Demonstrate skills in teaching, supervising, facilitating, coaching, tutoring and other methods according to different ways of learning. • Demonstrate knowledge and skills in teaching nurses in various schools of nursing.
Professional affective skills	• Value the confidentiality of information gathered from student nurses. • Express compassion, respect and sensitivity to individual students during the process of learning and teaching. • Respond professionally to student's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during the process of learning and teaching. • Observe respect, compassion, accountability, and integrity while interacting with peers and other teaching professionals.

Course Content

Code	Name of Module	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PL 401	Principles of teaching and learning	15	1.5	15	1.5	30	3.0
PL 402	Methods of teaching and learning	15	1.5	15	1.5	30	3.0
	Total	**30**	**3.0**	**30**	**3.0**	**60**	**6.0**

NT 200: NUTRITION (11.5 Credits)

Course description: The course intends to provide knowledge on socio-cultural, economic and specific nutrition related aspects of nursing, such as the role of diet in nutrition related diseases.

The course aims at making students understand the background and the recent approaches/concepts in nutritional problems affecting the society.

The knowledge gained will enable them to plan, implement and evaluate relevant nutrition interventions to individual patients/client and the community at large in collaboration with other sectors involved in this issue.

Expected competencies

Professional cognitive skills	• Use the conceptual framework to assess major nutrition problems nationally and globally. • Analyse major nutrition problems nationally and globally. • Describe the aetiologies, manifestations and effects of the major nutrition disorders. • Plan relevant nutrition interventions
Professional psychomotor skills	• Apply the knowledge of socio-cultural and economic influences in managing patients with nutritional disorders/diseases • Determine major nutrition problems using the integrated conceptual framework model • Design relevant nutritional interventions relating to identified patient's problems • Maintain quality care to clients with nutritional needs. • Develop an evaluation plan for the different nutritional programmes in the community
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients with nutritional disorders. • Express compassion, respect and sensitivity to patient/client individuality when giving nursing care to a patient with nutritional disorders. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with nutritional disorders. • Observe respect, compassion, accountability, and integrity caring to the patient with nutritional disorders.

Course Content

Code	*Name of Module*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
NT201	Basic information on nutrition	20	2.0	-	-	20	2.0
NT202	Assessment and analysis of major nutrition problems using the integrated conceptual framework model	25	2.5	35	3.5	60	6.0
NT203	Nutrition Programme planning, implementation management and evaluation	20	2.0			20	2.0
NT204	Aetiologies, manifestations and epidemiology of the major nutrition disorders of nutrition disorders	15	1.5	-	-	15	1.5
	Total	80	8.0	35	3.5	115	11.5

EP 300: ENTREPRENEURSHIP (7.5 Credits)

Course Description: This course is designed to equip the learner with the knowledge, skills and mindset to enable the learner to identify, start and manage a growing business. The course will provide the opportunity to explore new models of practice and innovations in healthcare delivery and services.

This course will focus on establishing a successful entrepreneurship venture in connections with a larger healthcare system. The content will be on assessment of business ideas, analysing trends, making a feasibility study, writing a business plans, marketing, business development and start up opportunities. Emphasis will be put on implementation, monitoring and conducting business.

Expected competencies

Professional cognitive skills	• Define the terms relating to entrepreneurship • Describe the components of entrepreneurship • Discuss the risks, challenges and rewards in entrepreneurship • Describe the components of project proposals and business plans. • Describe the marketing tools and strategies for different potential Markets.
Professional psychomotor skills	• Write project proposals and business plans. • Develop marketing tools and strategies for different potential Markets. • Design project proposals and business plans. • Approach others in establishing and managing small and Medium scale business
Professional affective skills	• Share pertinent information with others in establishing and managing small and medium scale business. • Observe respect and sensitivity when relating with others during project and business plans write-ups

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
EP 401	Introduction to Entrepreneurship	15	1.5	-	-	15	1.5
EP 402	Business Management	15	1.5	45	4.5	15	1.5
	Total	**30**	**3.0**	**45**	**4,5**	**75**	**7.5**

SEMESTER 7

During this semester students will be exposed to practical experience in principles of nursing and paediatrics in the clinical setting

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
401 PN	Principles of Nursing and paediatrics	-	-	590	59.0	590	59.0
	Total	**-**	**-**	**590**	**59.0**	**590**	**59.0**

SEMESTER 8

During this semester students will be exposed to practical experience in midwifery and mental health in the clinical setting

Code	Course Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MW 401	Principles of Nursing and paediatrics	-	-	420	42.0	420	42.0
MA 401	Mental Health and Psychiatric Nursing	-	-	280	28.0	280	28.0
	Total	**-**	**-**	**600**	**60.0**	**600**	**60.0**

BACHELOR OF SCIENCE IN NURSING (BSc.N) (3 years programme)

BACKGROUND

The Archbishop Anthony Mayala School of Nursing (AAMSON), of the Catholic University of Health and Allied Sciences (CUHAS), is undertaking an expansion of its academic programmes. The institution is aware of the increasing need for general nurses and midwives with higher qualifications; an answer to the aspirations of many post registered nurses who wish to advance themselves with further studies at a degree level in line with the professional goals of the 21st century and of the country at large.

AAMSON –CUHAS aims at running a three-year Post Basic Bachelor of Science in Nursing (B.Sc.N) programme which will produce highly competent nurse graduates who will be

responsible for providing quality nursing services to the people of Tanzania and elsewhere. In so doing this will provide room for Nurses to continue with higher learning to achieve advanced skills which will enable them perform duties competently. The World Health Organization (WHO) advocates for skilled and motivated health workers in producing good health services and increase performance of health systems (WHO World Health Report, 2006). Moreover, Primary Health Care Development Programme (PHCDP) (2007-15) urges the nation to strengthen and expand health services at ALL levels. This can only be achieved when the nation has adequate, appropriately trained and competent work force that can be deployed in the health facilities to facilitate the provision of quality health care services.

We believe graduates of this programme will create a pool that can later focus on clinical practice and those who may wish to join the teaching profession. These different focus areas may later form the basis for the development of various Masters Programmes in line with the current thinking of the Nursing Board.

AIM OF THE PROGRAMME

To strengthen the nursing profession by developing competent nurses with knowledge, skills and positive attitude pertaining to nursing and midwifery care utilising evidence based practice and thus display professional, moral and ethical conduct in order to handle the growing health care needs nationally, regionally and internationally.

EXPECTED COMPETENCIES

On completion of the programme, the graduate is expected to be able to do the following competently**:**

Professional Cognitive skills

- Apply the knowledge of basic sciences in caring for client/patient with different health conditions.
- Apply effective interpersonal relationship skills at work, within families, clients and the community at large.
- Utilize ethical principles when providing care to clients/patients, families and the community at large
- Apply entrepreneurship skills for self, professional and institutional development in the social, economic and political context.
- Apply the principles of infection prevention and control when caring for clients/patients in all settings.
- Utilize computer skills in processing health information.
- Demonstrate quality nursing care utilizing nurse practice acts and standards.
- Use the research knowledge in provision of evidence based care to client/ patients.
- Utilize nursing process when managing patients/clients in health-related setting.
- Utilize the public health/ Community health knowledge in managing community health problems.
- Apply the principles of teaching/learning during provision of care to patients, co-workers and the community at large.

- Apply leadership and management skills in nursing practice.

Professional Psychomotor Skills

- Demonstrate skills in providing quality care to patients with various conditions in all settings.
- Maintain effective interpersonal relationship skills at work, within families, clients and the community at large.
- Demonstrate ethical principles when providing care to clients/patients, families and the community at large
- Design entrepreneurship project for self, professional and institutional development.
- Maintain the principles of infection prevention and control when caring for clients/patients in all settings.
- Apply computer skills in processing health information.
- Conduct health related research and utilize research findings for evidence-based practice
- Use nursing process when managing patients/clients in health-related setting.
- Demonstrate public health/ Community health skills in managing community health problems.
- Use principles of teaching & learning during provision of care to patients, co-workers and the community at large.
- Demonstrate leadership and management skills and act as a change agent within the political, social, and health care systems in the practice of nursing
- Respond efficiently and effectively to emergency and disaster situations.
- Demonstrate skills in managing client with STI and HIV/AIDS

Professional affective skills

- Share empathetically relevant information regarding sensitive health problems with patients/ clients and families
- Practice ethically and with integrity in maintaining patient's confidentiality, obtaining appropriate informed consent and responding to medical evidence
- Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when providing care to clients.
- Value standards of professional conducts when providing care to patients/clients.
- Observe compassion, respect and sensitivity to patient/client's individuality when giving nursing care
- Use information technology to access medical information and assimilate evidence from scientific studies to manage patients effectively.

SEMESTERISATION / MODULARISATION OF THE PROGRAMME

The BSc.N programme is a three-year semesterized programme. There are six semesters with courses and modules specified. For basic science courses, they will be taught in a tailored manner. The total number of Credits in this programme is 368. The previous Credits obtained

in the Diploma Programme were 360. Therefore, the cumulative credits from the lowest level to this level are 728. During this programme the students will also have field practice during semester 5 on research data collection and Community Health Nursing II and Mental Health Nursing.

Important Features in the Semesterized Programme

- The academic year will have two semesters of twenty weeks each.
- Use a weighting system in which 1 Credit = 10 notion hours. These hours include lectures, seminars and tutorials, Assignments, independent studies & Research and Practical training.
- Have a one-week mid-semester break
- Have a two week break between each semester
- Conduct final university examinations at the end of each semester
- Invite external examiners at the end of each semester
- Use the GPA system to assist in disposal of students
- Each course should have at least one continuous assessment

STRUCTURE OF MODULES

Semester 1

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
AN100	Anatomy	129	12.9	232	23.2	361	36.1
BC100	Biochemistry	148	14,8	40	4.0	189	18.9
PS100	Philosophy	40	4.0	-	-	40	4.0
TOTAL		**317**	**31.7**	**272**	**27.2**	**590**	**59.0**

Semester 2

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BS100	Behavioural Science and Biostatistics	140	14.0	-	-	140	14.0
PH100	Physiology	114	11.4	74	7.4	188	18.8
PC100	Professional Communication Skills, advocacy and counselling	45	4.5	46	4.6	91	9.1
NE100	Nursing Ethics	75	7.5	-	-	75	7.5
DS100	Developmental Studies I	65	6.5	30	3.0	95	9.5
TOTAL		**439**	**43.9**	**150**	**15.0**	**589**	**58.9**

Semester 3

Code	*Name of Course*	*Theory*		*Practice*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MM200	Microbiology/Immunology	114	11.4	76	7.6	190	19.0
PE200	Parasitology/ Entomology	91	9.1	61	6.1	152	15.2

NI 200	Nursing Informatics	35	3.5	70	7.0	105	10.5
BN 200	Basic Nursing	55	5.5	90	9.0	145	14.5
DS200	Development studies II	65	6.5	30	3.0	95	9.5
TOTAL		**305**	**30.5**	**237**	**23.7**	**542**	**54.2**

Semester 4

Code	***Name of Course***	***Theory***		***Practice***		***Total***	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
ER200	Epidemiology & Research Methodology I	60	6.1	20	2.0	80	8.0
MW200	Midwifery	80	8.0	100	10.0	180	18.0
AD 200	Advanced Concepts in Nursing	65	6.5	130	13.0	195	19.5
CH 200	Community Health Nursing I	40	4.0	-	-	40	4.0
NT200	Nutrition	50	5.0	35	3.5	85	8.5
TOTAL		**325**	**32.5**	**330**	**33.0**	**655**	**65.5**

Semester 5

Code	***Name of Course***	***Theory***		***Practice***		***Total***	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
CP 300	Clinical Pharmacology	167	16.7	16	1.6	183	18.3
MS 300	Medical &Surgical Nursing	140	14.0	140	14.0	280	28.0
ER300	Epidemiology and Research Methodology II (FIELD PRACTICE)	-	-	35	3.5	35	3.5
TI 300	Trends and Issues in Nursing	30	3.0	-	-	30	3.0
MP300	Mental Health & Psychiatric Nursing I	70	7.0	70	7.0	140	17.0
TOTAL		**407**	**40.7**	**261**	**26.1**	**668**	**66.8**

Semester 6

Code	***Name of Course***	***Theory***		***Practice***		***Total***	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
LM 300	Leadership and management	70	7.0	105	10.5	175	17.5
PL 300	Principles of learning and Teaching	60	6.0	-	-	60	6.0
CH 300	Community health Nursing FIELD	-	-	140	14.0	140	14.0
PD 200	Paediatric Nursing	85	8.5	135	13.5	220	22.0
EP 300	Entrepreneurship	30	3.0	45	4.5	75	7.5
TOTAL		**250**	**25.2**	**415**	**41.5**	**665**	**66.5**

THE TEACHING PROGRAMME

SEMESTER ONE

AN 100: Anatomy (36.1 Credits)

Course Description : The course of anatomy is a fundamental subject for understanding the structure and organization of the human body in relation to its basic function. A sound knowledge of anatomy enables the nursing students to plan and implement care in a more rational and scientific way during and after graduation as professional nurses. A sound knowledge of anatomy will enable the nursing students to plan and implement care in a more rational and scientific way during and after graduation as professional nurses.

Expected competencies

Professional cognitive skills	• Define the medical/anatomical terminology • Describe the structure of the human body in health as seen with the naked eye. • Identify different parts of the body • Describe the structure of the human body in health at microscopic • level • Identify different types of cells, tissues and organs with the aid of microscope • Understand the processes involved in the development of the human body • Describe congenital malformations • Identify the causes of congenital malformation
Professional psychomotor skills	• Locate areas for checking vital signs • Locate areas for injection • Use effectively body mechanics when handling patients. • Maintain good bone alignment when caring patients with fractures • Perform physical assessment to identify normal and abnormal structures of the body
Professional affective skills	• Express respect, compassion and integrity in providing nursing care • Observe sensitivity and responsiveness to culture, race / ethnicity, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity and identity when providing care to clients

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	**Credits**	**Hrs**	**Credits**	**Hrs**	**Credits**
AN 101	Cell Biology and Genetics	45	4.5	30	3.0	75	7.5
AN 102	Upper limb, thorax, head and neck	21	2.1	117	11.7	138	13.8
AN 103	Lower limb, abdomen, perineum and pelvis	21	2.1	75	7.5	96	9.6
AN 104	Neurobiology and Developmental Biology	42	4.2	10	1.0	52	5.2
	Total	**129**	**12.9**	**232**	**23.2**	**361**	**36.1**

BC 100: BIOCHEMISTRY (18.9 Credits)

Course Description: Biochemistry is a basic science subject on which most biological sciences find their foundation. It entails the fundamental concepts of chemistry of life, which includes structural organisation, energy interconversion, signal transduction and finally genetic information storage and flow. Recent developments in Molecular Biology are also embodied in Biochemistry.

This course will enable nursing student to understand the biochemical basis of diseases, enzymatic effects on food substances, to interpret laboratory results, to observe the effects of treatment on patients in order to plan and implement nursing care accordingly and to take appropriate actions.

Expected competencies

Professional cognitive skills	• Describe the functions of each biomolecule in the human body • Describe the concepts in molecular biology • Explain the metabolism of carbohydrates, lipids, proteins and nucleic acids • Explain the role of enzymes in the body • Apply the knowledge of genetics in managing patients with hereditary conditions/diseases • Apply the knowledge of the different biomolecules (proteins, carbohydrates, lipids) in managing a patient with various medical and surgical problems
Professional psychomotor skills	• Approach patients, families and /or caretakers in addressing appropriate biomolecules to patients with medical/surgical conditions. • Illustrate the different categories of food stuff that are relevant for a particular patient's condition. • Design patient care plan according to the biochemistry laboratory findings
Professional affective skills	• Share empathetically relevant information regarding hereditary/genetic problems with patients and families

Course content

Code	Name of Course	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BC101	Chemistry of Biomolecules	25	2.5	-	-	25	2.5
BC102	Enzymology, Co-enzymes and Energy Transformation	30	3.0	10	1.0	40	4.0
BC103	Metabolism of Carbohydrates, Lipids, Proteins, heme and Nucleic Acid	50	5.0	11	1.1	51	5.1
BC104	Molecular Biology and Horrmone Systems	43	4.3	20	2.0	63	6.3
	Total	**148**	**14.8**	**41**	**4.1**	**189**	**18.9**

PS 100: PHILOSOPHY (4.0 Credits)

Course Description: The course of Philosophy is a fundamental subject of understanding the things happening in life and influence the nursing professional in the delivery of nursing care.

This course enables nursing students to understand the importance of philosophy in order to care for individuals in a holistic manner and reach an adequate personal understanding of those things happening in life and influence the nursing profession, for example, ethical issues, value of human life and dilemmas in the nursing and midwifery professions.

Expected competencies

Professional cognitive skills	• Explain the historical developments and trends in philosophy • Describe the ancient and contemporary philosophers relevant in nursing profession • Discuss the common theoretical and practical problems in the nursing profession. • Describe Philosophical Problems in Man-Medicine Relations • Analyse philosophical Problems in Man (Health) - Nurse Relation
Professional psychomotor skills	• Display profession philosophy when providing care • Disclose one's errors including medical errors, patient's data gathering errors, or misinterpretation of data to appropriate supervisor.
Professional affective skills	• Practice ethically and with integrity in maintaining patients' confidentiality, obtaining appropriate informed consent and responding to medical evidence • Accept own gaps in knowledge and skills when providing care to patients and be ready to seek for help when necessary. • Develop a positive self-image and confidence as a professional nurse. • Approach all nursing actions with integrity, honest and authenticity

Course Content

Code	Name	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PS 101	Introduction to Philosophy	10	1.0	-	-	10	1.0
PS 102	Philosophical Problems in Man-Medicine Relations	15	1.5	-	-	15	1.5
PS103	Philosophical Problems in Man (Health) - Nurse Relation	15	1.5	-	-	15	1.5
	Total	**40**	**4.0**	**-**	**-**	**40**	**4.0**

SEMESTER TWO

BS 100: BEHAVIOURAL SCIENCES AND BIOSTATISTICS (14 Credits)

Course Description : This course comprises of three components namely Psychology, Sociology and Biostatstics. The psychology aspect provides student with a basic understanding of fundamental psychological theory and research essential for nursing care. The knowledge acquired should enable the student to understand peoples' psychological reactions to for example; illness, hospitalization, stress and anxiety.
The sociology part enables the student to understand health attitudes, beliefs and practices of patients and health professionals of culturally diverse groups. The knowledge on sociology provides some of the conceptual tools to help the students understand the relationships between social structures and people's health experiences.

The Biostatistics part of the course is providing a student with fundamental statistics skills relevant to public health analysis. It is also relevant for nurses in enabling them to use the knowledge in research and in compiling, analysing and interpreting patients/clients records. This course will also enable nurses to read quantitative nursing and related research articles effectively.

Expected competencies

Professional cognitive skills	• Describe the relationship between illness and human behaviour. • Differentiate models that explain health behaviour. • Measure health related knowledge and behaviour in the community. • Analyse the relationship between culture and health. • Appreciate the role of traditional medicine in health service provision. • Analyse factors that affect utilization of health services • Analyse risk behaviour pertaining to health. • Identify the social, cultural and psychological factors that may lead to adverse health outcomes in human populations.

	• Identify broad based social issues that are important in public health interventions.
Professional psychomotor skills	• Discover socio-cultural differences during caring clients/patients • Design culturally sensitive care plan for clients/patients • Prepare statistical presentations of the health information collected.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients • Observe compassion, respect and sensitivity to patient/client individuality when giving nursing care. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Express respect, compassion, accountability, and integrity while interacting with peers and other health professionals.

Course Content

Code	Module Name	Theory		Seminars		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
BS 101	Medical Sociology	50	5.0	-	-	50	5.0
BS 102	Health Psychology	45	4.5	-	-	45	4.5
BS 103	Biostatistics and Demography	45	4.5	-	-	45	4.5
	Total	**140**	**14.0**	-	-	**140**	**14.0**

PH 100: PHYSIOLOGY (18.8 Credits)

Course Description: The course is aimed at providing knowledge on normal functioning of the human body and how the various normal functions are controlled and regulated. For nursing students, this knowledge will enable them to critically plan, implement and evaluate the nursing care of the patient in a more rational and scientific way.

Expected competencies

Professional cognitive skills	• Describe the various homeostatic and control systems and the way they operate in the human body. • Explain the international system of units which describe mass, volume and concentration • Describe the general physiology of the cell membrane; membrane potentials in excitable tissues (example muscle cells and nerves)

	• Describe the major constituents of body tissues and the composition and partitioning of body fluids. • Describe the composition and its general functions of blood, formation characteristics and functions of different blood cells. • Describe the major divisions of the circulatory system, its general organization, functions and the control of the cardiovascular system. • Explain the functional anatomy of the respiratory system, the mechanism of breathing alveolar gas exchange and the control of the respiratory system • Explain the functional anatomy of the kidney, the renal mechanism, filtration excretion and absorption; concentrating and diluting mechanisms and the endocrine function of the kidney. • Describe the functional anatomy of the digestive system, motility, secretory, digestive, absorptive, and endocrine functions of the digestive system. • Explain the chemical nature of hormones, and how the hormones are secreted, transported in plasma, their functions and how they are metabolized and excreted. • Describe the organization of the nervous system and the physiological functions, sensory, and motor system, autonomic nervous system; special senses
Professional psychomotor skills	• Determine normal and abnormal vital signs of the patients/clients • Determine patients/clients responses to stressors • Use effectively body mechanics when handling patients. • Demonstrate accuracy in giving injections to patients through various routes. • Maintain good bone alignment when caring patients with fractures • Demonstrate ability in monitoring intake and output of electrolyte and fluid balance of clients/patients. • Perform physical assessment to identify normal and abnormal functions of the human body systems
Professional affective skills	• Express respect, compassion and integrity in providing nursing care • Observe sensitivity and responsiveness to clients'/patients' coping mechanisms when providing care

Course Content

Code	Module Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PH 101	Fluids and circulation	36	3.6	36	3.6	72	7.2
PH 102	Metabolism and Excretory system	36	3.6	26	2.6	62	6.2
PH 103	Neuro-endocrine Physiology	42	4.2	12	12	54	5.4
	Total	**114**	**11.4**	**74**	**7.4**	**188**	**18.8**

PC 100: PROFESSIONAL COMMUNICATION, ADVOCACY AND COUNSELLING SKILLS (9.1 Credits)

Course Description: The course covers therapeutic and interpersonal communication skills necessary for communicating with clients, families and colleagues in health care settings. The student will be expected to demonstrate professional communication skills with clients, co-workers and the community at large.

Expected competencies

Professional cognitive skills	• Describe effective communication skills when dealing with clients, co-workers and the community at large. • Relate communication competences to the conceptual framework of the nursing process. • Discuss the unique communication needs of client with special problems. • Apply effective interpersonal relationship skills at work, within families, clients and the community at large.
Professional psychomotor skills	• Demonstrate effective communication skills with clients, co-workers and the community at large when providing nursing care. • Maintain principles of effective communication skills when relating with co-workers, patients/clients and the community at large • Demonstrate advocacy skills when giving care to patients/clients. • Demonstrate effective counselling skills when dealing with patients in difficulty situations • Use lobbying skills to effect change
Professional affective skills	• Share experiences with client through setting of mutually chosen goals. • Value the confidentiality of information gathered from the patients/clients

	• Observe compassion, respect and sensitivity to patient/client individuality when communicating. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when communicating.

Course Content

Code	Module Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PC 101	Communication skills in Nursing	15	1.5	15	1.5	30	3.0
PC 102	The nurse patient relationship	15	1.5	16	1.6	31	3.1
PC 103	Communicating with special groups	15	1.5	15	1.5	30	3.0
	Total	**45**	**4.5**	**46**	**4.6**	**91**	**9.1**

NE 100: NURSING ETHICS (7.5 Credits)

Course description: The course uses a topical approach to ethics based on philosophical examination of self-interest ethics, virtue ethics, consequentialist (utilitarian) ethics, duty-based ethics, and rights-based ethics.

It also emphasizes the use of ethical theories that provide a structured approach, moral reasoning in nursing practice. Ethical issues in nursing are better understood if the nurse explores the various methods of moral reasoning that are used to make judgements about the moral values of action. Sharpening fundamental principles of each theory increases its applicability and usefulness to the student. The learner examines and applies ethics to the life span of patients/clients

Expected competencies

Professional cognitive skills	• Describe moral frameworks in relation to professionalism, self-awareness and ethical decision-making. • Discuss the ethical and legal issues in the care of clients throughout the life span. • Apply knowledge about the legal and ethical responsibilities of the nurse, and assume responsibility for own learning and growth. • Apply the ethical principles in the care of clients throughout the life span • Utilize ethical principles in decision making when providing care to clients/patients

	• Explain ethical issues involved in screening • Explain ethical issues involved in research involving human • Describe the abortion act and its implications
Professional psychomotor skills	• Design an ethical appropriate plan in dealing with professional misconduct. • Demonstrate moral reasoning when providing care to clients • Demonstrate nursing professional ethics when providing care to clients/patients • Determine abortion act and its implications when providing care to clients/patients
Professional affective skills	• Value standards of professional conducts when providing care to patients/clients. • Practice ethically with integrity in maintaining patient confidentiality when providing care.

Course Content

Code	Module Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
NE 101	Moral Pathways in Nursing	15	1.5	-	-	15	1.5
NE 102	Ethical theories and Principles	15	1.5			15	1.5
NE 103	Nursing Ethics Through the Life Span	26	2.6	-	-	26	2.6
NE 104	Bioethics	19	1.9	-	-	19	1.9
	Total	**75**	**7.5**	**-**	**-**	**75**	**7.5**

DS 100: DEVELOPMENT STUDIES I(9.5 Credits)

Course description: The course exposes students to the theories, problems and contemporary issues of health and development in general.

The course is important for nurses in order to understand the process of social development, practical development perspectives, economic and social-political consequences and their implications on health, health policies, health care systems and nursing practice. It will also contribute to the self and professional development of a nurse who is aware of the social, economic and political environment in which she/he functions

Expected competencies

Professional cognitive skills	• Define the concept of development • Explain the different theories of development • Describe the process of social and political developments in Africa. • Relate health to the theories of development.

	• Describe the concept of entrepreneurship
Professional psychomotor skills	• Design business plan which enhancing the wellbeing of the people in the community you live and foster own self economic development
Professional affective skills	• Accept culture, race / ethnicity, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity and identity when providing care to clients • Weigh the policies in place whether they influence the wellbeing of client/patient cared. • Adhere to the development policies of the country that address the needs of the clients/patient when providing care.

Course Content

Code	***Name***	***Theory***		***Practical***		*Total*	
		Hours	Credits	Hours	Credits	Hours	Credits
DS 101	Social Development and Health	25	2.5	-	-	25	2.5
DS 102	Education, Health and Gender	25	2.5	15	1.5	40	4.0
DS 103	Population Health and Entrepreneurship	15	1.5	15	1.5	30	3.0
	Total	65	6.5	30	3.0	95	9.5

SEMESTER THREE

MM 200: MICROBIOLOGY/IMMUNOLOGY (19 Credits)

Course description: The course provides students with a basic understanding the general microbiology and immunology**.**
The knowledge acquired should enable the student to be familiar with etiology of health problems and the laboratory procedures and infection prevention.

Expected competencies

Professional cognitive skills	• Describe the main principles of general medical microbiology and immunology. • Apply the knowledge of the host- parasite environment relationship in health and in microbial diseases. • Discuss the etiology of known microbial and immunological health problems. • Describe the general Epidemiological aspects of microbial health problems, that is modes of transmission of microbial infections, role of "carriers" in certain cases, sources of

	infecting agents, nosocomial infections, and simple preventive measures of specific health problems with special reference to sub Saharan Africa. • Explain the laboratory procedures used for determining the etiology of common microbial and immunological health problems. • Interpret the role of the Nurse based on the knowledge of microbiology in solving problems of the patients with infectious disease, prevention and control.
Professional psychomotor skills	• Prepare specimen of the patient/client for laboratory investigation • Determining the etiology of common microbial and immunological health problems • Design a plan of care for the patient based on microbial and immunological results.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients investigations. • Express compassion, respect and sensitivity to patient/client individuality when taking and giving laboratory results. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, spirituality, disabilities and other aspects of diversity when taking and giving laboratory results

Course Content

Code	*Name of Module*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MM 201	General Bacteriology and Microbial infections	30	3.0	15	1.5	45	4.5
MM 202	Virology, mycology and Immunology	30	3.0	25	2.5	55	5.5
MM 203	Protozoology and immuno parasitology	30	3.0	16	1.6	46	4.6
MM 204	Helminthology and Entomology	24	2.4	20	2.0	44	4.4
	Total	114	11.4	76	7.6	190	19.0

PE 200: PARASITOLOGY/ ENTOMOLOGY (15.2 Credits)

Course description: The course will include the life cycle of different parasites, identification of life cycles, epidemiological factors, host-parasite relationships and the parts of the body affected. It also provides the appropriate methods of prevention and control measures of parasite. This knowledge will be utilized by nurses in nursing care.

Expected competencies

Professional cognitive skills	• Review in detail the life cycle of medically important parasite. • Describe the organs most commonly involved in infection • Discuss the relationship of this infection to symptoms, relapses and accompanying pathology • Explain the factors that determine endemicity of the parasite infection. • Describe the distribution and epidemiology of the parasites in East Africa • Apply methods of parasite control e.g. chemotherapy, mollusciding, general sanitation etc. • Apply methods of parasite prevention in the community level (Personal hygiene, management of wounds, water safety, sanitation, good hygiene etc. • Explain the advantages and disadvantages of each method.
Professional psychomotor skills	• Demonstrate skills in planning and implementing nursing care utilizing knowledge of the parasitic infective process i.e host-parasitic relationship, classification and how parasites cause diseases.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients with parasitic infection • Observe compassion, respect and sensitivity to patient/client individuality when giving nursing care to a patient with parasitic infection.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
PE 201	Protozoa & Immuno-Parasitology	35	3.5	19	1.9	54	5.4
PE 202	Helminthology	36	3.6	29	2.9	65	6.5
PE 203	Entomology	20	2.0	13	1.3	33	3.3
	Total	**91**	**9.1**	**61**	**6.1**	**152**	**15.2**

NI 200: NURSING INFORMATICS (10.5 Credits)

Course description : Nursing informatics is the use of computer information systems,the most common computer hardware and software nurses may come across in the nursing setting. The course emphasizes the need for nurses to design and adopt computer processes to enhance client care, education, administration and management and nursing research.

Expected competencies

Professional cognitive skills	• Describe the common components of desktop computers • Apply word processing, database, spreadsheets and communication software in nursing • Describe computer application in nursing education • Discuss the advantages and concern of computerized patient documentation systems • Use computer in direct client monitoring and diagnosis. • Explain the ways computers may be used by nurse administrators in the area of personnel, facility management, finance, quality assurance and accreditation • Explain the role of computers in each step of the nursing and research process • Apply principles in disclosure of individually identifiable health information
Professional psychomotor skills	• Demonstrate the use of different data management systems • Demonstrate skills in maintaining privacy and confidentiality in relation to accessing electronic data • Demonstrate computer applications used in direct client monitoring and diagnosis.
Professional affective skills	• Use information technology to locate scientific studies related to individual patient's/client's health problems. • Use information technology to access medical information and assimillate evidence from scientific studies to manage patients effectively.

Course content

Code	Module Name	Theory		Practical		Total	
		Hrs	Credits	**Hrs**	Credits	**Hrs**	Credits
NI 201	General Concepts in Nursing Informatics	05	0.5	10	1.0	15	1.5
NI 202	Computers in Nursing Education	05	0.5	10	1.0	15	1.5
NI 203	Computers in Nursing Practice	05	0.5	20	2.0	25	2.5
NI 204	Computers in nursing administration	05	0.5	15	1.5	20	2.0
NI 205	Computers in nursing research	15	1.5	15	1.5	30	3.0
	Total	**35**	**3.5**	**70**	**7.0**	**105**	**10.5**

DS 200: DEVELOPMENT STUDIES (9.5 CREDITS)

Course description: The course exposes student to Tanzania's development experiences and to be aware of alternative development strategies existing currently.

The importance of the course to nursing student is to develop positive attitude towards independent and lifelong learning as professionals. The student nurse is also able to network with other categories of students (Medicine, Dentistry & Pharmacy) by sharing knowledge, skills and experiences.

Expected competencies

Professional cognitive skills	• Describe the dynamics of Tanzania's development plans/strategies and implementation in health and health related sectors. • Compare and contrast different development strategies in developing countries. • Examine current development problems and issues in Tanzania and developing countries in general and how these problems relate to health • Plan, organize and manage a private health facility.
Professional psychomotor skills	• Demonstrate networking skills with other categories of students within and outside the institution by sharing knowledge, skills and experiences. • Demonstrate knowledge and skills in planning, organising and managing a private health facility • Design health strategies to overcome problems of youth resulting from globalisation.
Professional affective skills	• Express positive attitude towards independent learning and also lifelong learning as professionals • Value patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, and other aspects of diversity when giving nursing care globally. • Observe respect, compassion, accountability, and integrity while interacting with people nationally and internationally.

Course Content

Code	Course Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
DS 201	Globalization, Environment and Health	35	3.5	15	1.5	50	5.0
DS 202	Human Rights and Governance	30	3.0	15	1.5	45	4.5
	Total	**65**	**6.5**	**30**	**3.0**	**95**	**9.5**

SEMESTER FOUR

ER 200: EPIDEMIOLOGY & RESEARCH METHODOLOGY I(8 Credits)

Course description; The course comprises of two components, namely Epidemiology and Research methodology.The Epidemiology part introduces the students to environmental determinants of health and disease in human populations. The aim of the course is to enable the student understand the basic principles of epidemiology and its application in the planning and provision of medical and health care services.

The research methodology part explores the type and method for nursing and midwifery research, examine the steps in the development of a research, review and evaluates current research findings in nursing for its applicability to nursing theory and practice and to study the process of scientific investigation.

Students will be introduced to a range of research methodologies and the principles underpinning research activity in nursing, midwifery and health care. Skills in searching for evidence and critical reading are enhanced.

Expected competencies

Professional cognitive skills	• Describe the basic principles of epidemiology in research and in planning provision medical and health care services. • Explain the epidemiological methods in research and assessing the community health needs. • Use the research methods to collect, analyse and present critical information to stakeholders and wider audience. • Describe the control of major diseases of public health importance in Tanzania. • Describe physical, biological, socio-cultural and environmental factors affecting health and disease. • Describe the stages of the research process. • Explain the methods of utilizing research findings in nursing and midwifery practice. • Evaluate research findings
Professional psychomotor skills	• Determine the epidemiological methods in research and assess community health needs • Use the research methods to collect, analyse and present critical information to stakeholders and wider audience. • Prepare the research proposal • Demonstrate skills in writing research report • Produce research findings to improve the standard of nursing and midwifery care in Tanzania. • Use skills in critiquing nursing research.
Professional affective skills	• Value the importance of evidence-based practice in nursing and midwifery. • Use research findings to improve the standard of nursing and midwifery care in Tanzania.

	• Value the confidentiality of information gathered from the patients/clients during research process • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when collecting the research data • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals in research process.

Course Content

Code	Course Name	Theory		Practical		Total	
		Hrs	Credits	**Hrs**	Credits	**Hrs**	Credits
ER 201	Principles of Epidemiology	20	2.0	-	-	20	2.0
ER 202	The Research Process	20	2.0	10	1.0	30	3.0
ER 203	Contexts for nursing and midwifery research	20	2.0	10	1.0	30	3.0
	Total	**60**	**6.0**	**20**	**2.0**	**80**	**8.0**

MW 200: MIDWIFERY (18 Credits)

Course Description: This course teaches how to take care for the expectant mother, the new-born, and under-five children in Maternal and Child Health clinics.

The course also emphasizes human development and family centred care. Through this course, the student is expected to become acquainted with the knowledge of women's role and adaptation to normal and high-risk pregnancy, delivery, as well as postpartum period and the characteristics of the new-born.

Expected competencies

Professional cognitive skills	• Describe the national and global policies and guidelines related to women and children's health • Discuss the psychosocial and gender issues in reproductive health • Describe family planning methods currently used by clients • Explain gender dynamic in improving mother and child health • Integrate STD/HIV care in reproductive health • Describe the nursing care of women in the ante, inter and post-partum periods • Describe the nursing care to the newborn baby. • Describe the necessary information regarding breastfeeding to new mothers.

Professional psychomotor skills	• Maintain the national and global policies and guidelines related to women and children's health when caring for women in their reproductive age. • Determine the psychosocial and gender issues in reproductive health when caring for women in their reproductive age • Illustrate appropriate family planning methods to clients according to needs. • Demonstrate skills in provision of quality nursing care to women in the ante-partum, inter-partum and post -partum periods utilizing the nursing process. • Demonstrate skills in provision of quality nursing care to the newborn baby utilizing the nursing process. • Develop a plan for giving necessary information to regarding breastfeeding to new mothers.
Professional affective skills	• Value the confidentiality of information gathered from women in their reproductive age during provision of care. • Express compassion, respect and sensitivity to individual woman in her reproductive age during provision of care. • Respond professionally to women's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during provision of care in their reproductive age. • Observe respect, compassion, accountability, and integrity while interacting with peers and other professionals when providing care to women in their reproductive age.

Course Content

Code	Name	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MW 201	National and Global trends, Policies, Guidelines in Reproductive Health and Maternal and Child Health	10	1.0	-	-	10	1.0
MW 202	Gender in Health and Gender based violence	05	0.5	-	-	05	0.5
MW 203	Family planning, sexuality and STDs, HIV/AIDS	20	2.0	15	1.5	35	3.5
MW 204	Assessment and Management in the Antepartum, Intrapartum and Postpartum Periods	35	3.5	55	5.5	90	9.0
MW 205	Newborn and under-five child assessment and management	10	1.0	30	3.0	40	4.0
	Total	**80**	**8.0**	**100**	**10.0**	**180**	**18.0**

AD 200: ADVANCED CONCEPTS IN NURSING (19.5 Credits)

Course description: This course focuses on building nursing skills in areas of assessment and diagnosis based on physiological, pathophysiological, psychosocial, pharmacological, cultural and spiritual concepts. This course will also emphasizes on intervention based on concepts and theories which will increase student's critical thinking and problem solving skills and become self-directed learners

Expected competencies

Professional cognitive skills	• Apply effective interviewing skills and observation techniques to obtain data from the patients / clients. • Describe relevant scientific approaches (Gordon Functional Health Patterns, nursing process) in assessing patients/clients. • Assess clients / patients in varying developmental stages through physical examination. • Evaluate critically the assessment data of the patients/clients by incorporating physical, psychological, pharmacological, social and spiritual aspects of care. • Formulate nursing diagnoses based on analysis of assessment data. • Plan nursing care in relation to formulated nursing diagnoses for management of patients / clients. • Record accurately medical and nursing information. • Differentiate the various nursing theories in improving nursing care • Apply the different nursing theories in providing evidence based care
Professional psychomotor skills	• Demonstrate effective communication skills when interacting and interviewing patients. • Demonstrate professional responsibility and accountability in clinical practice. • Demonstrate knowledge and skills in physical assessment • Develop a plan of care utilizing the nursing process in the management of patients / clients. • Demonstrate knowledge and skills when interviewing special groups of patients (silent patients, over talkative, seductive patients, angry patients, aggressive patients, paranoid patients, demanding patients)
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients • Express compassion, respect and sensitivity to patient/client individuality when giving nursing care. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	**Hrs**	Credits	**Hrs**	**Credits**
AD 201	Theories and theorists	10	1.0	-	-	10	**1.0**
AD 202	Advanced concepts in Medical, Surgical and Geriatric Nursing	25	2.5	50	5.0	75	**7.5**
AD 203	Advanced concepts in Mental Health	15	1.5	50	5.0	65	**6.5**
AD 204	Advanced concepts in Maternal and neonatal Nursing	15	1.5	30	3.0	45	**4.5**
	Total	**65**	**6.5**	**130**	**13.0**	**195**	**19.5**

CH 200: COMMUNITY HEALTH NURSING I (5.0 Credits)

Course Description: The course focuses on the principles underlying community health nursing practice, as well as the roles and functions of community health nurses in primary, secondary, and tertiary prevention. The influence of culture, economics, politics, environments, and ethics as they impact community health nursing practice are explored throughout the course.

This course enables the students to provide quality care to individuals, families and community at large.

Expected competencies

Professional cognitive skills	• Explain the role of the community health nursing • Describe the concepts of primary, secondary and tertiary prevention in the community context. • Design health promotion strategies appropriate for communities. • Evaluate the selected community resources appropriate for specific groups in the community. • Discuss current demographic and economic factors influencing health care issues. • Describe the methods used to influence, motivate, educate, and change people
Professional psychomotor skills	• Design health promotion strategies appropriate for communities. • Demonstrate the role of the community health nurse. • Adapt the concepts of primary, secondary and tertiary prevention in the community context when working with the community. • Develop a plan in relation to the current demographic and economic factors influencing health care issues.
Professional affective skills	• Value the confidentiality of information gathered from the community.

	• Express compassion, respect and sensitivity to patient/client individuality while working with the people in the community. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to the community. • Observe respect, compassion, accountability, and integrity while interacting with peers and other professionals in the community.

Course Content

Code	Course Name	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
CH 201	Community Assessment Planning Interventions	10	1.0	-	-	10	1.0
CH 202	Primary Health Care/Health Promotion	20	2.0	-	-	20	2.0
CH 203	Community Health Nurse as an Educator, Developer, Evaluator	20	2.0	-	-	20	2.0
	Total	**50**	**5.0**	**-**	**-**	**50**	**5.0**

NT 200: NUTRITION (8.5 Credits)

Course description: The course intends to provide knowledge on socio-cultural, economic and specific nutrition related aspects of nursing, such as the role of diet in nutrition related diseases.

The course aims at making students understand the background and the recent approaches/concepts in nutritional problems affecting the society.

The knowledge gained will enable them to plan, implement and evaluate relevant nutrition interventions to individual patients/client and the community at large in collaboration with other sectors involved in this issue.

Expected competencies

Professional cognitive skills	• Use the conceptual framework to assess major nutrition problems nationally and globally. • Analyse major nutrition problems nationally and globally. • Describe the aetiologies, manifestations and effects of the major nutrition disorders. • Plan relevant nutrition interventions
Professional psychomotor skills	• Apply the knowledge of socio-cultural and economic influences in managing patients with nutritional disorders/diseases

	• Determine major nutrition problems using the integrated conceptual framework model • Design relevant nutritional interventions relating to identified patients problems • Maintain quality care to clients with nutritional needs. • Develop an evaluation plan for the different nutritional programmes in the community
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients with nutritional disorders. • Express compassion, respect and sensitivity to patient/client individuality when giving nursing care to a patient with nutritional disorders. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with nutritional disorders. • Observe respect, compassion, accountability, and integrity caring to the patient with nutritional disorders.

Course Content

Code	***Course Name***	***Theory***		***Practical***		***Total***	
		Hrs	Credits	Hrs	Credits	Hrs	**Credits**
NT 201	Basic information on nutrition	10	1.0	-	-	10	**1.0**
NT 202	Assessment and analysis of major nutrition problems using the integrated conceptual framework model	15	1.5	35	3.5	50	**5.0**
NT 203	Nutrition Programme planning, implementation management and evaluation	10	1.0	-	-	10	**1.0**
NT 204	Aetioloies, manifestations and epidemiology of the major nutrition disorders of nutrition disorders	15	1.5	-	-	15	**1.5**
	Total	**50**	**5.0**	**35**	**3.5**	**85**	**8.5**

SEMESTER FIVE

CP 300: CLINICAL PHARMACOLOGY (18.3 Credits)

Course Description: This course aims at introducing the student to the basic concepts of pharmacology, with emphasis on how drugs act in human beings and chemical agents found in the environment. It will also help students to use the knowledge for effective clinical judgments when providing nursing care.

The student can apply this knowledge during administration of drugs in the practice of nursing so as to evaluate expected therapeutic responses in patients, as well as to evaluate for possible adverse effects.

Expected competencies

Professional cognitive skills	• Apply the principles of drug administration when administering drugs to patients. • Review prescriptions if written correctly in accordance with the law. • Describe the importance of pharmacology in patient care. • Assess patients' condition for safe medication and outcome of drug administration. • Apply different methods of drug administration when providing nursing care.
Professional psychomotor skills	• Determine new developments in pharmacology when caring patients/client with different health conditions. • Determine the common drugs used in the wards and clinic • Demonstrate knowledge and skills when administration drugs to the patients/client. • Illustrate the importance, action, adverse effect and compliance of drugs when giving care to the patient. • Determine patient condition for safe medication and outcomes of drug administration • Develop a plan in accordance with the law to detect any incorrectly written prescriptions for Dangerous Drug Act (DDA).
Professional affective skills	• Value new knowledge in the development of pharmacology in nursing. • Value the confidentiality of information gathered from the patients/clients during drug administration. • Express compassion, respect and sensitivity to patient/client individuality when giving medication. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving medication to patients • Express respect, compassion, accountability, and integrity while interacting with peers and other health professionals in case of drug errors during the process of drug administration.

Course Content

Code	*Name of Module*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	**Hrs**	Credits	**Hrs**	**Credits**
CP201	Chemical Mediators	35	3.5	12	1.2	47	**4.7**
CP 202	Drug Disposition	19	1.9	4	0.4	23	**2.3**
CP 203	Systemic Pharmacology	73	7.3	-	-	73	**7.3**
CP 204	Chemotherapy of Parasites	24	2.4	-	-	24	**2.4**
CP 205	Applied Pharmacology	16	1.6	-	-	16	**1.6**
	Total	**167**	**16.7**	**16**	**1.6**	**183**	**18.3**

MS 300: MEDICAL SURGICAL NURSING (28.0 Credits)

Course description: This course integrates the knowledge, skills and attitudes the student has obtained from the basic nursing courses. The course exposes students to patients with different medical surgical conditions which facilitates learning and allows them to achieve the necessary competences. Through the use of theory, case studies and clinical practice, the students will gain knowledge in the assessment, planning implementation and evaluation in order to provide quality care to patients with medical surgical conditions.

Expected competencies

Professional cognitive skills	• Describe various medical surgical conditions. • Describe health care system and recognize ways to assess and improve health care. • Assess the patients with various medical and surgical conditions. • Design a nursing care plan using the nursing process in caring for patients with medical and surgical conditions. • Evaluate the nursing care plan and re-plan according to the needs of patient with medical and surgical condition. • Apply a family centred approach in the education and care of patients with medical and surgical conditions in general and acute care setting. • Demonstrate the methods of theatre techniques when caring for patients undergoing surgery. • Describe the pathophysiology of human disease at molecular, cellular, systems, and whole organism levels of different diseases/conditions • Discuss the natural history of illness and strategies for promoting health and preventing illness in the patient with medical and surgical condition.

	• Apply universal precautions and sterile technique when giving care to the patient with medical and surgical conditions. • Explain the importance of documentation when giving care to the patient with medical and surgical conditions. • Manage patients with acute and chronic surgical and medical conditions. • Describe common procedures used to patients with medical and surgical conditions
Professional psychomotor skills	• Demonstrate skills in assessing the patients with various medical and surgical conditions. • Design a nursing care plan using the nursing process in caring for medical and surgical patients. • Demonstrate understanding of basic science subjects and evidence-based medicine when caring patients with medical and surgical conditions • Demonstrate skills in family centred approach in the education and care of patients with medical and surgical conditions in various care setting. • Demonstrate advocacy skills when dealing with patients with medical and surgical conditions including their families, and their communities • Demonstrate skills in giving education to patients with medical and surgical conditions • Maintain ethical principles effectively when faced with ethical challenges when caring for patients with medical and surgical conditions
Professional affective skills	• Value the confidentiality of information gathered when caring for patients with medical and surgical conditions. • Express compassion, respect and sensitivity to patient/client individuality when caring for patients with medical and surgical conditions. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care to patients with medical/surgical conditions. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals when caring for patients with medical and surgical conditions.

Course Content

Code	Module Name	Theory		Practicals		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MS 301	An overview to adult medical surgical nursing	10	1.0	-	-	10	1.0
MS 302	Nursing Management of Patients with Cardiovascular system disorders	25	2.5	25	2.5	50	5.0
MS 303	Nursing Management of Patients with Respiratory, Gastrointestinal and nutritional disorders.	25	2.5	35	3.5	60	6.0
MS 304	Nursing Management of Patients with Renal and genitourinary, Endocrine and metabolic disorders	20	2.0	20	20	40	4.0
MS 305	Nursing Management of Patients with Cardiovascular, Circulatory and Hematologic, Musculoskeletal and Neurological disorders	30	3.0	30	30	60	6.0
MS 306	Nursing Management of Patients with Oncology disorders and Infectious/Communicable Diseases	30	3.0	30	30	60	6.0
	Total	**140**	**14.0**	**140**	**14.0**	**280**	**28.0**

TI 300: TRENDS AND ISSUES IN NURSING (5.5 Credits)

Course description: The course aims at enabling student understand the current and future challenges in the nursing profession. They will also learn about factors that influence the nursing profession on issues of practice, education and research. This course will also enable the student to understand the legal dimensions of nursing.

Expected competencies

Professional cognitive skills	• Discuss factors that influence nursing practice, education and research • Describe the global trends that have influenced nursing practice nationally, regionally and internationally • Assess the impact of health policies on the nursing profession • Discuss the legal dimensions of nursing practice • Compare the current situation and forecast the future of the nursing profession • Analyse the evolution of the nursing profession

Professional psychomotor skills	• Demonstrate knowledge and skills gained from legal dimensions of the nursing practice in improving the image of nursing • Develop strategies that may improve the image of the nursing profession • Maintain quality delivery of nursing care through the knowledge and skills gained from the trends in nursing practice
Professional affective skills	• Value professionalism according to current and future trends in nursing career. • Observe respect, compassion, accountability, to foster the image of nursing when providing nursing care to patients/clients.

Course Content

Code	*Module Name*	*Theory*		*Practical*		*Total*	
		Hrs	Credits	Hrs	Credits	Hrs	**Credits**
TI 301	Transitions to professional nursing	10	1.0	-	-	10	**1.0**
TI 302	Dynamics of professional nursing practice	10	1.0	-	-	10	**1.0**
TI 303	Impact of policies on the nursing profession	10	1.0	-	-	10	**1.0**
	Total	**30**	**3.0**	**-**	**-**	**30**	**3.0**

MP 300: MENTAL HEALTH & PSYCHIATRIC NURSING (17.0 Credits)

Course Description: This course emphasises on personality traits and common psychiatric disorders. History of mental health in Tanzania and the use of specific neurological drugs will be covered. In addition, it will also emphasise biopsycho-social health assessments that are culturally sensitive utilising problem-solving approach (nursing process) in management of clients with mental health problems. It will also enable the students to design and implement treatment plans for patients and families with common mental health problems and co-morbid conditions.

The course is also designed to expose learners to deal with criminal patients with mental disorders. The learners are equipped with necessary knowledge, skills and attitude for the practice in the promotion of community mental health and to be able to function as first level nurses in mental health institutions and communities.

Expected competencies

Professional cognitive skills	• Explain the influence of historical events and recent trends in mental health services in the country. • Explain human adjustive /mental mechanisms • Describe the common anxiety disorders

	• Describe legal aspects of mental health practice nationally and internationally. • Describe epidemiology of mental illness nationally and internationally • Discuss biopsycho-social health assessments that are culturally sensitive to clients with mental health problems. • Explain psychiatric evaluation of clients/patients • Explain classification of mental health disorders according to Diagnostic Statistical Manual for mental illness and international Classification of Diseases 10 (DSM IV and ICD 10 respectively). • Explain the problem-solving approach (nursing process) in management of clients with mental health problems. • Relate selected theoretical perspectives to nursing care of clients with mental health disorders. • Explain treatment modalities for patients and families with common mental health problems and co-morbid conditions. • Describe the nursing management of special groups in relation to mental health and psychiatric problems • Explain an overview of community mental health • Describe community mental health nursing utilizing the principles of PHC • Describe the strategies for mental health promotion for various group of individuals with mental health problems basing on gender perspectives. • Relate mental illness and crime • Explain Criminal Procedure Act related to mental illness • Explain Criminal Procedure codes related to mental illness • Assess a criminal client Comprehensively • Explain role of psychiatric nurse, advisory board and board of visitors in forensic care • Explain the ethical issues in forensic Psychiatry
Professional psychomotor skills	• Design treatment modalities for patients and families with common mental health problems and co-morbid conditions. • Demonstrate skills of treatment modalities in managing patients and families with common mental health problems and co-morbid conditions. • Design a nursing care plan for clients/patients with mental health problems by utilizing nursing process • Demonstrate skills in application of the selected theoretical perspectives to nursing care of patient/client with mental health disorders • Demonstrate skills in managing patients with mental health disorders • Demonstrate skills in mental health and psychiatric nursing according to legal, ethical, and professional standards. • Demonstrate skills in assessing civil and forensic patients • Design care for special groups of clients with mental disorders • Demonstrate skills in report writing concerning patients with mental health disorders
Professional affective skills	• Value the confidentiality of information gathered from patients with mental health disorders

	• Express compassion, respect and sensitivity to individual patient with mental health disorders during provision of nursing care • Respond professionally to patient's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when caring a patient with mental health disorders. • Observe respect, compassion, accountability, and integrity while interacting with peers and other professionals when managing patients with mental health disorders.

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
MP 301	Psychiatric/ Mental Health Nursing Practice	10	1.0	10	1.0	20	2.0
MP 302	Mental disorders and behaviour pathology	10	1.0	10	1.0	20	2.0
MP 303	Managing patients with specific mental health problems.	20	2.0	30	3.0	50	5.0
MP 304	Nursing management of special group	10	1.0	15	1.0	25	2.5
MP 305	Community Mental Health Nursing	10	1.0	20	2.0	30	3.0
MP 306	Forensic Psychiatry	10	1.0	15	1.5	25	2.5
	Total	**70**	**1.7**	**100**	**10.0**	**170**	**17.0**

SEMESTER SIX

LM 300: LEADERSHIP & MANAGEMENT (20.5 Credits)

Course description: The course will address the importance of leadership within nursing and the need to recognize and develop leadership skills and potential within the profession.

Students will be afforded the opportunity to explore their own leadership skills and knowledge through fieldwork underpinned by relevant theoretical constructs in order to provide quality nursing care. Action learning sets will be used to integrate the theoretical base of leadership with fieldwork within an identified health care setting.

Expected competencies

Professional cognitive skills	• Differentiate leadership and management. • Describe effective roles of the leader and the manager • Apply critical thinking in leadership and management roles in nursing practice. • Describe leadership and management in health care organization. • Use appropriate decision making in assisting clients toward recovery and/or improving their health.

	• Employ suitable managerial and planning skills for proper development of human resource necessary for provision of health services in Tanzania. • Employ suitable managerial and planning skills for proper management of non-human resource necessary for provision of health services in Tanzania.
Professional psychomotor skills	• Demonstrate skills in leadership and management roles in nursing practice. • Demonstrate effective decision making skills in assisting clients toward recovery and/or improving their health. • Demonstrate and knowledge and skills suitable for managerial and planning human resource necessary for the development of good nursing leadership and services in Tanzania.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients during leadership and management practice. • Express compassion, respect and sensitivity to patient/client individuality during leadership and management practice. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during leadership and management practice. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals during leadership and management practice.

Course Content

Code	Course Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
LM 301	An overview of Nursing Leadership and Management.	15	1.5	-	-	15	1.5
LM 302	Nursing Leadership and Management Skills	15	1.5	45	4.5	60	6.0
LM 303	Leadership and Management in Nursing Practice	20	2.0	45	4.5	65	6.5
LM 304	Leadership and Management in Health Care Organisations	20	2.0	45	4.5	65	6.5
	Total	**70**	**7.0**	**135**	**13.5**	**205**	**20.5**

PL 300: PRINCIPLES OF LEARNING AND TEACHING (6 Credits)

Course Description: This course helps students understand the nature of curriculum development, planning, implementation and evaluation. It will also focus on the principles of learning and teaching using a variety of teaching strategies with emphasis on health teaching to different groups in the clinical setting.

It seeks to equip students with appropriate knowledge, skills and attitudes necessary to effectively identify, analyse and utilize learning, teaching and assessment opportunities in relation to clients, their significant others and staff within the clinical setting primarily. The course adopts the view that effective teaching, learning, mentoring, assessment and evaluating

employ a number of common approaches although the contexts in which these activities take place may vary, for example, in a clinical setting as opposed to a classroom.

Expected competencies

Professional cognitive skills	• Describe the conditions necessary to bring about learning. • Explain the principles for the selection of appropriate teaching/learning methods. • Discuss the methods of teaching, supervising facilitating and coaching. • Describe the learning process and different ways of learning. • Explain the conditions necessary to bring about learning. • Discuss the nature of curriculum development and planning.
Professional psychomotor skills	• Set up an environment necessary to bring about learning. • Determine the principles necessary for the selection of appropriate teaching/learning methods. • Demonstrate the skills of supervising, facilitating, coaching and tutoring in health settings. • Demonstrate skills in teaching, supervising, facilitating, coaching, tutoring and other methods according to different ways of learning. • Demonstrate knowledge and skills in teaching nurses in various schools of nursing.
Professional affective skills	• Value the confidentiality of information gathered from student nurses. • Express compassion, respect and sensitivity to individual students during the process of learning and teaching. • Respond professionally to student's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during the process of learning and teaching. • Observe respect, compassion, accountability, and integrity while interacting with peers and other teaching professionals.

Course Contents

Code	Module Name	Theory		Practicals		Total	
		Hours	Credits	Hours	Credits	Hours	Credits
PL 301	Principles of teaching and learning	15	1.5	15	1.5	30	3.0
PL 302	Methods of teaching and learning	15	1.5	15	1.5	30	3.0
	Total	**30**	**3.0**	**30**	**3.0**	**60**	**6.0**

CH 300: COMMUNITY HEALTH NURSING II (14.0 Credits)

Course description: This course provides opportunities for students to apply community health nursing concepts, theories, and processes in the care of individuals, families, aggregates and the total community. It emphasizes on prevention of illness, disability, disease, early identification of risk factors and promotion of optimal health for the total community. Selected case studies of families as well as special projects are assigned to develop student skills in the practice of community health nursing. Emphasis is on interdisciplinary health care with multicultural and high – risk families and aggregates in the community.

Expected competencies

Professional cognitive skills	• Describe the relationship between illness and human behaviour. • Differentiate models that explain health behaviour. • Compare health related knowledge and behaviour in the community. • Assess the relationship between culture and health. • Examine the role of traditional medicine in health service provision. • Describe factors that affect utilization of health services • Describe risk behaviour pertaining to health. • Examine the social, cultural and psychological factors that may lead to adverse health outcomes in human populations. • Describe broad based social issues that are important in public health interventions.
Professional psychomotor skills	• Operate as an interdisciplinary team member using the nursing process to meet the health care needs of individuals, families, and groups throughout the life span in a variety of community settings. • Adapt cultural assessment into nursing care of individuals, families and aggregates • Determine ethical, environmental political and economic factors that influence the health of individuals, families, aggregates and the community. • Maintain nursing in community settings using principles of health promotion, disease prevention, health restoration with individuals, families, aggregates, and the community. • Determine theories and models of health education to individuals, families, and the community. • Demonstrate progression from a dependent to a more independent role in providing nursing care in the community. • Demonstrate community health nursing according to legal, ethical, and professional standards.
Professional affective skills	• Value the confidentiality of information gathered from the patients/clients during community health nursing practice • Express compassion, respect and sensitivity to patient/client individuality during community health nursing practice. • Respond professionally to patient/client's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity during community health nursing practice • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals during community health nursing practice.

Course Content

Code	Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
CH 401	Community Health Nurse and the Community Situations	10	1.0	-	-	10	1.0
CH 402	FIELD WORK	-	-	130	13	130	13.0
	Total	**15**	**1.5**	**140**	**14.0**	**140**	**140**

PD 300: PAEDIATRIC NURSING (22 Credits)

Course description: The course gives a student a foundation of paediatric knowledge, skills and attitudes on which builds a long-life learner approach to caring for children in a range of acute, critical and chronic care situations.

The course is designed to help student understand the potential health problems and needs of children and families based on their development process. Commonly seen diseases, communication skills, the impact of illness and hospitalisation on the children and their families are emphasized.

Expected competencies

Professional cognitive skills	• Discuss the changing perspectives of child rearing in Tanzania and globally. • Review the role of the Paediatric Nurse in promoting the health of children • Describe the family centred model of care • Explain the nursing process for caring for a paediatric patient and family • Examine the Social, cultural, and religious influences on child health promotion • Differentiate complete health assessment of paediatric patients/clients from that of an adult • Discuss principles of taking vital signs in a paediatric patient and use of appropriate equipment • Employ different methods of specimens collection in paediatric patients • Practice personal hygiene of patients/clients in different setting. • Use different techniques for communicating with children and families • Review factors influencing communication process in children and families • Discuss guidelines for communication and interviewing children and families • Evaluate the nutritional status of children according to developmental stages. • Review the immunization schedules for proper administration of vaccine to children • Discuss safety hazards and appropriate preventive measures for the developmental age of client and family. • Explain nursing measures to promote patients/clients comfort, rest and sleep. • Describe the management of common medical and surgical conditions in children. • Calculate medication dosages for the paediatric patient (weight based) • Choose the different routes of drug administration according to developmental stage of the child. • Discuss the effects of hospitalization on children and families. • Discuss techniques for counselling families of ill children with genetic disorders • Describe basic needs of the terminally ill child and his/her family • Discuss care of the child after death and its family • Discuss needs of the bereaved family in paediatric • Discuss home based care for children with chronic illnesses/disability

Professional psychomotor skills	• Design the nursing care of a child and family utilizing the nursing process. • Discover socio-cultural, economic and religious influences the growth and development of child when providing nursing care. • Demonstrate family centered model of care when providing nursing care to children. • Demonstrate skills in assessment of pain to a child. • Determine normal and abnormal vital signs when caring for sick child by using appropriate equipment. • Demonstrate skills in collecting different specimens for diagnostic purposes from a child. • Demonstrate communication skills when communicating with children and families of various developmental stages. • Develop nutritional plans appropriate to child's age and condition with families • Determine immunization status of a child • Design child's injury prevention and safety plan with family. • Determine developmental milestones of the paediatric patient and the family • Demonstrate skills in drug administration according to the prescribed routes. • Demonstrate skills in caring for a family with terminally ill child. • Demonstrate skills in caring for a paediatric dead body. • Demonstrate skills in counselling for the grieving family and significant others • Prepare home based care plan for children with chronic illness/disability
Professional affective skills	• Value the confidentiality of information gathered from a child. • Express compassion, respect and sensitivity to a child's individuality when giving nursing care. • Respond professionally to a child/family's cultural diversity, race/ethnicity, age, socioeconomic status, gender, sexual orientation, spirituality, disabilities and other aspects of diversity when giving nursing care. • Observe respect, compassion, accountability, and integrity while interacting with peers and other health professionals when giving care to children and families.

Course Content

Code	Name of Module	Theory		Practical		Total	
		Hrs	Credits	**Hrs**	Credits	**Hrs**	Credits
PD 301	Introduction to Paediatric Nursing	15	1.5	-	-	15	1.5
PD 302	Nursing process in the care of the child and family	15	1.5	25	2.5	40	4.0
PD 303	Assessment of the child and family	15	1.5	25	2.5	40	4.0
PD 304	Health promotion for child and family	20	2.0	25	2.5	45	4.5
PD 305	Management of the child with common medical and surgical conditions and with special needs	20	2.0	60	6.0	80	8.0
	Total	**85**	**8.5**	**135**	**13.5**	**220**	**22.0**

EP 200: ENTREPRENEURSHIP (7.5 Credits)

Course Description: This course is designed to equip the learner with the knowledge, skills and mind-set to enable the learner to identify, start and manage a growing business. The course will provide the opportunity to explore new models of practice and innovations in healthcare delivery and services.

This course will focus on establishing a successful entrepreneurship venture in connections with a larger healthcare system. The content will be on assessment of business ideas, analysing trends, making a feasibility study, writing a business plans, marketing, business development and start up opportunities. Emphasis will be put on implementation, monitoring and conducting business.

Expected competencies

Professional cognitive skills	• Define the terms relating to entrepreneurship • Describe the components of entrepreneurship • Discuss the risks, challenges and rewards in entrepreneurship • Describe the components of project proposals and business plans. • Describe the marketing tools and strategies for different potential Markets.
Professional psychomotor skills	• Write project proposals and business plans. • Develop marketing tools and strategies for different potential Markets. • Design project proposals and business plans. • Approach others in establishing and managing small and Medium scale business
Professional affective skills	• Share pertinent information with others in establishing and managing small and medium scale business. • Observe respect and sensitivity when relating with others during project and business plans write-ups

Course contents

Code	Course Name	Theory		Practical		Total	
		Hrs	Credits	Hrs	Credits	Hrs	Credits
EP 201	Introduction to Entrepreneurship	15	1.5	-	-	15	1.5
EP 202	Business Management	15	1.5	45	4.5	15	1.5
	Total	**30**	**3.0**	**45**	**4.5**	**75**	**7.5**

DIRECTORATE OF POSTGRADUATE STUDIES

Dr. Jeremiah Seni,

MD (UDSM); M.Med. (Makerere), PhD (Calgary)

Introduction

The Directorate of Postgraduate studies coordinates and overseeing all Postgraduate Programmes at CUHAS. It is currently managing all Masters of Medicine programmes (M.Med), Masters of Science in Paediatric Nursing (M.Sc PN), Masters of Public Health (MPH) and Doctor of Philosophy (PhD) programmes.

THE MASTER OF MEDICINE (M.MED) PROGRAMMES

The Catholic University of Health and Allied Health Sciences-Bugando (CUHAS-Bugando) currently runs Master of Medicine programmes in the following specialties: Internal Medicine, Surgery, Paediatrics and Child health, Obstetrics and Gynaecology, and Anaesthesiology.

MASTER OF MEDICINE PROGRAMMES

The Catholic University of Health and Allied Health Sciences-Bugando (CUHAS-Bugando) currently runs Master of Medicine programmes in the following specialties: Internal Medicine, Surgery, Paediatrics and Child health, Obstetrics and Gynaecology, and Anaesthesiology.

SUMMARY OF THE MASTER OF MEDICINE (MMED) CURRICULUM

These are three years programmes to be offered in six semesters.

Semester I will cover biomedical science subjects relevant to the specialty. It will also cover the theoretical and technical background on the various relevant technical investigations.

Semesters 2 to 6 will cover the specific clinical subjects of the different specialties as indicated below.

MMED PART I

SEMESTER ONE (BIOMEDICAL SCIENCES)

Applied Anatomy (428 Hrs)

Objectives

At the end of the course the candidate should be able to:

1. Describe the surgical anatomy of various organs and tissues of the human body of surgical importance.
2. Apply anatomical knowledge to explain the various surgical procedures including diagnostic procedures and surgical operations.
3. Apply anatomical principles to explain various symptoms and signs of various surgical diseases.
4. Apply knowledge of embryology to explain essence of various congenital malformations of surgical importance.

Course Content

Module	*Code*	*Name*	*Lecture Hrs*	*Seminar Hrs*	*Practical Hrs*	*Total Hrs*
I	SN 101	Head and Neck	16	16	24	56
II	SN 102	Thorax	16	16	24	56
III	SN 103	Abdomen and pelvis	16	16	24	56
IV	SN 104	Upper limb	16	16	24	56
V	SN 105	Lower limb	16	16	24	56
VI	SN 106	Central nervous system	16	16	24	56
VII	SN 107	Embryology	24	12	0	36
VIII	SN 108	Histology	12	8	36	56
		Total	132	116	180	428

PH 600: CLINICAL PHYSIOLOGY (5.6 Uniits)

Aims: To provide students with knowledge on normal and disordered functioning of the human body and how to use this knowledge in making correct diagnosis and management of disease conditions.

Objectives

At the end of the course the student must be able to:

1. Describe the normal physiology of various body systems
2. Describe the pathophysiology of common disease conditions
3. Discuss the physiological basis of diagnosis and treatment

Course content

Module	*Code*	*Name*	*Lectures*		*Total*	
			Hrs	*Units*	*Hrs*	*Units*
I	PH 601	Clinical Physiology of fluid, blood and immuneresponse	20	1.3	20	1.3
II	PH602	Clinical physiology of the Cardiorespiratoy and renal system	20	1.3	20	1.3
III	PH603	Clinical Physiology of Metabolism, Endocrinology and reproductive physiology	30	2.0	30	2.0
IV	PH 603	Clinical Neurophysiology	15	1.0	15	1.0
		Total	**85**	**5.6**	**85**	**5.6**

BC 600: CLINICAL BIOCHEMISTRY (5.3 Units)

Aim: To provide students specializing in medicine with knowledge of diseases at a molecular level, so that they can correlate it with clinical features and different diagnostic tests and lastly make a rational treatment.

Objectives

At the end of the course the student must be able:

1. To describe molecular and metabolic basis of diseases
2. To describe the basis of different biochemical tests and be able to tell when there is deviation from normal
3. To describe different advances in molecular biology regarding causes, diagnosis and treatment of diseases

Course Content

Module	*Code*	*Name*	*Lectures*		*Total*	
			Hrs	*Units*	*Hrs*	*Units*
I	BC 601	Biochemistry of Genetics	20	1.3	20	1.3
II	BC 602	Biochemistry of Blood, blood gases and Buffers	10	0.7	10	0.7
III	BC 603	Biochemistry of inflammation	15	1.0	15	1.0
IV	BC 604	Biochemistry of Hormones	15	1.0	15	1.0
V	BC 605	Biochemistry of Metabolic disorders	20	1.3	20	1.3
		Total	**80**	**5.3**	**80**	**5.3**

MM 600: MICROBIOLOGY & IMMUNOLOGY (7.0 Units)

Aims: To provide the students with knowledge of Medical Microbiology and scientific basis for laboratory diagnosis of infectious diseases and how to use the knowledge in the management of infectious diseases.

Objectives

1. To describe basic principles in the diagnosis and management of infectious diseases
2. To describe major clinical syndromes and their etiological agents
3. to describe the immunology of infectious diseases

Course content:

Module	*Code*	*Name*	*Lectures*		*Total*	
			Hrs	Units	Hrs	Units
I	MM 601	Bacteriology	30	2.0	30	2.0
II	MM 602	Virology	20	1.3	20	1.3
III	MM 603	Mycology	10	0.7	10	0.7
IV	MM 604	Parasitology	10	0.7	10	0.7
V	MM 605	Principles of Immunology	10	0.7	10	0.7
VI	MM 606	Host Parasite Interaction	8	0.5	8	0.5
VII	MM 607	Autoimmune diseases, Immunodeficiency states	16	1.1	16	1.1
		Total	**104**	**7**	**104**	**7**

CP 600: CLINICAL PHARMACOLOGY (7.1 Units)

Aim: to provide medical specialist with the basic principles of drug action so that he/she can apply them in making rational drug prescription during clinical practice

Objectives

At the end of the course, the medical specialist should be able to:

1. Prescribe drugs to patients in a rational way
2. Detect and remedy any adverse reactions to drugs that may occur in patients
3. Enhance his/her knowledge in new drug development in the field of therapeutics

Course contents

Module	*Code*	*Name*	*Lectures*		*Total*	
			Hrs	Units	Hrs	Units
I	CP 601	Drugs Disposition	14	0.9	14	0.9
II	CP602	Systemic Pharmacology	45	3.0	45	3.0
III	CP 603	Anti-parasitic Chemotherapy	24	1.6	24	1.6
IV	CP 604	Miscellaneous topics	24	1.6	24	1.6
		Total	**107**	**7.1**	**107**	**7.1**

MS 600: MISCELLENEOUS SUBJECTS (8.0 Units)

(Research methodology, teaching methodology, Biostatistics and Epidemiology, Medical legal and Medical ethics)

Objective

At the end of the course the student should be able to

1 Apply knowledge in biostatics, epidemiology and computer in planning and implementing a scientific research proposal

2 Utilize proper teaching methodology skills

3 Offer expert medical opinion in medical legal matters

4 Demonstrate high ethical standard in his or her professional practice

Course content

Module	*Code*	*Name*	*Lectures*	*Practical /Seminar*	*Total*
			Hrs	***Hrs***	*Hrs*
I	MS 101	Biostatistics	16	0	16
II	MS 102	Epidemiology	8	0	0
III	MS 103	Research Methodology	12	12	24
IV	MS 104	Teaching methodology & Communication skills	12	12	24
V	MS 105	Computer applications	0	24	24
VI	MS 106	Medical Ethics & Medical legal	8	0	8

MMED PART II

SEMESTERS 2 TO 6 (CLINICAL APPRENTICESHIP)

Summary of the subjects taught in the different clinical specialties

MMED Course	*Semester 2*	*Semester 3*	*Semester 4*	*Semester 5*	*Semester 6*
Anaesthesiology	**Total (Hrs 166)** • Gen.Anaesthesia • Spinal naethesia • Local techniques • Trauma Anaesthesia • Emergencies in anaesthesia	**Total Hrs 162** • Principles of critical care • Basics of artificial ventilation • Special critical care • Invasive techniques in ICU • Infectious diseases in critical care medicine **Dissertation** • Choice of relevant topic and literature search	**Total Hrs 80** • The cardiovascular system • The haematological system • Fluid management and blood transfusion • Physics **Dissertation** • Choice of relevant topic and literature search • Data collection and write up	**Total Hrs 67** • Anaesthesia in common diseases • Anaesthesia in uncommon diseases • Obstetrics anaesthesia • Orthopaedic and trauma anaesthesia • Paediatrics anaesthesia • Geriatric anaesthesisa • Special anaesthesia Production of infusion solutions **Dissertation** Data collection and write up	Total Hrs 40 • Cardiothoracic anaesthesia • Neuroanaesthesia Dissertation • Final write up and submission • Defense of thesis
Paediatrics	**Total Hrs 87** • General paediatrics and Child Health • Preventive paediatrics • Neonatology • Emergencies in paediatrics	**Total Hrs 110** • Developmental paediatrics • Nutrition and malnutrition • The nervous system • The respiratory tract **Dissertation** • Choice of relevant topic and literature search	**Total Hrs 85** • The cardiovascular system • Diseases of blood • Paediatric oncology • **Dissertation** • Choice of relevant topic and literature search Data collection and write up	**Total Hrs 105** • The digestive system • Metabolic disorders and storage diseases • Nephrology • The endocrine system • Paediatric dermatology **Dissertation** Data collection and write up	Total Hrs 85 • Immune system • Infectious diseases and tropical paediatrics Dissertation • Final write up and submission • Defense of thesis

MMED Course	*Semester 2*	*Semester 3*	*Semester 4*	*Semester 5*	*Semester 6*
Surgery	**Total Hrs 192** • Principles of Surgery • Urology	**Total Hrs 168** • Abdominal Surgery • Paediatric Surgery **Dissertation** • Choice of relevant topic and literature search	**Total Hrs 168** • Orthopaedics and Traumatology • Principles of anaesthesiology **Dissertation** • Choice of relevant topic and literature search Data collection and write up	**Total Hrs 168** • Thoracic surgery • Head and neck surgery Gynaecological surgery **Dissertation** Data collection and write up	Total Hrs 193 • **Neurosurgery** • **Recent advances in surgery** • **Revision** Dissertation • Final write up and submission • Defense of thesis
Obstetrics and Gynaecology	**Total Hrs75** • Clinical approach to gynaecologic and obstetric patients • Preventive obstetrics Breast function and its disorders	**Total Hrs 85** • General gynaecology • Gynaecologic neoplasia/ oncology **Dissertation** • Choice of relevant topic and literature search	**Total Hrs 75** • Problems of sex and marriage & pregnancy **Dissertation** • Choice of relevant topic and literature search Data collection and write up	**Total Hrs 80** • Abnormalities of pregnancy and labour • Common complications of pregnancy **Dissertation** Data collection and write up	Total Hrs 65 • Other obstetrical problems • Ethics in obstetrics and gynaecology Dissertation • Final write up and submission • Defense of thesis
Internal Medicine	**Total Hrs 786** • Infectious diseases • Cardiology • Respiratory diseases • Clinical apprenticeship	**Total Hrs 764** • Dermatology • Haematology • Nutrition and metabolic diseases • Clinical apprenticeship Dissertation • Choice of relevant topic and literature search	**Total Hrs 921** • Rheumatology • Gastroenterology • Neurology • Clinical apprenticeship Dissertation • Choice of relevant topic and literature search • Data collection and write up	**Total Hrs 709** • Nephrology • Geriatrics • Clinical apprenticeship Dissertation Data collection and write up	Total Hrs 768 • Chronic disorders and terminal care • Paediatrics • Psychiatry • Clinical apprenticeship Dissertation • Final write up and submission • Defense of thesis

MMED Dissertation Guidelines

At the end of semester I, candidates must consult with their supervisors on the research work leading to dissertation. Candidates must develop research proposals which have to be approved by the relevant Department, Schools, the University Higher Degree Research and Publication Committee, and Senate. After approval from the department, the students should submit seventeen copies of the research proposal together with a cover letter from the Head of Department and the minutes of departmental review to the chairman of CUHAS/BMC ERB. The candidate will only proceed with data collection after clearance from CUHAS/BMC ERB.

The Schools Board, on recommendations by the relevant department, will endorse at least two competent supervisors in the areas of the candidate's research. These will have to be approved by the relevant Boards.

Organization of the Masters Research proposal

CUHAS Master Research Proposals should be written on size A4 paper using clearly readable fonts (Times New Roman, size 12) with double-line spacing. There should be a 1" margins on top and bottom. There should be 1" margin spacing on the left margins (to give space for binding) and 1" space on the right margin. The proposal should contain 15-20 pages from Introduction to References.

Generally a well-organized research proposal should have the following structure (See also Appendices):

1.Title page which should include a) Title of the study (including subtitle) b) Author c) Research proposal submitted in partial fulfilment for the award of Master degree of Catholic University of Health and Allied Sciences d) Date of submission	*5.Introduction* a) Background b) Problem statement c) Rationale of the study d) Hypothesis/ Research question e) Objectives
2.Table of contents	*6.Literature review*
3.List of Figures (If applicable)	*7.Materials and Methods (Methodology)*
4.List of Figures (If applicable)	*8.References(Vancouver style)*
	9.Appendices

Organization of the MMED Dissertation

CUHAS- MMED dissertation should be written on size A4 paper using clearly readable fonts with double line spacing. There should be a 1" margins on top and bottom. There should be 1½" margin spacing on the left margins (to give space for binding) and 1" space on the right margin.

Generally, a well-organized Dissertation should have the following structure:

1. Title page which should include • Title of the study (including subtitle) • Author • Dissertation submitted in partial fulfillment for the award of Master of Medicine (MMED) degree of the Catholic University of Health and Allied Sciences-Bugando • Date of submission *2. Declaration page* • By the author and supervisors that the work presented is original and has not been published elsewhere. *3. Dedication and acknowledgements* *4. Table of contents* *5. List of Figures* *6. List of Tables* *7. Abstract* *8. Introduction*	*9. Literature review* *10. Materials and Methods* *11. Results* *12. Discussions* *13. Conclusions* *14. Recommendations* *15. References* *16. Appendices*

Submission of the Dissertation

When the candidate and supervisors are satisfied by the progress of the dissertation and are ready to submit the thesis for evaluation.

The candidate must notify the School and the Directorate of Postgraduate Studies by a letter, the intention to submit the Dissertation for evaluation at least 2 months before.

- This will give time for the School and the Directorate of Postgraduate studies to nominate examiners (Internal and External)
- Upon receiving the letter of intention to submit the Department will propose to the Directorate of Post-graduate 2 internal and one external examiners.
- The supervisors will have to declare and sign that they are satisfied with the standard of the dissertation to be submitted for assessment and evaluation by the examiners
- The candidate will then submit the dissertation in partial fulfillment of the requirement for the degree of Master of Medicine of the Catholic University of Health and Allied Sciences.
- Candidates must submit 4 copies of loosely bound copies of the Dissertation at least three months before appearing for the final university examinations.
- The Dissertation will be assessed by the recommended internal and external examiners.
- Both external and Internal examiners will have to fill in the approved form (see appendix iii)

If the external examiner is satisfied by the standard of the dissertation, the candidate will have to appear for the oral defense (viva voce) at a panel of examiners as recommended by the faculty.

Viva voce Panel

The viva voce panel will consist of

- The Chairman appointed by the Dean Faculty of Medicine
- Members of the department
- The external Examiner
- The 2 internal examiners
- 2 members appointed by the Dean
- Any other co-opted members

NEW CURRICULUM FOR MMED INTERNAL MEDICINE & MMED SURGERY

MASTER OF MEDICINE (M.MED) IN INTERNAL MEDICINE

Objectives of the Programme

To produce highly skilled and competent internists with sound scientific principles of international standard required for a specialist in internal medicine.

Program expected learning outcomes

Knowledge	i. Comprehend scientific knowledge of Physiology, Biochemistry, Microbiology & Immunology, Clinical Pharmacology, Epidemiology and Research Methods relevant to the needs of medical patient. ii. Apply new innovations in the medical field and other related fields through continuing education and multidisciplinary interactions. iii. Demonstrate competency in the teaching of undergraduate medical students and other allied health cadres.
Skills	i. Manage competently all medical problems in the fields of infectious diseases, cardiology, nephrology, neurology, gastroenterology, dermatology, rheumatology, nutrition and metabolic diseases. ii. Comprehend laboratory, radiological and endoscopic investigations to reach appropriate diagnosis for specific npatients' management. iii. Plan and conduct clinical medical research competently relevant to the needs of the medical patient and community iv. Demonstrate leadership competency in the appropriate or related field of his/her training.
Attitude	i. Demonstrate high professional & ethical standards in the course of his professional medical practice in Internal Medicine towards

	patients, colleagues and the community.
Competences	i. Manage competently all medical problems in the fields of infectious diseases, cardiology, nephrology, neurology, gastroenterology, dermatology, rheumatology, nutrition and metabolic diseases. ii. Plan and conduct clinical medical research competently relevant to the needs of the medical patient and community

Normal learning Matrix

All courses in this program are core

Year/ Semester	Code	Course title	LH	TH	AS	PH	IS	CH	CU
Year 1 Semester 1	PY600	Clinical Physiology	42	62	40	60	76	280	28.0
	BC600	Clinical Biochemistry	32	48	30	88	62	260	26.0
	MI600	Microbiology and Immunology	50	88	40	90	52	320	32.0
	CP600	Clinical Pharmacology	48	78	40	74	60	300	30.0
	ER600	Epidemiology, Biostatistics and Research Methods	30	24	36	80	20	190	19.0
	ME600	Medical ethics and professionalism	20	10	5	0	5	40	4.0
	Total year 1 semester 1		222	310	191	392	275	1390	135.0
Year 1 Semester	ID600	Infectious Diseases	48	92	40	96	64	340	34.0
	CD600	Cardiology	42	82	33	113	50	320	32.0
	RD600	Respiratory diseases	36	72	20	92	40	260	26.0
	Total year 1 semester 2		126	246	93	301	154	920	92.0
	Total year I		**348**	**556**	**284**	**693**	**429**	**2310**	**231.0**
Year 2 Semester 1	DM700	Dermatology	30	60	20	80	30	220	22.0
	HM700	Hematology	24	48	30	108	50	260	26.0
	NM700	Nutrition and Metabolic Diseases	52	104	40	114	50	360	36.0
	DT700	Dissertation I (proposal development)	20	20	10	10	70	130	13.0
	Total year 2 semester 1		126	232	100	312	200	970	97.0
Yer 2 Semester 2	RT700	Rheumatology	20	38	30	72	40	200	20.0
	GT700	Gastroenterology	46	92	40	140	42	360	36.0
	NE700	Neurology	36	72	25	152	35	320	32.0
	DT700	Dissertation II (Data collection)	0	10	30	80	50	170	17.0
	Total year 2 semester 2		102	212	125	444	167	1050	105.0

Year/ Semester	Code	Course title	LH	TH	AS	PH	IS	CH	CU
	Total Year II		**228**	**444**	**225**	**756**	**367**	**2020**	**202.0**
Year 3 Semester 1	NP800	Nephrology	34	72	30	134	50	320	32.0
	GR800	Geriatrics	8	22	60	80	90	260	26.0
	DT800	Dissertation III (Data analysis)	20	10	20	300	40	390	39.0
	Total year 3 semester 1		62	104	110	514	180	970	
Year 3 Semester 2	CT800	Chronic Disorders and Terminal Care	8	22	50	160	60	300	30.0
	PD800	Paediatrics	8	22	40	120	50	240	24.0
	PS800	Psychiatry	8	22	30	120	60	240	24.0
	DT800	Dissertation IV (report writing and viva voce)	0	20	20	60	40	140	14.0
	Total year 3 semester 2		24	86	140	460	210	920	92.0
	Total Year III		**86**	**190**	**250**	**974**	**390**	**1890**	**189.0**
TOTAL HOURS AND CREDITS			**662**	**1190**	**759**	**2423**	**1186**	**6220**	**622.0**

NOTE: All courses are core

KEY:	IS: Independent studies
LH: Lecture Hours	CU: Credit unit
TH: Tutorial Hours	CH: Credit Hours
AH: Assignment Hours	10 Notional Hours= 1 CREDIT UNIT
PH: Practical or Field work hours	Numbering: Programme, Year, Semester, Course

COURSES SUMMARY

YEAR 1: SEMESTER 1

CLINICAL PHYSIOLOGY (PY600)

COURSE AIM: To train the student on the normal physiology and pathophysiology of common medical conditions and their respective treatment modalities.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to comprehend normal physiology and pathophysiology of common medical disease conditions and physiological changes during management of medical disorders.

Course Contents:

	Modules	LH	TH	AS	PH	IS	CH	CU
PY601	Systemic medical physiology	6	6	6	4	18	40	4.0
PY602	Clinical physiology of blood and the immune system	6	8	4	6	6	30	3.0
PY603	Clinical physiology of Renal and body fluids	6	12	6	14	12	50	5.0
PY604	Clinical physiology of cardiovascular system	6	12	6	14	12	50	5.0
PY605	Clinical Respiratory physiology	6	6	4	4	10	30	3.0
PY606	Gastrointestinal physiology	6	6	4	4	10	30	3.0
PY607	Clinical Endocrinology and neurophysiology	6	12	10	14	8	50	5.0
	Total	42	62	40	60	76	280	28.0

CLINICAL BIOCHEMISTRY (BC 600)

COURSE AIM:

To provide students specializing in medicine with knowledge of diseases at a molecular level, so that they can correlate it with clinical features and different diagnostic tests and lastly, make a rational treatment.

COURSE EXPECTED LEARNING OUTCOMES:

At the end of the course the student should be able to describe molecular and metabolic basis of diseases to describe the basis of different biochemical tests and be able to tell when there is deviation from normal ranges. To describe different advances in molecular biology regarding causes, diagnosis and treatment of diseases.

Course Contents

Code	Modules	LH	TH	AS	PH	IS	CH	CU
BC601	Biochemistry of Genetics	8	12	10	22	18	70	7.0
BC602	Biochemistry of Blood, blood gases and Buffers	8	12	8	22	10	60	6.0
BC603	Biochemistry of inflammation	8	12	8	22	10	60	6.0
BC604	Biochemistry of Metabolic disorders	8	12	10	22	18	70	7.0
Total		32	48	36	88	56	260	26

MICROBIOLOGY AND IMMUNOLOGY (MI600)

COURSE AIM: To develop competency in postgraduate students in the field of microbiology and immunology necessary to comprehend the host-pathogen interactions, pathogenesis of microbial diseases and principles of managing microbial and immune-mediated diseases

EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to comprehend the roles of bacteria, viruses, fungi and parasites in healthy and diseases causation, host immune response to microbes, pathogenesis, current diagnostic methods and management approaches to microbial and immune mediated diseases.

Course Contents

Code	Modules	LH	TH	AS	PH	IS	CH	CU
MI 601	General principles of Microbiology & Immunology	6	8	5	6	5	30	3.0
MI 602	Systemic Bacteriology	12	18	8	30	12	80	8.0
MI 603	Systemic Virology	8	12	6	24	10	60	6.0
MI 604	Mycology	6	14	4	8	8	40	4.0
MI 605	Parasitology	6	8	4	6	6	30	3.0
MI 606	Immunological basis of host-parasite interaction	6	8	4	6	6	30	3.0
MI 607	Immunopathological diseases	6	14	4	8	8	40	4.0
Total		50	88	35	90	57	320	32.0

CLINICAL PHARMACOLOGY (CP 600)

COURSE AIM: To develop competency in pharmacology and therapeutics in the management of diseases.

COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to comprehend the drugs' mechanisms of actions, side effects, drug-drug interactions and basic pharmacokinetics, of drugs used in internal medicine. To apply the basics principles of pharmacology and therapeutics in making rational drug prescription during clinical practice

Course Contents

Code	Modules	LH	TH	AS	PH	IS	CH	CU
CP 601	Drugs Disposition	8	12	5	10	5	40	4.0
CP 602	Systemic Pharmacology	16	24	10	30	20	100	10.0
CP 603	Anti-parasitic chemotherapy	12	18	12	18	20	80	8.0
CP 604	Anticancer chemotherapy	10	18	10	12	10	60	6.0
CP 605	Miscellaneous topics: Prescription of drugs in the elderly.	2	6	4	4	4	20	2.0
	Total	48	78	41	74	59	300	30.0

EPIDEMIOLOGY, BIOSTATISTICS AND RESEARCH METHODS (ER 600)

COURSE AIM : To impart knowledge and skills to trainees on the principles of epidemiology, research methodology and biostatistics application in planning and provision of medical and health care services. Furthermore, the trainees will acquire competencies in environmental determinants of health and disease in human populations as well as evaluating utilities of various diagnostic tests and competencies in data collection, summarization, analysis and making inferences about general population from the sample population.

COURSE EXPECTER LEARNING OUTCOMES:

At the end of the course, the trainee will be able to apply Epidemiology and Research knowledge and skills in:

- Designing and conducting research and experiments ethically

- Conducting surveillance of diseases
- Writing Dissertation, Manuscript and Grant.
- Investigating public health problems, planning, implementing and evaluating the intervention strategies for health problems.
- Planning provision medical and health care services
- Controlling the selected major diseases of public health importance in Tanzania.
- Designing scientific investigation, exploration of both Population and Public Health data
- Apply biostatistics knowledge and skills in: data collection, summarization, analysis and making inferences about general population from the study population.

Course contents

	Modules	LH	TH	AS	PH	IS	CH	CU
ER 601	Epidemiology	10	6	8	15	10	49	5.0
ER 602	Research Methodology	10	6	8	15	10	49	5.0
ER 603	Biostatistics	10	12	10	50	10	92	9.0
	Total	30	24	26	80	30	190	19.0

MEDICAL ETHICS AND PROFESSIONALISM (ME 600)

COURSE AIM: To develop working knowledge of current ethical guidelines and professional codes of practice and to understand how ethical guidelines relate to medical practice & research.

COURSE EXPECTED LEARNING OUTCOMES

At the end of the course the student should be able to:

- Explain the concept of rights and duties of a doctor.
- Explain the concept of consent to treatment, medical procedure and participation in medical research
- Explain the prima facie moral principles
- List the ethical issues involved in screening
- List the ethical issues involved in research involving animals.
- Identify the ethical and legal issues involved in medical negligence
- Identify the ethical and legal issues involved in care and research in Psychiatry
- Identify the legal and ethical issues involved in research involving minors
- List situations where confidentiality may be broken and give reasons.
- Perform a thorough medical legal autopsy and give a clear report.
- Investigate non-natural deaths and be able to give evidence in court
- Procure and preserve materials for forensic and toxicological investigations
- Interpret clinical toxicological findings
- Conduct oneself and discharge one's duties in a manner expected of the profession.

Course Contents

Code	Course title	LH	TH	AS	PH	IS	CH	CU
ME 600	Medical ethics and professionalism	20	10	0	0	10	40	4.0

YEAR 1: SEMESTER 2

INFECTIOUS DISEASES (ID 600)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of infectious diseases at specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge, skills and competencies for most of the infectious diseases at a specialist level.

Course Contents

Code	Modules	LH	TH	AS	PH	IS	CH	CU
ID 601	Principles of antimicrobial therapy	2	2	1	4	1	10	1.0
ID 602	Malaria, amoebiasis and other parasitic infections	4	8	5	8	5	30	3.0
ID 603	Infectious hepatitis	4	8	5	8	5	30	3.0
ID 604	Hemorrhagic fevers	4	8	5	8	5	30	3.0
ID 605	Tuberculosis and pneumonias	6	12	5	12	5	40	4.0
ID 606	Skin, soft tissues, bones and joint infections	4	8	5	8	5	30	3.0
ID 607	Enteric fever, infectious diarrheal disease and intraabdominal infections	4	8	5	8	5	30	3.0
ID 608	Genitourinary infections	4	8	5	8	5	30	3.0
ID 609	Gram negative bacteremia and sepsis	4	8	5	8	5	30	3.0
ID 610	CNS infections	4	8	5	8	5	30	3.0
ID 611	HIV/AIDS and other infections in the immunocompromised host	6	12	5	12	5	40	4.0
ID 612	Pyrexia of unknown origin	2	2	1	4	1	10	1.0
	Total	48	92	52	96	52	340	34.0

CARDIOLOGY (CD 600)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of heart diseases at specialist level.
LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the cardiac diseases at a specialist level.

Course Contents:

Code	Modules	LH	TH	AS	PH	IS	CH	CU
CD601	Valvular heart disorders	4	8	5	8	5	30	3.0
CD602	Hypertension and hypertensive heart disease	6	12	5	22	5	50	5.0
CD603	Heart failure syndromes	6	12	5	12	5	40	4.0
CD604	Ischemic heart disease	4	8	5	8	5	30	3.0
CD605	Cardiopulmonary resuscitation	6	12	5	12	5	40	4.0
CD606	Non-invasive and invasive diagnostic/therapeutic techniques in cardiology	6	12	5	32	5	60	6.0
CD607	Cardiomyopathy	4	8	5	8	5	30	3.0
CD608	Arrhythmias	4	8	5	8	5	30	3.0
CD609	Heart diseases in pregnancy	2	2	1	3	2	10	1.0
	Total	42	82	41	113	42	320	32.0

RESPIRATORY DISEASES (RD 600)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of respiratory diseases at specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the respiratory diseases at a specialist level.

Course Contents

Code	Modules	LH	TH	AS	PH	IS	CH	CU
RD 601	Infection diseases of the lungs	6	12	5	12	5	40	4.0
RD 602	Diagnostic investigations of patients with respiratory diseases	6	12	5	22	5	50	5.0
RD 603	Asthma and obstructive airway diseases	6	12	5	22	5	50	5.0
RD 604	Interstitial pulmonary diseases and connective tissue diseases of the lungs.	6	12	5	12	5	40	4.0
RD 605	Suppurative lung diseases and cystic fibrosis	6	12	5	12	5	40	4.0
RD 606	Occupational and environmental pulmonary diseases.	6	12	5	12	5	40	4.0
	Total	**36**	**72**	**30**	**92**	**30**	**260**	**26.0**

YEAR 2: SEMESTER 1

DERMATOLOGY (DM 700)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of dermatological conditions at specialist level.

COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the dermatological conditions at a specialist level.

Course Contents

	Modules	LH	TH	AS	PH	IS	CH	CU
DM701	Diagnosis of skin disease	6	12	5	12	5	40	4.0
DM702	Infections of the skin, hair and nails	6	12	5	12	5	40	4.0
DM703	Erythema-papulo -squamous eruptions and eczemas	6	12	5	22	5	50	5.0
DM704	Degenerative connective tissue disorders	6	12	5	22	5	50	5.0
DM705	Skin tumors	6	12	5	12	5	40	4.0
	Total	**30**	**60**	**25**	**80**	**25**	**220**	**22.0**

HEMATOLOGY (HM 700)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of hematological conditions at specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the hematological conditions at a specialist level.

Course Contents

	Modules	LH	TH	AS	PH	IS	CH	CU
HM701	Principles of Laboratory Techniques in haematology	6	12	10	22	10	60	6.0
HM702	Blood grouping and blood transfusions management	6	12	10	22	10	60	6.0
HM703	Management of anaemia and thrombotic disorders	6	12	10	32	10	70	7.0
HM704	Haemopoietic malignancies: diagnosis, management	6	12	10	32	10	70	7.0
	Total	**24**	**48**	**40**	**108**	**40**	**260**	**26.0**

NUTRITION AND METABOLIC DISEASES (NM 700)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of nutritional and metabolic diseases specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the nutritional and metabolic diseases at a specialist level.

Course Contents:

	Modules	LH	TH	AS	PH	IS	CH	CU
NM701	Principle of endocrine functions	4	8	5	8	5	30	3.0
NM702	Diabetes mellitus syndromes and their management	6	12	5	22	5	50	5.0
NM703	Thyroid and parathyroid dysfunction	6	12	5	12	5	40	4.0
NM704	Pituitary function disorders, tumors of the pituitary gland	6	12	5	12	5	40	4.0
NM705	Growth Disorders	6	12	5	12	5	40	4.0
NM706	Adrenal dysfunctional states	6	12	5	12	5	40	4.0
NM707	Disorders of lipid metabolism	6	12	5	12	5	40	4.0
NM708	Disorders of Nutrition: Obesity/malnutrition/anorexia nervosa	6	12	5	12	5	40	4.0
NM709	Inborn errors of metabolism: Hyperuricaemia and Gout	6	12	5	12	5	40	4.0
	Total	52	104	45	114	45	360	36.0

DISSERTATION PROPOSAL (DT 700)

COURSE AIM: To equip students with skills to design, write and do research

COURSE LEARNING OUTCOMES: By the end of this activity the student should be able to

- Independently develop a research proposal
- Conduct research project

Course Content:

Course title	LH	TH	AS	PH	IS	CH	CU
Dissertation Proposal-1	20	20	40	10	40	130	13.0

YEAR 2: SEMESTER 2

RHEUMATOLOGY (RT 700)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of Rheumatology disorders specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the Rheumatology disorders at a specialist level.

Course Contents

	Modules	LH	TH	AS	PH	IS	CH	CU
RT701	Arthritis	8	12	10	20	10	60	6.0
RT 702	HLA tissue typing and connective tissue disorders	8	18	17	40	17	100	10.0
RT 703	Systemic connective tissue diseases	4	8	8	12	8	40	4.0
	Total	20	38	35	72	35	200	20.0

GASTROENTEROLOGY (GT 700)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of gastroenterology disorders specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the gastroenterology disorders at a specialist level.

Course Contents:

Code	Modules	LH	TH	AS	PH	IS	CH	CU
GT701	Diagnosis in gastroenterology	6	12	5	22	5	50	5.0
GT702	Peptic ulcer diseases	6	12	5	22	5	50	5.0
GT703	Diarrhoeal diseases	6	12	5	22	5	50	5.0
GT704	Hepatitis and liver cirrhosis	6	12	5	12	5	40	4.0
GT705	Gastrointestinal bleeding	6	12	5	22	5	50	5.0
GT706	Pancreatitis	2	4	3	8	3	20	2.0
GT707	Malabsorption syndrome	2	4	3	8	3	20	2.0
GT708	Inflammatory bowel disease	6	12	5	12	5	40	4.0
GT709	Gastrointestinal tumours	6	12	5	12	5	40	4.0
	Total	46	92	41	140	41	360	36.0

NEUROLOGY (NE 700)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of Neurology disorders specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the Neurology disorders at a specialist level.

Course Contents:

Code	Modules	LH	TH	AS	PH	IS	CH	CU
NE701	Basic neural physiology and principles in neurology diagnosis	6	12	5	32	5	60	6.0
NE702	Central nervous system infections	6	12	5	22	5	50	5.0
NE703	Memorizing disorders	6	12	5	22	5	50	5.0
NE704	Cerebrovascular disorders	6	12	5	32	5	60	6.0
NE705	Peripheral neuropathies and metabolic diseases of CNS	6	12	5	22	5	50	5.0
NE706	Brain and spinal cord diseases	6	12	5	22	5	50	5.0
	Total	36	72	30	152	30	320	32.0

DISSERTATION II – DATA COLLECTION (DT 700)

COURSE AIM: To equip students with skills to collect data and write dissertation

COURSE LEARNING OUTCOMES: By the end of this activity the student should be collect data for his/her research project

Course Content:

Course title	LH	TH	AS	PH	IS	CH	CU
Dissertation (Data collection)	0	10	40	80	40	170	17.0

YEAR 3: SEMESTER 1

NEPHROLOGY (NP 800)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of Nephrology disorders specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the Nephrology disorders at a specialist level.

Course Contents:

Code	Modules	LH	TH	AS	PH	IS	CH	CU
NP701	Evaluation and investigation of renal disorders techniques	6	12	5	32	5	60	6.0
NP702	Glomerulonephritis, proteinuria and the nephritic syndrome	6	12	5	22	5	50	5.0
NP703	Obstructive nephropathy including urinary calculi	6	12	5	12	5	40	4.0
NP704	Hypertension and the kidney	6	12	5	12	5	40	4.0
NP705	Cystic diseases of the kidney	2	6	5	12	5	30	3.0
NP706	Infection of the urinary tract	2	6	5	12	5	30	3.0
NP707	Acute and chronic renal failure	6	12	10	32	10	70	7.0
	Total	34	72	40	134	40	320	32.0

GERIATRICS (GR 800)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control of geriatric diseases at specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the geriatric diseases disorders at a specialist level

Course Contents

Code	Modules	LH	TH	AS	PH	IS	CH	CU
GR801	Biology of aging							
GR802	An approach to diseases in the elderly							
GR803	Stroke in the elderly							
GR804	Degenerative bone disease including osteoporosis							
GR805	Metabolic diseases in the elderly							
GR806	Parkinson's disease and related disorders							

GR807	Alzheimer's disease and other dementias							
GR808	Heart diseases in -the elderly							
GR809	Infections in the elderly							
GR810	Ethical issue in the elderly							
GR811	Rehabilitation of the elderly patient							

DISSERTATION III (DT 800)

COURSE AIM: To equip students with skills to collect data, use the data analysis programme such as STATA and write dissertation

COURSE EXPECTED LEARNING OUTCOMES: By the end of this activity the student should be collect data for his/her research project and start analyzing of the data.

Course Content:

Course title	LH	TH	AS	PH	IS	CH	CU
Data collection and write up	20	10	30	300	30	390	39.0

YEAR 3: SEMESTER 2

CHRONIC DISORDERS AND TERMINAL CARE (CT 800)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control of Chronic Disorders and Terminal Care at specialist level.
COURSE EXPTECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the Chronic Disorders and Terminal Care at a specialist level.

Course Contents

	Modules	LH	TH	AS	PH	IS	CH	CU
CT801	Medical interventions in the chronic and terminally ill patient							
CT802	Promotion of function in chronic diseases							
CT803	Pain control in end stage malignancies							
CT804	Degenerative bone disease including osteoporosis							
CT805	Prevention of secondary impairment in chronic diseases							
CT806	Chronic disorders and terminal care							
CT807	Care of the critically ill patient							

PAEDIATRICS (PD 800)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of paediatrics conditions at specialist level.

COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the paediatrics conditions at a specialist level.

Course Contents

	Modules	LH	TH	AS	PH	IS	CH	CU
PD801	Common childhood illnesses in Tanzania							
PD802	Integrated management of childhood Illnesses							
PD803	Drugs and prescribing in childhood illnesses							

PSYCHIATRY (PS 800)

COURSE AIM: To enable postgraduate students to comprehend principles of diagnosis, treatment, control and prevention of psychiatric conditions at specialist level.
COURSE EXPECTED LEARNING OUTCOMES: At the end of the course the student should be able to diagnose, institute proper treatment and have a comprehensive preventive knowledge for most of the psychiatric conditions at a specialist level.

Course Contents

	Modules	LH	TH	AS	PH	IS	CH	CU
PS801	Mental evaluation and diagnostic formulation							
PS802	Schizophrenic psychosis							
PS803	Cyclic mood disorders							
PS804	Neurotic depression							
PS805	Anxiety state and traumatic stress syndrome							
PS806	Delirium and related disorder							
PS807	Psychiatric disorder in medical problems							
PS808	Polypsychopharmacology							

DISSERTATION IV (DT 800)

COURSE AIM: To equip students with good writing skills, defense and dissemination of research findings.

COURSE EXPECTED LEARNING OUTCOMES: By the end of this activity the student should be able to write a concise dissertation report basing on his/her analysed data and be able to defend it during viva voce.

Course Contents

Course title	LH	TH	PH	IS	CH	CU
Dissertation preparation and defense	0	20	60	60	140	14.0

M.MED SURGERY

Objectives of the Programme

To produce highly skilled and competent surgeon with sound scientific principles of international standard required for a specialist in general surgery.

Programme Expected Learning Outcomes

Knowledge	• Apply scientific knowledge of anatomy, physiology, Microbiology pathology and pharmacology and biochemistry relevant to the needs of the surgical patient. • Discover and assess community surgical needs in the community and propose appropriate scientific interventions. • Plan and conduct clinical medical research competently relevant to the needs of the general surgery patient and community
Skills	• Accurately notice the signs for various surgical disorders • Competently Perform all general surgical operations
Competences	• Demonstrate competency in the teaching of undergraduate medical students and other allied health cadres • Demonstrate high professional & ethical standards in the course of his professional medical practice in Surgery. • Demonstrate leadership competency in the appropriate or related field of his/her training

Normal learning matrix and Corse Matrix
All courses in this programme are core

Semester 1 Year 1

Code	Course title	LH	T/SH	AS	IS	PH	CH	CU
SN 600	Surgical anatomy	49	44	36	51	140	320	32.0
SP 600	Surgical physiology	51	31	31	37	20	170	17.0
PA 600	Surgical pathology	73	46	46	49	26	240	24.0
ER 600	Epidemiology and Research methods	54	36	38	42	20	190	19.0

MI 600	Microbiology and Immunology	95	61	61	71	33	320	32.0
CP 600	Clinical Pharmacology	70	44	40	57	19	230	23.0
Total		***392***	***262***	***252***	***307***	***258***	***1470***	***147.0***

Semester 2 Year 1

Code	Course title	LH	T/SH	AS	IS	PH	CH	CU
PS 600	Principles of surgery	48	48	48	64	112	320	32.0
UG 600	Urology	48	50	50	66	116	330	33.0
CA 600	Clinical Apprenticeship I	-	-	-	160	120	280	28.0
Total		***96***	***98***	***98***	***290***	***348***	***930***	***93.0***

Semester 1 Year 2

Code	Course title	LH	T/SH	AS	IS	PH	CH	CU
AS 700	Abdominal surgery	72	72	72	96	168	480	48.0
PS 700	Paediatric surgery	48	48	48	64	112	320	32.0
CA 700	Clinical Apprenticeship II	0	0	0	80	200	280	28.0
RP 700	Research Proposal Development	0	4	12	14	20	50	5.0
Total		***120***	***124***	***132***	***254***	***500***	***1130***	***113.0***

Semester 2 Year 2

Code	Course title	LH	T/SH	AS	IS	PH	CH	CU
OT 700	Orthopaedic and Trauma	66	66	66	88	154	440	44.0
AN 700	Anaesthesia	44	44	44	58	100	290	29.0
CA 700	Clinical Apprenticeship III	0	0	0	200	80	280	28.0
RP 700	Research Proposal Development	0	0	0	40	90	130	13.0
Total		***110***	***110***	***110***	***386***	***424***	***1140***	***114.0***

Semester 1 Year 3

Code	Course title	LH	T/SH	AS	IS	PH	CH	CU
TS 800	Thoracic surgery	54	54	54	54	144	360	36.0
HN800	Head and neck surgery	57	57	57	57	152	380	38.0
GY 800	Gynaecology	14	12	14	14	36	90	9.0
CA 800	Clinical Apprenticeship IV	0	0	0	140	140	280	28.0
DC 800	Data Collection	0	0	0	0	240	240	24.0
Total		***125***	***123***	***125***	***265***	***712***	***1350***	***135.0***

Semester 2 Year 3

Code	Course title	LH	T/SH	AS	IS	PH	CH	CU
NS 800	Neurosurgery	54	54	54	54	144	360	36.0

RA 800	Recent advances	52	52	52	52	142	350	35.0
CA 800	Clinical Apprenticeship V	0	0	0	50	140	190	19.0
DT 800	Dissertation Writing	0	4	20	50	76	150	15.0
Total		***106***	***110***	***126***	***206***	***502***	***1050***	***105.0***
GRAND TOTAL							**7070**	**707.0**

KEY	IS:Independent studies
LH:Lecture Hours	PH:Practical or Field work hours
T/SH:Tutorial/Seminar Hours	CH:Contact Hours
AS: Assignment Hours	CU: Credit Units

M.MED SURGERY PROGRAMME SUMMARY

SEMESTER 1 YEAR 1

SURGICAL ANATOMY (SN 600)

Course Aim: To train students on human structure at both macroscopic and microscopic level

Course Expected Learning Outcomes: At the end of the course the student should be able to:

Describe the surgical anatomy of various organs and tissues of the human body of surgical importance and apply anatomical knowledge to explain the various surgical procedures including diagnostic procedures and surgical operations. Student should also be able apply anatomical principles to explain various symptoms and signs of various surgical diseases. Also apply knowledge of embryology to explain essence of various congenital malformations of surgical importance.

Course Content: SN 600 will be covered in 8 modules as summarized in the table below:

Code	Module title	LH	T/SH	AS	IS	PH	CH	CU
SN 601	Head and Neck	7	6	4	6	20	43	4.3
SN 602	Thorax	6	6	4	6	18	40	4.0
SN 603	Abdomen and pelvis	7	6	5	8	24	50	5.0
SN 604	Upper limb	6	6	4	6	20	42	4.2
SN 605	Lower limb	6	6	5	6	20	43	4.3
SN 606	Central nervous system	5	5	4	5	14	33	3.3
SN 607	Histology	4	4	4	6	14	32	3.2
SN 608	Embryology	8	5	6	8	10	37	3.7
Total		**49**	**44**	**36**	**51**	**140**	**320**	**32.0**

SURGICAL PHYSIOLOGY (SP 600)

Course Aim: To train the students in the normal physiology and pathophysiology of common surgical conditions and surgical treatment modalities.

Couse Expected Learning Outcomes: At the end of the course the student should be able to describe the normal physiology of various body parts of surgical importance, describe the pathophysiology of common surgical disease conditions, and discuss the pathophysiology of various surgical treatment modalities

Course Content: SP 600 will be covered in 7 modules as summarized in the table below:

Code	Module title	LH	T/SH	AS	IS	PH	CH	CU
SP 601	Homeostasis	6	4	4	6	2	22	2.2
SP 602	The central and peripheral circulation	8	5	5	6	3	27	2.7
SP 603	The role of the kidney in the regulation of body fluids	8	5	5	5	3	26	2.6
SP 604	Applied physiology of the digestive system	7	4	4	5	2	22	2.2
SP 605	Applied physiology of the endocrine and reproductive systems	7	5	4	5	3	24	2.4
SP 606	Applied physiology of the respiratory system	7	4	4	5	4	24	2.4
SP 607	Applied physiology of the Nervous system	8	4	5	5	3	25	2.5
Total		**51**	**31**	**31**	**37**	**20**	**170**	**17.0**

SURGICAL PATHOLOGY (PA 600)

Course Aim: To train students on the pathogenesis and pathology of surgical disease conditions

Course Expected Learning Outcomes: At the end of the course the student should be able to describe the surgical pathology of common surgical disease conditions and apply scientific knowledge of pathology in the management of the surgical patient

Course Content: PA 600 will be covered in 3 modules as summarized in the table below:

Code	Module title	LH	T/SH	AS	IS	PH	CH	CU
PA 601	General surgical pathology	26	16	16	18	10	86	8.6
PA 602	Systemic surgical pathology	34	22	22	22	12	112	11.2
PA 603	Immuno pathology	13	8	8	9	4	42	4.2
Total		**73**	**46**	**46**	**49**	**26**	**240**	**24.0**

EPIDEMIOLOGY AND RESEARCH METHODS (ER 600)

Course Aim: To train the students on the clinical epidemiology and research methodology

Course Expected Learning Outcomes:

At the end of the course the student should be able to apply knowledge in biostatics, epidemiology and computer in planning and implementing a scientific research proposal, utilize proper teaching methodology skills, offer expert medical opinion in medical legal matters, demonstrate high ethical standard in his or her professional practice

Course Content: ER 600 will be covered in 3 modules as summarized in the table below:

Code	Module title	LH	T/SH	AS	IS	PH	CH	CU
ER 601	Biostatistics	18	12	12	14	6	62	6.2
ER 602	Epidemiology	18	12	12	14	6	62	6.2
ER 603	Research Methodology	18	12	14	14	8	66	6.6
Total		**54**	**36**	**38**	**42**	**20**	**190**	**19.0**

MICROBIOLOGY AND IMMUNOLOGY (MI600)

Course Aim: To develop competency in postgraduate students in the field of microbiology and immunology necessary to comprehend the host-pathogen interactions, pathogenesis of microbial diseases and principles of managing microbial and immune-mediated diseases

Course Expected Learning Outcomes: At the end of the course the student should be able to comprehend the roles of bacteria, viruses, fungi and parasites in healthy and diseases causation, host immune response to microbes, pathogenesis, current diagnostic methods and management approaches to microbial and immune mediated diseases.

Course Content: MI 600 will be covered in 7 modules as summarized in the table below:

Code	Module title	LH	T/SH	AS	IS	PH	CH	CU
MI 601	General principles of Microbiology & Immunology	10	6	6	6	4	32	3.2
MI 602	Systemic Bacteriology	28	18	18	22	10	96	9.6
MI 603	Systemic Virology	15	10	10	10	5	50	5.0
MI 604	Mycology	8	5	5	6	3	27	2.7
MI 605	Parasitology	12	8	8	10	4	42	4.2
MI 606	Immunological basis of host-parasite interaction	12	8	8	10	4	42	4.2
MI 607	Immunopathological diseases	10	6	6	7	3	32	3.2
TOTAL		**95**	**61**	**61**	**71**	**33**	**320**	**32.0**

CLINICAL PHARMACOLOGY (CP 600)

Course Aim: To develop competency in pharmacology and therapeutics in the management of diseases.

Course Expected Learning Outcomes: At the end of the course the student should be able to comprehend the drugs' mechanisms of actions, side effects, drug-drug interactions and basic pharmacokinetics, of drugs used in internal medicine. To apply the basics principles of pharmacology and therapeutics in making rational drug prescription during clinical practice

Course Content: CP 600 will be covered in 5 modules as summarized in the table below:

Code	Module title	LH	T/SH	AS	IS	PH	CH	CU
CP 601	Drugs Disposition	10	7	6	8	3	34	3.4
CP 602	Systemic Pharmacology	18	10	9	16	5	58	5.8
CP 603	Anti-parasitic chemotherapy	14	9	9	12	4	48	4.8
CP 604	Anticancer chemotherapy	16	10	10	13	4	53	5.3
CP 605	Miscellaneous topics	12	8	6	8	3	37	3.7
TOTAL		**70**	**44**	**40**	**57**	**19**	**230**	**23.0**

SEMESTER 2 YEAR 1

PRINCIPLES OF SURGERY (PS 600)

Course Aim: To impart the surgical trainee with adequate knowledge of surgical principles

Course Expected Learning Outcomes: At the end of the course the student should be able to discuss and apply appropriate surgical principles in the management of various surgical conditions based on sound scientific knowledge

Course Content: PS 600 will be covered in 5 modules as summarized in the table below:

Code	Module Title	LH	T/SH	AS	IS	PH	CH	CU
PS 601	Introduction	3	3	3	5	-	14	1.4
PS 602	Antiseptic and aseptic surgical technique	16	10	12	10	36	84	8.4
PS 603	Pre and Post- Operative Care	16	10	12	10	36	84	8.4
PS 604	Medical Management of Surgical Patients	16	12	12	16	24	80	8.0
PS 605	Miscellaneous Topics	12	8	8	15	15	58	5.8
Total		**63**	**43**	**47**	**56**	**111**	**320**	**32.0**

UROLOGY (UG 600)

Course Aim: To impart the trainee with general knowledge and skills of urology.

Course Expected Learning Outcomes: At the end of the course the student should be able to diagnose, investigate and manage urological patients in the absence of urologists and make referrals appropriately.

Course Content : Urinary symptoms, investigation of the urinary tract, anuria, Kidneys and ureters, the adrenal gland, urinary bladder, prostate and seminal vesicles, urethra and penis, testis and scrotum, renal transplantation

SEMESTERS 1 YEAR 2

ABDOMINAL SURGERY (AS 700)

Course Aim: To impart the trainee with knowledge and skills to manage adequately most abdominal and paediatric surgical conditions

Course Expected Learning Outcomes: At the end of the course the student should be able to describe and apply scientific principles in the management of various abdominal conditions, describe and apply scientific principles in the management of common paediatric surgical conditions

Course Contents: The acute abdomen, Pyloric stenosis, hiatus hernia, cardiospasm, Peptic ulcer diseases, postgastrectomy syndromes, Splenic diseases, splenectomy, Surgery of liver diseases, portal hypertension, biliary surgery, Surgical conditions of the gall bladder and bile ducts: investigations, congenital abnormalities, injuries, cholelithiasis, cholecystitis and neoplastic conditions, Surgery of gastric neoplasms, Surgical conditions of the pancreas: pancreatitis, carcinoma of pancreas, pancreatodudenectomy, pancreatic function tests, Peritoneum, omentum, mesentry and retroperitoneal space, Intestines: megacolon, blind loop syndrome, diverticulosis, ulcerative colitis, regional ileitis (Crohn's disease), amoebiasis, intestinal tuberculosis, intestinal fistulae, intestinal neoplasia, Intestinal obstruction, The vermiform appendix, The anal canal and rectum, Hernias, The umbilicus and abdominal wall

PAEDIATRIC SURGERY (PS 700)

Course Expected Learning Outcomes: At the end of the course the student should be able to diagnose, investigate and manage paediatric patients with surgical conditions in the absence of paediatric surgeon and make referrals appropriately.

Course Contents: Hydrocephalus and spinal bifida, Brachial cysts, Hare lip and cleft palate, Oesophageal atresia, Exomphalos, Wilms tumor, Hypospadius, Orchidism, Management of ambiguous sex, Harmatomas, Imperforate anus, Lymphomas and other paediatric tumors, Primary megacolon (Hirschprung's disease) and Club foot.

SEMESTERS 2 YEAR 2

ORTHOPAEDIC AND TRAUMA SURGERY (OT 700)

Course Aim: To impart the surgical trainee with knowledge and skills in orthopaedic / trauma.

Course Expected Learning Outcomes: At the end of the course the student should be able to manage competently most of the orthopedic surgical conditions, manage all trauma victims scientifically.

Course Contents: History of orthopaedic surgery, Management of the multiple trauma patients, The hand, hand injuries, the foot, Infections of bones and foot, The rheumatic diseases, Tumors of bones and joints, Congenital diseases of bones and joints, Disorders of the growing skeleton, Generalized diseases of bone, Diseases of muscles, tendons and fasciae, Neurological disorders affecting the musculo- skeletal system, Disorders of the foot, Healing of bones and joints, Injuries to the upper limb, Injuries to the lower limb, Cranio-cerebral injuries, Spinal injuries, Chest injuries, Facio- maxillary injuries

ANAESTHESIA (AN 700)

Course Aim: To impart the surgical trainee with knowledge and skills in principles of anaesthesia.

Course Expected Learning Outcomes: At the end of the course the student should be able to apply general scientific principles of anaethesiology in management of the surgical patient

Course Content: Preoperative and post-operative care, local Anaethesia, regional Anaethesia, general Anaethesia, anaethesia in neurosurgery, cardiopulmonary operations and other situations, intensive care.

SEMESTERS1 YEAR 3

THORACIC SURGERY (TS 800)

Course Aim: To equip the surgical trainee with adequate knowledge and skills in the management of most thoracic diseases and surgeries.

Course Expected Learning Outcomes: At the end of the course the student should be able to manage competently most thoracic surgical diseases conditions

Course Contents: : Thoracic injuries, Diseases of chest wall and pleura, Diseases of the trachea and bronchi, Diseases of the lung, Pulmonary resections, Surgical treatment of pulmonary tuberculosis, Post-operative pulmonary complications, The diaphragm, The thymus, Mediastinal tumors, The pericardium, Diseases of the oesophagus, Surgical approaches to the Oesophagus, Cardiorespiratory resuscitation, Congenital and acquired heart diseases, The scope of cardiac surgery,

HEAD AND NECK SURGERY (HN 800)

Course Aim: To equip the surgical trainee with adequate knowledge and skills in the management of most head/ neck surgical diseases and surgeries.

Course Expected Learning Outcomes: At the end of the course the student should be able to manage adequately most of the head and neck surgical conditions.

Course Contents: The branchial apparatus and its abnormalities, Cervical rib and the scalene syndrome, Neck injuries, Inflammatory conditions of the neck, Primary malignant tumors of the neck, Block dissections of the neck, The thyroid gland and the thyroglossal tract, The parathyroid glands, The pharynx, The larynx, The parotid gland, The nose and paranasal sinuses, The jaws, orbit, teeth and gums, The mouth, tongue, cheek and salivary glands, Diseases of the ear.

GYNAECOLOGY (GY 800)

Course Aim: To equip the surgical trainee with adequate knowledge and skills in the management of most gynaecological conditions

Course Expected Learning Outcomes: At the end of the course the student should be able to manage adequately most of the common gynaecological surgical conditions

Course Contents: Surgery of uterine fibroids, Surgery of tubal ovarian masses, vaginal vesical fistula surgery, Management of gynaecological malignances, abdominal pregnancy, Hydatid moles

SEMESTERS 2 YEAR 3

NEUROSURGERY (NS 600)

Course Aim: To equip the trainee with knowledge and skills for the management of neurosurgical conditions.

Course Expected Learning Outcomes: At the end of the course the student should be able to describe and manage properly most of neurosurgical conditions

Course Contents: The vertebral column and spinal cord: dislocations, fractures, spinal cord injury, infective and inflammatory conditions, prolapse of intervertebral disc, spinal canal tumors, Laminectomy, Head injury – its pathophysiology and surgical management, Intracranial abscess and other intracranial inflammatory conditions, Intracranial tumors, Tumors of the pituitary gland, Intracranial aneurysms, Acquired and primary hydrocephalus, spinal bifida, The surgical treatment of parkinsonism and mental disorders, Cranial and peripheral nerves

RECENT ADVANCES IN SURGERY (RA 800)

Course Aim: To equip the trainee with new knowledge and new skills which are recent in advances in surgery.

Course Expected Learning Outcomes: At the end of the course the student should be able to describe the recent advances in the field of surgery

Course Contents: Microsurgery, Surgery of Stroke, Surgery of coronary artery heart disease, Laser surgery, Minimally invasive surgical techniques, Organ transplantation surgery, Surgical management of obesity, Recent development in Immunopathology, Recent development in intensive care.

SCHOOL OF PUBLIC HEALTH

The School of Public Health offers an international curriculum in Public Health that prepares students to meet the public health challenges of the 21st Century. It emphasizes interdisciplinary and evidence-based approaches to solving complex health problems by analyzing their causes a various organisation levels and planning interventions that address these multiple levels of influence.

The programme educates experts for different fields and positions within the Public Health Sector enabling Graduates to apply academic knowledge in both Local and Global contexts with strong research skills.

MASTER OF PUBLIC HEALTH (MPH)

MASTER OF PUBLIC HEALTH

BACKGROUND

Looking at the present needs in the country both at central level and at the private sector demands for public health specialists, prompted CUHAS to start a Master of Public Health Programme (MPH). This initiative was triggered by the National Health Policy through the Health Sector Reform. The Reform demands having highly qualified public health manpower to man and run District and Regional health services. These demands are not only in the governing institutions but also the NGO's and community health programmes and projects; all of these are expressing need to have well trained manpower in the health sector.

As a result of the above demands, CUHAS started a one-year general MPH programme. This programme will be conducted in three (3) semesters.

GOALS OF THE PROGRAM

Is to provide and develop knowledge and skills necessary in promoting public health with a focus on Public Health in developing countries. The programme is suitable for District, regional, and health managers at different levels, it will also serve for Health Managers working with NGOs, training institutions and those managing Health programs and Health projects in developing countries.

OBJECTIVES

Broad Objectives

1. At the end of the course the candidates are expected to be conversant with the acquired skills and knowledge and be able to deliver the same material as needed in Health Service Delivery.
2. Develop health Programs and Projects, which aim at promoting and improving public health.
3. The candidates shall be able to control epidemic in their area of work and when asked to do so.
4. Be able to train in the area of Public Health all those who need specialization.

Specific Objectives:

In order to achieve the above objectives the candidate should be able to:

I. Apply epidemiological and statistical skills in analysing and planning health needs for the community.

II. Evaluate different health strategies and interventions used in the control of diseases.

III. Describe and analyse health services and organizational structures for an effective health management system

IV. Manage or participate in environmental health control programs and Disaster management
V. Train health staff at different levels ie medical and paramedical schools
VI. Develop cost effective health intervention programs
VII. Develop research proposal and Projects which focus on specific Health problems
VIII. Design appropriate methodology in the control of communicable diseases and epidemics.

Programme expected learning outcomes

Knowledge	The candidate should have adequate knowledge in integrating different disciplines learnt in MPH in addressing the core functions of public health at different levels. More specific knowledge is expected in; a) Application of epidemiological and statistical skills in analysing and planning health needs for the community. b) Evaluation of different health strategies and interventions used in the control of diseases. c) Describing and analysing health services and organizational structures for an effective health management system. d) Managing and/or participating in environmental health control programs and disaster management. e) Developing cost effective methods for screening and surveillance for health outcomes related to Public Health Issues. f) Developing research proposal and projects which focus on specific Health problems. g) Designing appropriate methodology in the control of communicable diseases and epidemics.
Skills	Graduates of the MPH at CUHAS are expected to have skills to be able, a) *To assess the health needs of the community.* To systematically collect, assemble, and make available information on the public health status of the community, in cooperation with others, including statistics on health status, community health needs, environmental health, epidemiologic, and other studies of health problems. b) *To investigate the occurrence of health effects and health hazards in the community.* To systematically develop in collaboration with others in the community, more detailed information on the magnitude of a health problem, duration, trends, location, population at risk, and how best to proceed to prevent or control the problem. c) *To analyze the determinants of identified health needs.* This is the process of examining etiologic, risk, and contributing factors that precede and contribute to specific health problems or reduced health status in the community. Identifying these factors helps in working with the community in planning intervention efforts for prevention or control. d) *To advocate for public health, build constituencies, and identify resources in the community.* This is the process of generating support among constituent groups that address community health needs and issues, establishing collaborative relationships between a public health agency and the public it serves, the government body it represents, and other health and human-related organizations in the community.

	e) *To prioritize among health needs.* To facilitate a community process to rank health needs according to their importance, the magnitude, the seriousness of the consequences, economic impact and community readiness or the ability to prevent or control the problem. f) *To plan and develop policies to address priority health needs.* This is the process by which agencies, working with community constituents and other groups, facilitate the formulated goals and objectives to meet the priority health needs of the community, identify a course of action to achieve the goals and objectives in a way that fosters community involvement and ownership, and is responsive to local needs. g) *To manage resources and develop organizational structure.* To acquire, allocate influence, resources (people, facilities, and equipment) and to encourage or enable them to meet priority community health needs in the best way possible. h) *To implement public health programs. Work with other organizations, agencies and individuals to assure the implementation of programs in the community that fit community priorities. Work with the community to change community policy, practice or mores.* i) *To evaluate health programs and provide quality assurance.* This is a process of continuous inquiry to determine the efficiency and effectiveness of efforts so that corrections can be made to improve activities and outcomes. j) *To inform and educate the public on health issues of public health importance.* This is the process of informing the community about health problems, the availability of services; gaining the attention of individuals, high-risk groups, and constituents concerning public health issues; and providing health education to help develop beliefs, attitudes, and skills conducive to good individual and community health.
Competences	The candidate should be able to demonstrate and prove their competencies; a) In responding to different public health needs at various organization levels. b) In analyzing the determinants of health and diseases. c) In transforming evidence-based data into planning of health services and programs. d) In effective communication and negotiation skills on public health issues.

Course Descriptions per year

(*Semester 1 Year 1*)

Course Code	Core/ Elective	Lecture Hrs	Tutorial/ Seminar Hrs.	Assignment Hrs.	Independent study Hrs.	Practical Hrs.	Total Hrs	Credits
		80	20	20	80	50	250	25
MPH 602	Core	80	10	20	70	30	210	21
MPH 603	Core	60	20	20	80	90	270	27
MPH 604	Core	50	18	20	50	22	160	16
Total		270	68	80	280	192	890	89

(*Semester 2 Year 1*)

Course Code	Core/ Elective	Lecture Hrs.	Tutorial/ Seminars Hrs.	Assignment Hrs.	Independent Study Hrs.	PractiCal Hrs.	Total Hrs.	Credits
MPH605	Core	55	30	25	50	50	210	21
MPH606	Core	45	20	20	35	20	140	14
MPH607	Core	40	35	30	30	35	170	17
MPH608	Core	55	20	22	63	150	310	31
MPH609	Core	36	20	15	20	29	120	12
MPH610	Core	-	20	-	60	150	230	23
Total		231	145	112	258	434	1180	118

KEY:

Credits:10 Notional Hours = 1 Credit unit

COURSES SUMMARY

Semester 1 Year 1

MPH 601: Epidemiology, Biostatistics, and Demography and determinants of Diseases

Course aim: The module intends to expose candidates to the process of scientific investigation, exploration of Population and Public Health data to understand the nature of diseases and/or exposure, and their interpretation for human health.

Course expected learning outcomes: At the end of this module the student shall be able to:

1. Identify key sources of data for epidemiologic purposes.
2. Identify the principles and limitations of public health screening programs.
3. Describe a public health problem in terms of magnitude, person, time, and place.
4. Explain the importance of epidemiology for informing scientific, ethical, economic, and political discussion of health issues.
5. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.
6. Apply the basic terminology and definitions of epidemiology.
7. Calculate basic epidemiology measures.
8. Communicate epidemiologic information to lay and professional audiences.

9. Draw appropriate inferences from epidemiologic data.
10. Describe basic concepts of epidemiology, biostatistics, and demography,
11. Apply epidemiological knowledge in describing disease patterns and distribution,
12. Interprets demographic distribution within their area of work,
13. Use statistical knowledge in interpreting descriptive and inferential findings of studies,
14. Evaluation of biomarkers, preliminary studies, methodological issues, and quality control,
15. Examination of probabilistic (in contrast to deterministic) approaches to prediction of human exposure to occupational and/or environmental factors including explicit separation of population variability from uncertainty due to ignorance,
16. Develop research proposal; conduct research; develop projects; implement and manage health related projects; conduct and present research report.
17. Understand the used of statistics for assessing needs, planning, and evaluating services, and undertaking research.

Course Contents

Course	Modules	LH	TS	AH	IS	PH	TH	CU
Epidemiology, Biostatistics, and Epidemiology	Epidemiology	30	5	5	35	15	90	9.0
	Biostatistics	30	10	10	35	20	105	10.0
	Demography	20	5	5	10	15	55	4.5
Total		80	20	20	80	50	250	25

MPH 602: Review of Communicable and Non-Communicable Diseases and Nutrition

Course Aim: The module intends to expose candidates to both national and global burden of Communicable and Non-Communicable Disease and the value of good nutrition in Public Health.

Course expected learning outcomes: At the end of this module the candidates shall be able to:

1. Understand basic concept of Burden of Diseases attributed by bot communicable and non-communicable diseases,
2. Evaluate the health impact of non-communicable and communicable diseases to the public,
3. Systematically incorporate the value of good nutrition and life style to the well-being of population and public health,
4. Ensure that all estimates and projections are derived based on objectives of epidemiological and demographic methods,
5. Measure the burden of disease using a metric such as Disability Adjusted Life Years (DALYS), which could also be used to assess the cost-effectiveness of interventions and attributed Burden of Diseases.

Course Contents

Course	Modules	LH	TS	AH	IS	PH	CH	CU
Review of Communicable and Non-Communicable Diseases and Nutrition	Communicable and Non-Communicable Diseases	30	5	10	40	15	100	10
	Nutrition	50	5	10	30	15	110	11
Total		80	10	20	70	30	210	21

MPH 603 Environmental & Occupational Health and Disaster Preparedness

Course aim: To impart the Master of Public Health candidates with knowledge and skills on Environmental Health and Occupational Health, and Disaster preparedness cycle with special focus on common global hazards.

Course expected learning outcomes: At the end of this module the student shall be able to:

1. Describe the concept of occupational and environmental health,
2. Describe the concept of disaster preparedness and management,
3. Explain the mechanism of common disasters both occupational and environmental;
4. Describe the different types of disasters and their effects; management and control of common disasters,
5. Candidates should be in position to describe the disaster preparedness cycle,
6. Describe the different types of Environmental and Occupational health issues of global health,
7. At the end of the course the candidates should have an insight on disaster response planning and the associated command system,
8. Effectively manage and control the common disasters.

Course Contents

Course	Modules	LH	TS	AH	IS	PH	TH	CU
Environmental & Occupational Health and Disaster Preparedness	Environmental Health	30	10	10	30	30	110	11
	Occupational Health	20	5	5	30	30		9
	Disaster preparedness	10	5	5	20	30	70	7
Total		60	20	20	80	90	270	27.0

MPH 604 Reproductive Health and Foundation of Public Health

Course aim: To train students on reproductive health and foundation of Public Health and their application in public health.

Course expected learning outcomes: At the end of this module the student shall be able to:

1. Examine the basic principles of reproductive health and foundations of public health and their application in public health and general human health.

2. Develop knowledge, skills, and positive attitude essential for the provision of reproductive health care in different aspects of public health.
3. Understand risk factors and how can be used to minimize negative outcome.

Course Contents

Course	Modules	LH	TS	AH	IS	PH	TH	CU
Reproductive health and Foundation of Population	Introduction to Reproductive Health	25	9	10	25	11	80	8
	Foundation of Public Health	25	9	10	25	11	80	8
Total		50	18	20	50	22	160	16

Semester 2 Year 1

MPH 605 Health Planning and Management.

Course aim: Offers a comprehensive overview on health planning and health management from the district to national level; overview of community involvement in health care planning and management and analysing potentials for improvement in health care services delivery.

Course expected learning outcomes: At the end of the course the student shall be able to.

1. Understand health planning and management at different levels and associated challenges.
2. Understand stages in planning and management of health care budget and health financing.
3. Understand governmental regulations used in the control and operate health care system in the country.
4. Discuss opportunities available for advancement of health care delivery in the country.
5. Recognize health consequences for poor planning and management of health care services especially among the most vulnerable groups.

Course Contents

Course	Modules	LH	TS	AH	IS	PH	TH	CU
Health Planning and Management	Health planning	25	15	10	20	20	90	9
	Health management	30	15	15	30	30	120	12
Total		55	30	25	50	50	210	21

MPH 606 Health System Delivery and Health Management Systems.

Course aim: Examines current situation in health systems and how delivery is impacted to able to illustrate and better appreciate the relationship between health system and health delivery; and to explore how the current health system could work better in addressing the determinants of health.

Course expected learning outcomes: At the end of this module candidates shall be able to:

1. Understand the health delivery systems and Health Management Systems.
2. Describe concepts of health system delivery and Health Management Systems.
3. Understand the development of health system and how this could be monitoring especially in the Tanzanian context.
4. Scientifically link health system and health care delivery and how this impact health wellbeing.
5. Understand global and local context health system delivery and Health Management Systems.
6. Systematically identify the key components of health system delivery and health care services.

Course contents

Course	Modules	**LH**	**TS**	**AH**	**IS**	**PH**	**TH**	**CU**
Health System Delivery	Health delivery systems	20	10	10	20	10	70	7
	Cascade of health system delivery	25	10	10	15	10	70	7
Total		45	20	20	35	20	140	14

MPH 607 International and Global Health, and Family Health

Course aim: Examines on how various local and international policies impact family health and how global health can be effectively utilized to improve health in the local context.

Course expected learning outcomes: At the end of this module the candidates shall be able to:

1. Develop the knowledge and skills essential for the provision of health care to external and international support agencies.
2. Understand health policy formulation and evaluation.
3. Provide opportunities for communities to participate in health care in collaboration with international support agencies.
4. Learn to implement through cross cultural and cross-national interaction with health professionals and community leaders the principals and approaches of Primary Health Care.
5. To provide students with knowledge and skills on international regulations.
6. To promote family level ownership of the response and capacity to manage public health problems
7. Advance ways to improve quality and access to health care and treatment by adopting successful global approaches.
8. Integrate family health in the health promotion and advocacy.
9. To strengthen health care systems and protect and support the most vulnerable groups such as children and pregnant women.
10. Learn and implement International Organisation Standards and Systems for the wellbeing of the local populations.
11. Understanding the components and strategies for health need assessment.

12. How Health Need Assessment can used to support national and local health priorities.

Course contents

Course	Modules	LH	TS	AH	IS	PH	TH	CU
International and Family Health	International and Global Health	20	10	15	10	15	70	7
	Family Health Need Assessment	20	25	15	20	20	100	10
Total		40	35	30	30	35	170	17

MPH 608 Research Methodology and Project Design

Course aim: The module intends to expose candidates to the process of designing scientific investigation, exploration of both Population and Public Health data to understand the nature of health issues and/or exposure, and their interpretation for human health; and how to report the findings associated.

Course expected learning outcomes: At the end of the course the student should be able to write the research proposal

1. Apply epidemiological knowledge in describing disease patterns and distribution,
2. Apply the basic terminology and definitions of epidemiology in evaluation public health programs.
3. Communicate epidemiologic information to lay and professional audiences.
4. Conduct their own research from both primary and secondary data.
5. Describe a public health problem in terms of magnitude, person, time and place.
6. Describe basic concepts of epidemiology, biostatistics, and demography,
7. Design on how to identify key sources of data for epidemiologic purposes.
8. Develop research proposal; conduct research; develop projects; implement and manage health related projects; conduct and present research report.
9. Draw appropriate inferences from epidemiologic data.
10. Evaluation of biomarkers, preliminary studies, methodological issues, and quality control,
11. Explain the importance of epidemiology for informing scientific, ethical, economic, and political discussion of health issues.
12. Interprets demographic distribution within their area of work,

Course contents:

Course	Modules	LH	TS	AH	IS	PH	TH	CU
Research methodology and project Design	Reseaech Methodology	35	5	10	20	70	140	14
	Project design	20	15	12	43	80	170	17
Total		55	20	22	63	150	310	31

MPH 609 Health Promotion and Health Ethics

Course aim: Describe the concept of health promotion and health ethics as used in Public Health; develop marketing/advocacy for health program and understand the factors that promote and hinder health intervention programs.

Course expected learning outcome: At the end of this module the candidates should be able to:

1. Develop the knowledge, skills, and altitudes essential for the provision of health promotion.
2. Provide opportunities for communities and organisations to participate in health care in collaboration with the government and other stakeholders.
3. Learn and implement through cross cultural and cross-national interaction with health professionals and community leaders the principals and approaches of health promotion.
4. Promote family, organisation and community level ownership of the response and capacity to manage public health issue.
5. Promote counselling and testing services for emerging public health problems.
6. Improve quality and access to health care and treatment.
7. Strengthen health care systems and protect and support vulnerable populations.
8. Enhance adhering to the code of conduct in matters patterning human subject.
9. Enhance compliance and incorporation of cultural values and respect to human subject.

Course Contents:

Course	Modules	LH	TS	AH	IS	PH	TH	CU
Health promotion and ethics	Health promotion	24	10	10	10	16	70	7
	Health Ethics	12	10	5	10	13	50	5
Total		36	20	15	20	29	120	12

MPH 610 Dissertation

Course aim: Candidates shall prepare a dissertation on, so that the recommendations proposed from the results is on national interest and can be applied when they go back to their place of work or act in an advisory basis. The dissertation shall be in the form of a research project.

Course expected learning outcomes: At the end of the research project candidates shall be able to:

1. Review and critique on the literature and generate evidence-based information.
2. Differentiate among goals, measurable objectives, related activities, and expected outcomes for a public health program.
3. Differentiate between qualitative and quantitative evaluation methods in relation to their strengths, limitations, and appropriate uses, and emphases on reliability and validity.
4. Prepare a project budget with justification.
5. Assess evaluation reports in relation to their quality, utility, and impact on public health.

MASTER OF SCIENCE IN PAEDIATRIC NURSING (MSc. PN)

BACKGROUND

Master degree in Paediatric Nursing (MSc.PN) offers full time training with one exit level at the end of the program. The main goals of the program is to conduct a course of professionals and scholars concerned with caring of neonates, infants and children who will be responsive to the dynamic and rapidly changing world known to affect children's development

MASTER OF SCIENCE IN PAEDIATRIC NURSING

BACKGROUND

Master degree in Paediatric Nursing (MSc.PN) offers full time training with one exit level at the end of the program. The main goals of the program is to conduct a course of professionals and scholars concerned with caring of neonates, infants and children who will be responsive to the dynamic and rapidly changing world known to affect children's development. Its' learners are expected have necessary knowledge skills and competencies which enable them to become analytical advisors, scholars and effective managers and leaders in their field of paediatric nursing.

Expected Learning Outcomes

At the end of the program the MSc.PN graduate will have: -

A. Knowledge

To be able to:

i. Analyze critically theories, concepts and principles of human growth and development in the provision of paediatric nursing care to children.
ii. Integrate effectively basic sciences knowledge and understanding in the care of children with diverse health conditions including those with special needs
iii. Appraise theories and principles of nursing during provision of care to children with medical, surgical conditions; both in acute, chronic and during emergency situations.
iv. Apply theories and models of community paediatric nursing promotion activities for children in healthcare and community settings
v. Adapt appropriate evidences in paediatric nursing profession for provision of quality services to neonates infants and children
vi. Analyze major global health issues, policies and structures that affect children's health and health care
vii. Apply ethical knowledge and understanding when interacting with children and families from diverse social, economic and cultural backgrounds.

B Skills

To be able to

i. Design paediatric nursing care plan models appropriate for nursing of neonates, infants and children with diverse health conditions and situations
ii. Manage effectively implementation of care to neonates infants and children with medical, surgical conditions; both in acute, chronic and during emergency situations including children with special needs.
iii. Coordinate paediatric nursing care activities using available resources in different work settings
iv. Apply scientific principles in designing, conducting, disseminate findings on research related to children's health
v. Use evidence based paediatric nursing practice to solve neonatal, infants and children's health problems

vi. Utilize appropriate measurement tools to measure growth and development of neonates, infants and children
vii. Teach colleagues, junior staff, parents and families on issues pertaining to children's' health promotion and disease prevention
viii. Demonstrate morality and high ethical standards during provision services to children and families from different social, economic and cultural backgrounds

C Competencies

To be able to:

i. Appraise health research for policy advise in provision of quality paediatric nursing care
ii. Present research findings in scientific conferences, policy makers' meetings and in other professional peers 'audiences.
iii. Demonstrate creativity and independency when dealing with care of complex paediatric nursing issues, conditions and situations arising in her /his mandate.
iv. Adapt nursing, medical and research ethical principles in dealing with legal and practical problems facing nursing professionals and the healthcare system
v. Comply with compassionate care principles to the sick and well neonates, infants, children and families from diverse backgrounds
vi. Set quality assurance standards in her /his area of work in line with the existing systems
vii. Demonstrate sensitivity of others' views and opinions in issues related to the pediatric nursing profession

Minimum credits for the program is 190 to be delivered in two years

PURPOSE OF THE PROGRAMME

The MSc.PN program purpose is to

i. Develop a specialized professional nurses in the field of pediatric nursing for improved participation and operationalization of health policy
ii. Promote pediatric nursing knowledge skills and competencies among learners for future employers' and community satisfaction.

iii. Entice self-realization, team work, problem solving, analytical and decision making skills that enable graduates to perform efficiently and aspire for lifelong learning

iv. Promote moral, legal and high ethical conduct among pediatric nursing professionals.

ORGANISATION OF THE PROGRAMME

The MSc.PN degree programme offered at CUHAS will be by course work and dissertation. The programme will be for two years, divided into three semesters of 60/70 credits each. The course work consists of 16 courses/modules as indicated in the structure of the program below

STRUCTURE OF THE PROGRAMME

SEMESTER 1

Course Code	***Course Title***	***Theory***		***Practical***		*Total*	
		Hrs	Credits	Hrs	Units	Hrs	Credits
BC 600	Principles of Biochemistry	40	4	40	4	80	8
CP 600	Clinical Pharmacology	40	4	40	4	80	8
GD 600	Essentials of growth and development	70	7	50	5	120	12
EP 600	Ethics , Principles and Practices of pediatric nursing	50	5	70	7	120	12
NM 600	Nutrition and Malnutrition	50	5	50	5	100	12
EB 600	Epidemiology and Biostatistics	60	6	40	4	100	10
PH 600	Clinical Physiology	85	8.5	-	-	85	8.5
						700	70

SEMESTER 2

Course code	***Course title***	***Theory***		***Practical***		*Total*	
		Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
PE 600	Paediatric Emergencies	90	9	80	8	170	17
PS 600	Nursing in Paediatric	60	6	100	10	160	16
NP600	Neuropsychiatry and Clinical Psychology	70	70	40	4	110	11
NN600	Nursing in Neonatology	70	7	90	9	160	16
Total						600	60

SEMESTER 3

Course Code	***Course Title***	***Theory***		***Practical***		*Total*	
		Hrs	**Credits**	**Hrs**	**Units**	**Hrs**	Credits
PD600	Nursing in Pediatric hematology and Oncology	40	4	40	4	80	8
MI 600	Microbiology and Infections in Children	60	6	40	4	100	10
PD600	Specific Pediatric Conditions and Diseases	35	3.5	40	4	75	7.5
PR600	Chronic Diseases and pediatric rehabilitation	45	4.5	40	4	85	8.5
RD600	**Research Design**	70	7	140	14	210	12
Total						700	70

SEMESTER I

BC 600: PRINCIPLES OF BIOCHEMISTRY (8 credits)

The course aims to equip learners with adequate concepts and principles of biochemistry knowledge skills and attitudes needed for paediatric nursing practice

Objectives: At the end of this module the student shall be able to:

1. Differentiate the mechanisms of principal metabolic disorders of children and adults
2. Apply the basic molecular biology concepts of inflammation in managing neonates, infants and older children
3. Manage children with hormonal dysfunctions
4. Use knowledge of biochemical alteration in embryonic development in the care of neonates, infants and older children with congenital malformations
5. Integrate knowledge and skills of blood gases functions in the caring for premature babies, neonates, infants and older children
6. Assess the hemostasis status of critically ill neonates, infants and older children
7. Design and implement children's care plans according to the biochemical laboratory findings

Course Contents

Module	*Code*	*Course contents*	*Theory*		*Practicals*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	**Credits**
1	BC601	Enzymology, Co-enzymes and Energy Transformation	10	1	10	1	20	**2**
II	BC602	Hormone System and biochemistry of congenital diseases	20	2	10	1	30	**3**
III	BC603	Biochemistry of blood gases and buffer system	20	2	10	1	30	**3**
	Total		**50**	**5**	**30**	**3**	**80**	**8**

CLINICAL PHARMACOLOGY –CP 600 (8 credits)

Course Aim: At the end of the course the student will be able to apply knowledge skills and competencies of drugs used to neonatology and pediatric nursing management. Emphasis will be on the mechanism of action, adverse side effects of drug used and rationalize drug choices for different conditions and age of the child

Students will be given an opportunity to practice skills in prescription and administration of medicines in the clinical settings to also practice the evaluation of expected therapeutic responses in neonates, infants and older children.

Objectives: At the end of the course the student should be able to

1. Apply the concepts and principles of pharmacodynamics and pharmacokinetics
2. Comprehend drugs acting in different body systems and their effects to neonates , infants and children
3. Administer precisely the treatments to sick neonates, infants and older children according to their body system
4. Manage neonates, infants and older children with adverse effects of drugs in nursing practice
5. Prescribe emergency treatments in her/his mandate

Course Contents

Module	***Code***	***Course Contents***	***Theory***		***Practical***		*Total*	
			Hrs	Units	Hrs	Units	Hrs	Units
I	CP 601	General pharmacological principles and drug administration in pediatric nursing	10	1	10	1	20	2
II	CP 602	Drugs affecting transmission and function in children	15	1.5	10	1	25	2.5
III	CP 603	Drugs affecting blood coagulation, fibrinolysis and platelet aggregation.	15	1.5	10	1	25	2.5
IV	CP 604	Adverse drug events	5	0.5	5	0.5	10	1
		Total	45	4.5	35	3.5	80	8

ESSENTIALS OF GROWTH AND DEVELOPMENT –GD 600 (12credits)

Aim: The aim of this course is to ensure that all students are be able to apply knowledge, skills and competencies in human growth and development concepts and principles. The students will be exposed evaluate disorders of growth and development in relation to chronic and severe illnesses occurring to children and adults in the clinical practice

Objectives

At the end of this module the student shall be able to:

1. Differentiate normal patterns of growth to deviations from normal among neonates, infants and older children
2. Apply the standard benchmarks to evaluate normal growth during assessments of normal and sick neonates, infants and older children
3. Interpret growth charts in different situations when dealing with disorders of growth and development to neonates, infants and older children
4. Perform developmental and behavior surveillance and screening tests according with developmental milestones

5. Teach anticipatory guidance skills to young families on children's injury an, violence prevention to foster optimal development of infants and children
6. Evaluate a well-child to maintain children's health in RCH clinics and in the community settings
7. Evaluate a child with special health care needs at the clinical and community settings

Course Contents

Module	*Code*	*Course Contents*	*Theory*		*Practicals*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	Credits
I	GD601	Human growth and development at different age groups	30	3	20	2	50	5
II	GD602	Disorders of growth and development	25	2.5	20	2	45	4.5
III	GD 603	Anticipatory Guidance	15	1.5	10	1	25	2.5
		Total	70	7	50	5	120	12

ETHICS PRINCIPLES AND PRACTICES OF PAEDIATRIC NURSING –EP 600 (12 credits)

Aim: The course aims to allow students to have an ability to utilize knowledge, skills and competencies of ethical decision making and advanced pediatric nursing principles and practices at different levels of care settings by using nursing process. The students will be exposed to clinical practice to enhance their ability to assess, write nursing diagnoses, plan, implement care with compassion, and evaluate care given to hospitalized children.

Objectives

At the end of the module/course all learners should be able to:-

1. Utilise legal and ethical decision making principles to encounter challenges in the care of neonates, infants and children with their families
2. Design appropriate physical facilities of a children's units at the clinics, health centres hospitals including the rehabilitation units
3. Adapt appropriate pediatric nursing care models and procedures to support sick neonates, infants and children
4. Conduct comprehensive assessments to the sick neonates, infants and older children
5. Plan care for a sick child affected with acute or chronic conditions
6. Examine sociocultural, religious and ethical values of families with neonates, infants and normal sick children under care
7. Apply compassionate care principles in the care of sick children and their families

Course Contents

Module	*Code*	*Course Contents*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	Credits
I	BP601	Healthcare adaptations for children and their families	10	1.0	10	1	20	2
II	BP602	Nursing Ethics	25	2.5	35	3.5	70	7
III	BP603	Selected Pediatric Procedures	10	1.0	20	2	30	3
IV	BP 604	Facing Death with child and Family	5	0.5	5	0.5		1.0
Total			50	5.0	70	0.6	120	12

NUTRITION AND MALNUTRITION-NM 600(100 credits)

Aim :The aim of the course is to ensure that students are able to implement skills and competencies related to feeding in neonates, nutritional counselling of parents for their infants and manage children with nutritional disorders

Objectives

At the end of the course students will be able to:

1. Demonstrate precision in nutritional assessments of neonates, infants and older children and
2. Contrast the techniques of feeding preterm, full term neonates, infants and old children
3. Perform nutritional counselling to parents with infants having difficulties of feeding
4. Manage neonates, infants and older children with nutritional disorders and diseases

Course Contents:

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	Credits
I	NM601	Nutrition Assessment to neonates Infants and children	10	1.0	10	1	20	2
II	NM602	Epidemiology of the major nutrition disorders	15	1.5	10	1	25	2.5
III	NM 603	Nursing care of children with nutritional disorders	25	2.5	30	3.0	55	5.5
Total			50	5.0	50	5.0	100	10

EPIDEMIOLOGY AND BIOSTATISTICS –EB 600 (10 credits)

Aim: The aim of the course is to analyze epidemiological conditions and apply advanced principles of biostatistics in explaining disease status for policy advice. Learners will be given opportunity to develop studies related to children's conditions with a focus on epidemiological and concepts of biostatistics

Objectives

At the end of the course students will be able to:

1. Conduct and analyse epidemiological studies focusing in children and their families
2. Demonstrate precision in variety of calculations relevant to children's care
3. Perform data analysis using variety of statistical packages common for epidemiological studies
4. Appreciate the importance of evidence based epidemiological information related to

Course Contents

Module	***Code***	***Name***	***Theory***		***Practical***		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	Credits
I	EB601	Principles of Epidemiology	25	2.5	20	2	45	4.5
II	NM602	Biostatistics in epidemiological studies	40	4.0	15	1.5	55	5.5
Total			65	6.5.	35	3.5	100	10

CLINICAL PHYSIOLOGY - PH 600 (8.5 Credits)

Aims: To provide students with knowledge on normal and disordered functioning of the human body and how to use this knowledge in making correct diagnosis and management of disease conditions.

Objectives

At the end of the course the student must be able to:

1. Describe the normal physiology of various body systems
2. Describe the pathophysiology of common disease conditions
3. Discuss the physiological basis of diagnosis and treatment

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	**Credits**
I	PH601	Clinical Physiology of fluid, blood and immuneresponse	20	2.0	-	-	20	**2.0**
II	PH602	Clinical physiology of the Cardiorespiratoy and renal system	20	2.0	-	-	20	**2.0**
III	PH603	Clinical Physiology of Metabolism, Endocrinology and reproductive physiology	30	3.0	-	-	30	**3.0**
IV	PH603	Clinical Neurophysiology	15	1.5	-	-	15	**1.5**
Total			**85**	**8.5.**	**-**	**-**	**85**	**8.5**

SEMESTER TWO

PAEDIATRIC EMERGENCIES AND INTENSIVE CARE -PE 600 (17 credits)

Aim: At the end of this course students will be able be manage effectively paediatric emergencies, triage and life support to children in different situations. They will also be exposed to knowledge, skills and competencies of intensive care nursing to neonates, infants and children.

Objectives

At the end of the course students will be able to:

1. Perform triage/initial assessment in emergencies occurring to children
2. Coordinate the healthcare team and resources in emergency and response involving children
3. Utilise the 4 elements of acute care focusing on areas of chief complaints in children's emergencies
4. Analyse haemostatic status of a critically ill neonates, infants and older children
5. Conduct effective cardiopulmonary and cerebral resuscitation to affected children
6. Manage acute fevers, bleeding and pain after an emergency to a child
7. Predict and treat for shock in emergency situations in children
8. Assemble correctly monitoring devises in emergency situations

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	**Credits**
I	PE601	General approaches and principles of emergencies and in acute situations	20	2	30	3	50	**5**
II	PE 602	Care of a critical ill child and neonate in the different emergency situations	20	2	30	3	50	**5**
III	PE 603	Pediatric Basic Life Support (PBLS/CPR)	10	1.0	25	2.5	35	**3.5**
IV	PE 604	Management of modern monitoring devices in emergency	15	1.5	20	2.0	35	**3.5**
Total			**65**	**6.5**	**105**	**10.5**	**170**	**17**

NURSING IN PAEDIATRIC SURGERY AND ORTHOPAEDICS PS 600 (16 credits)

Aim: At the end of this course the students will be able to apply knowledge skills and competencies in surgical nursing and care of injured neonates and infants and children

Objectives

1. Manage infants and children with gastro intestinal and genital urinary surgical conditions disorders
2. Determine sick neonates and children who require surgical interventions and trauma care
3. Design nursing care plan for children with surgical conditions in pre, intra and post-operative phases
4. Utilize Glasgow Coma scale to assess neonates' infants and older children's responses
5. Interpret laboratory evaluation of a major trauma infants and older children
6. Execute appropriate support to children with spinal cord abdominal, thoracic spleen, liver, renal, pancreatic and intestinal injuries

Course Content

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
I	PS601	Gastrointestinal and genital urinary surgical conditions in children	20	2.0	30	3	50	**5**
II	PS 602	Nursing care in neonates and children with surgical conditions	35	3.5	25	2.5	60	**6**
III	PS 603	Management of surgical devices in children	25	2.5	25	2.5	50	**5**
Total			**80**	**8**	**80**	**8**	**160**	**16**

NEUROPSYCHIATRY AND CLINICAL PSYCHOLOGY (10 credits)

Aim: At the end of the course students will be able to manage children with different forms of Psychiatric disorders. Students will gain knowledge, skills and competencies of normal and abnormal neurological development of children including criteria used to diagnose different types of psychiatric disorders.

Students will have an opportunity to practice nursing management for such children and develop case studies after a physical exposure of cases at the psychiatric unit of the main teaching hospital Bugando Medical centre (BMC)

Objectives

At the end of the course students will be able to:

1. Conduct mental health assessment of a child predicted to have a psychiatric disorder
2. Utilize appropriate criteria in the diagnosis of
    i. Somatoform disorder
    ii. Conversion disorder
    iii. Anxiety disorders-panic disorder and panic attack, generalized anxiety disorder
    iv. Post-traumatic stress disorder
    v. Specific phobias
    vi. Major depressive episode
    vii. Bipolar disorders
    viii. Obsessive compulsive disorder
    ix. Autistic disorder
    x. Schizophrenia

3. Plan and implement nursing care to children with psychiatric /mental health disorders
4. Write case studies on different children's' mental health/psychiatric conditions and present to peers
5. Prescribe appropriate treatments for children and adolescents with common psychiatric /mental health disorders
6. Design health promotion interventions for families with children affected with psychiatric/mental health disorders

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	**Credits**
I	NP601	Normal neurological development in the children	30	3.0	20	2.0	50	**5**
II	NP602	Diagnoses of psychiatric /mental health disorders	15	1.5	20	2.0	35	**3.5**
III	NP 603	Mental health promotion	7	0.7	8	0.8	15	**1.5**
		Total	**52**	**5.2**	**48**	**4.8**	**100**	**10**

NURSING IN NEONATOLOGY-NN 600 (16 Credits)

Aim: At the end of the course the student will be able to apply knowledge, skills and competencies relevant for neonatal nursing care. Students will have ability to differentiate the practices of neonatology for babies at term, pre-term and post-term conditions and diseases.

Expected Course Outcomes :At the end of the course students will be able to:

1. Manage care of the neonates at different stages-at term, preterm and post term
2. Conduct late fetal and early neonatal assessment at birth, after 24 hrs and during discharge from the hospital
3. Analyse the major causes of perinatal and neonatal mortality worldwide, regional and in Tanzania
4. Differentiate problems occurring in intrauterine growth restriction, small for gestational age
5. Teach junior staff /students the taking a perinatal history with its importance
6. Develop nursing care plans for sick neonates with
    i. Birth asphyxia
    ii. life-threatening congenital anomalies
    iii. neonatal cyanosis
    iv. hypocalcaemia
    v. and diabetes
    vi. Hyperthyroidism

vii. Systemic lupus erythematosus
viii. Asthma and prematurity
ix. Anaemia
x. Coagulation disorders
xi. Neonatal seizures
xii. Intracranial hemorrhage

7. Demonstrate compassion and support to families with sick neonates

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
I	**NN601**	Nursing care of the neonates at term, preterm and post term	30	3.0	20	2.0	50	**5**
II	**NN602**	Neonatal conditions and diseases	30	3.0	30	3.0	60	**6**
III	**NN 603**	Prevention of neonatal deaths	30	3.0	20	2.0	50	**5**
		Total	**90**	**9.0**	**70**	**7.0**	**160**	**16**

SEMESTER THREE

PAEDITRIC NURSING IN HAEMATOLOGY AND ONCOLOGY – P0 600(8 credits)

Aim *:* At the end of the course students will have knowledge skills and competencies of blood disorders and cancers. Students will have skills of diagnostic procedures and therapeutic protocols necessary to treat children with haematological and oncological problems

Objectives : At the end of the course students will be able to;

1. Perform haematology and oncology assessment to neonates, infants and children
2. Comprehend with examples the presentation of haematological disorders among children
3. Differentiate different types of anaemias to include iron deficiency anaemia, microcytic, normocytic anaemia and the cycle cell syndrome
4. Manage children with haematological disorders such as Anaemias, Haemostatic disorders – haemophilia, platelet dysfunction, thrombotic problems, intracranial haemorrhage
5. Manage neonates, infants and older children on blood transfusion
6. Design nursing care interventions to children with oncological disorders
    i. Leukaemia
    ii. Central Nevous system tumors
    iii. Neuroblastoma

iv. Wilms tumor
v. Sarcomas

7. Apply principles and practices of cancer treatment in the care of children under chemotherapy, radiotherapy and bone marrow transplantation

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	**Credits**
I	PO601	Common haematological disorders	10	1.0	10	1	10	**2**
II	PO602	Common Types of Cancers to children	15	1.5	15	1.5	30	**3**
III	PO 603	Cancer treatments	20	2.0	10	1	30	**3**
Total			**45**	**4.5**	**35**	**3.5**	**80**	**8**

MICROBIOLOGY AND INFECTIOUS DISEASES IN CHILDREN_MI 600 (10 credits)

Aim : At the end of the course the student will be able manage children with different types of infectious diseases and have skills to detect microorganisms such as bacteria, viruses, fungi and protozoa for appropriate formulation of nursing diagnoses and write correct drug prescriptions under her mandate to children

Objectives

At the end of the course students will be able to

1. Detect different types of micro-organisms of importance to children's, health
2. Asses the sick child to exclude /diagnose infections
3. Localize manifestations for infections among children
4. Manage care to children with different types infections listed below
    i. Fever without focus
    ii. Infections characterized by fever and rash
    iii. Cutaneous infections
    iv. Lymphadenopathy
    v. Meningitis
    vi. Encephalitis
    vii. Upper respiratory tract infections
    viii. Pertusis syndrome
    ix. Bronchiolitis
    x. Pneumonia
    xi. Ocular infections
    xii. Endocarditis
    xiii. Tuberculosis
    xiv. HIV and AIDS

xv. Viral hepatitis
xvi. Urinary Tract Infections
xvii. Parasitic diseases

5. Utilize appropriate skills in using different medical laboratory equipment
6. Apply principles and practices of infection prevention

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
I	MI601	General Bacteriology, Virology, mycology and parasitology	10	1.0	10	1.0	10	**2**
II	MI602	Transmission mechanisms, preventive measures and measures of isolation	15	1.5	15	1.5	30	**3**
III	MI 603	Infectious diseases in neonates and children	20	2.0	30	3.0	50	**5**
Total			**45**	**4.5**	**55**	**5.5**	**100**	**10**

SPECIFIC PAEDIATRIC DISEASES _ PD 600 (7.5 credits)

Aim *:* At the end of the course students will be able to apply knowledge skills and competencies of caring to children different paediatric conditions. The students will be able to use their knowledge and skills to prescribe for treatments which are under their mandate, implement nursing care and teach junior staff and student the common procedures of care needed for different paediatric conditions

Objectives

1. Manage the care of infants and older children with acute and chronic diseases and conditions by system
2. Acute and chronic respiratory diseases, respiratory distress, lung diseases
3. Cardio logical congenital and acquired diseases.
4. Hepatic and abdominal diseases.
5. Acute and chronic renal and urinary tract diseases and malformations.
6. Acute and chronic diseases of the central nervous system
7. Acute and chronic diseases of the digestive system

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	Credits	Hrs	Credits	Hrs	**Credits**
I	PD601	Nursing management of acute children diseases	20	2	20	2	40	**4**
II	PD602	Prevention of specific diseases	20	2.0	15	1.5	35	**3.5**
Total			**40**	**4.0**	**35**	**3.5**	**75**	**7.5**

CHRONIC DISEASES AND PAEDIATRIC REHABILITATION – PR 600- (8.5 credits)

Aim: At the end of the course students will be able to apply knowledge skills and competencies in the care of children with chronic diseases and demonstrate disease rehabilitation skills

Objectives

At the end of the course students will be able to

1. Apply knowledge on tertiary prevention to children under rehabilitation management at home and in care centres
2. Manage children with severe and chronic conditions and diseases
3. Utilize appropriate rehabilitation techniques in the care of children with disabilities
4. Teach and counsel children and families with infants and older children with chronic diseases and disability
5. Design a nursing care plan for children with disabilities / neurological chronic disease
6. Collaborate with other healthcare team in management of children with disabilities/ neurological chronic disease
7. Use pain control techniques and educational strategies in palliative care
8. Manage reactions to disabled children and their affected families

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
I	PR601	Neuromotorial disability in children	10	1	15	1.5	25	**2.5**
II	PR602	Congenital and acquired diseases conducting to disability	10	1	15	1.5	25	**2.5**
III	PR603	Assisting and counselling the child / family with disability	15	1.5	20	2.0	35	**3.5**
Total			**35**	**3.5**	**50**	**5.0**	**85**	**8.5**

PAEDITRIC COMMUNITY HEALTH NURSING AND HEALTH PROMOTION_PN 700

Aim: At the end of the course students will be able to apply community health nursing and health promotion models and strategies to manage children's health in their homes/communities

Objectives

1. Apply the concepts of epidemiological theories in paediatric community health
2. Conduct paediatric community heath surveillance and community needs
3. Analyse the population health promotion model
4. Integrate health promotion beliefs, principles and measurements in paediatric community health nursing
5. Design appropriate IEC materials to promote child health in the community
6. Develop tools for assessing health promotion activities for children in the community

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
I	PN701	Epidemiological theories and paediatrics	10	1	10	1	20	**2**
II	PN702	Health promotion models and actions in relation to paediatric nursing	25	2.5	60	6	85	**8.5**
III	PN703	Tools for Community health assessment for children in the community	15	1.5	30	3.0	45	**4.5**
Total			**50**	**5.0**	**100**	**10.0**	**150**	**15.0**

RESEARCH DESIGN- RD 600 (21 Credits)

Aim: The aim of the course is to ensure students are able to apply the concepts and skills and competencies of research design; conduct research and disseminate evidences in paediatric nursing to larger community

Objectives: At the end of the course students will be able to

1. Use variety of data collection and analysis methods
2. Teach research methods to junior staff and students
3. Translate research findings into practice

4. Advocate research findings to policy makers
5. Apply evidence based paediatric nursing at work

Course Contents

Module	*Code*	*Name*	*Theory*		*Practical*		*Total*	
			Hrs	*Credits*	*Hrs*	*Credits*	*Hrs*	*Credits*
I	RD601	Research paradigms	30	3	20	2	50	**5**
II	RD602	Research methodology	50	5	30	3	80	**8**
III	RD603	Writing a scientific paper	50	5.0	30	3.0	80	**8.0**
Total			**130**		**80**		**210**	**21.0**

DISSERTATION

Students shall prepare a dissertation on a subject of paediatric nursing related topics. The dissertation shall be in form of research project.

NOTE:

After semester 3 –Students will be given an opportunity to complete their field work research projects write up and submission of their dissertations before graduation.

A maximum of two months will be allowed before submission of their MSc.PN degree dissertations and defence.

DOCTOR OF PHILOSOPHY (PhD)

INTRODUCTION

The Catholic University of Health and Allied Sciences at Bugando offers postgraduate programme leading to the award of Doctor of Philosophy (PhD) in all major fields of specialization in Health.

DOCTOR OF PHILOSOPHY (PhD) PROGRAMMES

GUIDELINES

INTRODUCTION

The Catholic University of Health and Allied Sciences at Bugando will offer postgraduate programme leading to the award of Doctor of Philosophy (PhD) in all major fields of specialization in Health. The PhD degree is offered by thesis both in the Monograph format and by Publications.

ENTRY QUALIFICATIONS

The prospective candidate must demonstrate the capacity to carry out research independently and ability to pursue the proposed study programme.

A candidate seeking for admission for a PhD must be a holder of a relevant Master Degree (MSc, or MMED) of the Catholic University of Health and Allied Sciences (CUHAS) or any other recognized institution of higher learning within or outside Tanzania. A holder of MD or BVM can register for a PhD programme; in this case, the duration of the training and content of the courses to be covered will be determined by the higher degree committee based on the topic.

PROGRAMME STRUCTURE

1. The PhD degree will involve a three years full time research work at the end of which a thesis should be submitted or five years for a part time registered candidate.
2. Registration for the programme shall be at any time during the academic year. The applicant will be required to fill in the relevant application forms and submitting them to Senate Higher Degrees Committee through the Dean School of Graduate Studies,
3. Upon registration, the candidate will submit a two-page statement of the intended research topic to the Directorate of Postgraduate studies. On the basis of the statement the department will submit a name (s) of supervisor (s) for approval. Applicant should provide copy of undergraduate Degree, Master Degree with relevant transcripts where appropriate and recent CV.
4. Within four months of the assignment of a supervisor the candidate shall present a comprehensive proposal on the area of interest, through the Faculty/School Board, University Higher Degrees Committee and Academic Committee. The proposal should not exceed 25 pages in length, typing in at least 12-point font and double spaced. The proposal must have at least the following
    - i. Title; clearly spells out the research questions to be answered
    - ii. Name of the author
    - iii. Names of the supervisors
    - iv. Abstract
    - v. Background information of the research problems
    - vi. The justification of the study, why the study is important and why it should be done
    - vii. Materials and methodology.
    - viii. How the results would be analyzed.

ix. The ethical considerations must be discussed thoroughly.
x. References

This proposal must be approved by the relevant Department, Faculty, University Higher Degrees Committee and the Academic Board.

Supervisors

The department will submit at least 2 names of suitably qualified individuals to act as supervisors for the candidate based on the CUHAS supervision guidelines. The names will have to be approved by the School Board, the Senate Higher Degrees Committee and the Senate.

SANDWICH PROGRAMME

CUHAS will also offer a PhD on a sandwich mode. This will mainly be in areas where facilities and research infrastructure is deemed inadequate. It is expected that most of data collection will be done in Tanzania. Literature Survey, analysis of results could be done at the collaborating institution. The following guidelines will be adhered to:

a. Entry requirements are the same as stipulated above.
b. The procedure for obtaining full registration will be similar to those stipulated above
c. The degree awarded shall be that of the Catholic University of Health and Allied Sciences.

THE STRUCTURE OF THE PhD THESIS

Monograph

The PhD thesis manuscript at CUHAS should be written on size A4 paper using clearly readable fonts with double line spacing. There should be a 1" margins on top and bottom. There should be 1½" margin spacing on the left margins (to give space for binding) and 1" space on the right margin.

Generally a well-organized thesis should have the following structure:

i) Title page which should include • Title of the study (including subtitle) • Author • Thesis submitted in partial fulfillment for the award of Doctor of Philosophy (PhD) degree of the Catholic University of Health and Allied Sciences. • Date of submission *ii) Declaration page* By the author and supervisors that the work presented is original and	*vi) List of Figures* *vii) List of Tables* *viii) Introduction* *ix) Literature review* *x) Materials and Methods* *xi) Results* *xii) Discussions* *xiii) Conclusions* *xiv) Recommendations* *xv) References* *xvi) Appendices*

has not been presented for any other degree in any university. *iii) Dedication and acknowledgements* *iv) Abstract* *v) Table of contents*	

Thesis by Publication

1. The general specifications on the standard of writing and layout of the PhD thesis by publication at CUHAS should be similar to those laid down in 5.1.
2. A PhD thesis should consist of published materials
   - Papers in peer-reviewed journals with at least impact factor of 1.
   - Peer –reviewed book chapters.
3. At CUHAS about 4 papers should be enough, provided that the scientific material is enough and comparable to that required in a conventional PhD Thesis. One of the four papers might include review paper on the PhD topic. The published materials must be prepared after admission to the PhD programme, or they should not have been published more than 2 years before registration.
4. It is expected that the candidate will have played a leading role in the design, carrying out the research work, analysis of data and writing of the papers. Coauthored papers should be accompanied by signed declaration by all the authors of the contribution by the candidate (especially if the candidate is not the first or senior author).
5. The papers should have been published, or accepted for publication or in print at the time of submission of the PhD thesis.
6. The published material must have not been used for an award of another degree.
7. The body of the thesis should comprise of the following sections:
   a) **A title page**
      - Title of the study (including subtitle)
      - Author
      - Thesis submitted in partial fulfillment for the award of Doctor of Philosophy (PhD) degree of the Catholic University of Health and Allied Sciences-Bugando.
      - Date of submission

   b) Declaration page; by the author and supervisors that the work presented is original and has not been presented for any other degree in any university.
   c) An abstract of the entire thesis work (including the submitted papers)
   d) Table of contents, list of figures and tables
   e) Acknowledgements
   f) An introduction which highlights the aims and objectives and the significance of the research work done
   g) Literature review
   h) A chapter or section where the candidate will integrate the work done in the submitted papers so that there is a common theme in the thesis.

i) Linking section between each publication to introduce the aims and hypothesis of each publication.
j) Discussions and conclusion.
k) References.

8. The binding of the thesis, submission, assessment by the examiners and defense of the thesis to be done as for the conventional thesis.

Submission of the Thesis

When the candidate and supervisors are satisfied by the progress of the thesis and are ready to submit the thesis for evaluation; the candidate must notify the School and the Directorate of Postgraduate Studies of the intention to submit the thesis for evaluation at least 2 months before.

- This will give time for the School and the Directorate to nominate examiners (Internal and External)
- The supervisors will have to declare and sign that they are satisfied with the standard of the thesis to be submitted for assessment and evaluation by the examiners
- The candidate will then submit the thesis manuscript in partial fulfillment of the requirement for the degree of Doctor of Philosophy (PhD) of the Catholic University of Health and Allied Sciences.
- Candidates must submit 6 loosely bound copies of the thesis at least three months before appearing for the defense
- The thesis will be examined by both external and Internal examiners who will have to fill in the approved form (see appendix VII)
- If the external examiners are satisfied by the standard of the thesis, the candidate will have to appear for the oral defense (viva voce) at a panel of examiners as recommended by the School.

Viva voce Panel

The viva voce panel which must be approved by the Senate or Chairman of the Senate on its behalf will consist of :

- The Chairman appointed by the Dean of Relevant School
    - The Chairperson of the viva voce panel shall be a senior academician preferably a person who has already attained the level of a professor
- The external Examiners
- The 2 internal examiners
- 2 members with at least PhD or the rank of associate Professor appointed by the Dean
- 2 members with at least PhD or the rank of associate Professor expert in the field of specialization appointed by the HOD
- Any other co-opted members appointed by the Director of Postgraduate studies

The ***viva voce*** examination process will include

- Presentation by the candidate about his/her works. This could be a power point presentation. It should be brief and cover the main areas of the work ***(introduction, justification for the study, main objectives, materials and methodology, main findings***

and any new contribution to scientific knowledge, discussions, conclusions and suggestions for future studies)

- This will be followed by questions from the members of the panel to ascertain the competency of the candidate in the work presented and the area of specialization
- The function of the viva voce examination shall be to make a definite recommendation to the relevant academic unit handling postgraduate studies and Senate whether the candidate has passed or failed after having ascertained:
    - that the thesis presented, the data, methodology, analysis and findings is the original work of the candidate
    - that the candidate fully grasps the broader subject area in which the study is based;
    - and any weakness in the thesis that can be adequately clarified or addressed by the candidate.
- Any corrections of the thesis have to be done and submission of error free dissertation done before a candidate will be awarded degree.

INSTITUTE OF ALLIED HEALTH SCIENCES (IAHS)

Director, Mr. Gration Tibaijuka,

B. Pharmacy (UDSM), MSc. Pharm (Zaporozyhye Medical Inst., Ukrane

The Institute of Allied Health Sciences (IAHS) is the centre in which the University offers Diploma Programmes in Allied Health Sciences. Currently, we run three Diploma Programmes specifically Diploma in Medical Laboratory Sciences, Diploma in Diagnostic Radiography and Diploma in Pharmaceutical Sciences. All three programmes are highly competitive and offer good employment prospects to out graduates.

Vision of the Institute:

To become an institute of excellence in competence and diligence in training and skill provision, relevant to the community.

Mission of the Institute:

- To deliver and impart knowledge, skills and understanding responsive to the health sector at large.
- To provide high quality technical skilled services to the community.

DIPLOMA PROGRAMMES

SUMMARY OF THE CURRICULUM FOR DIPLOMA PROGRAMMES

DPS CURRICULLUM SEMESTER MODULES

Code	*Subject*	*Theory*		*Practical*		*Total*	
		Hrs	*Units*	*Hrs*	*Units*	*Hrs*	*Units*
Semester 1							
PT107-108	Pharmaceutics Theory - I	75	6.0	-	-	75	**5.0**
PT100-101	Hygiene	75	5.0	-	-	75	**5.0**
PT102-104	Inorganic Chemistry	97.5	6.5	--	-	97.5	**6.5**
PT105-106	Pharmaceutical Calculation - I	90	6.0	-	-	90	**6.0**
	Total	**337.5**	**22.5**	**-**	**-**	**337.5**	**22.5**
Semester 2							
PT109-110	Anatomy & Physiology	120	8.0	-	-	120	**8.0**
PT111-112	Pharmaceutics Microbiology	90	6.0	-	-	90	**6.0**
PT113-114	Pharmaceutical Calculation –II	45	3.0	-	-	45	**3.0**
PT115-116	Pharmaceutics Theory – II	75	5.0	-	-	75	**3.0**
PP100-102	Pharmaceutical Practical - I	-	-	180	4.0	180	**4.0**
	Total	**330**	**22.0**	**180**	**4.0**	**510**	**26.0**
Semester 3							
PT200-201	Pharmaceutical Organic Chemistry	105	7.0	-	-	105	**7.0**
PT202-203	Drugs & Medical Supplies Management	60	4.0	-	-	60	**4.0**
PT204-205	Pharmacology I	60	4.0	-	-	60	**4.0**
PT206-208	Pharmaceutical Calculation(III)	105	7.0	-	-	105	**7.0**
PT209-210	Pharmaceutics Theory (III)	75	5.0	-	-	75	**5.0**
PP 200	Pharmaceutical Practical (II)	-	-	90	2.0	495	**29.0**
	Total	**405**	**27.0**	**90**	**2.0**	**49.5**	**29.0**
Semester 4							
PT211-213	Pharmacognosy	105	7.0	-	-	105	**7.0**
PT 214	Forensic Pharmacy I	15	1.0	-	-	15	**1.0**
PT215-216	Drugs & Medical Supplies Management (II)	52.5	3.5	-	-	52.5	**3.5**
PT217-218	Pharmacology (II)	60	4.0	-	-	60	**4.0**
PT219-220	Pharmaceutics Theory (IV)	75	5.0	-	-	75	**5.0**
PP 202	Pharmaceutical Practical (III)	-	2.0	90	2.0	90	**2.0**
	Total	**292.5**	**26.0**	**90**	**2.0**	**397**	**28.0**
Semester 5							
PT 300	Introduction to entrepreneurship	15	1.0	-	-	15	**1.0**
PT301-302	Pharmacology IIII	30	2.0	-	-	30	**2.0**
PT305-304	Pharmaceutics Theory V	45	3	-	-	45	**3.0**
PT 305	Forensic Pharmacy II	22.5	1.5	-	-	22.5	**2.5**
PP 300	Pharmaceutics Practical IV	-	-	67.5	1.5	67.5	**1.5**
PP 303	Field Project	-	-	315	7.0	315	**7.0**
	Total	**1125**	**8.5**	**382.5**	**8.5**	**495**	**17.0**
Semester 6							
PT 314	Community Pharmacy	30	2.0	-	-	30	**2.0**
PT305-308	Pharmacology	90	6.0	-	-	90	**6.0**
PT309-310	Pharmaceutics Theory VI	90	6.0	-	-	90	**6.0**
PT311-313	Drugs & Medical Supplies Management III	105	7.5	-	-	105	**7.5**
PT315-316	Forensic Pharmacy III	75	5	-	-	75	**5.0**
PP 302	Pharmaceutics Practical V	-	-	67.5	1.5	67.5	**1.5**
	Total	**390**	**26.6**	**67.5**	**1.5**	**457.5**	**28.0**

DDR CURRICULLUM (SEMESTER MODULES)
Summary of the subjects and their code numbers

CODE	*SUBJECT*	*HOURS*	*UNITS*
Semester 1			
DR 111	Radiographic Photography and imaging (I)	75	**5**
DR 112	Radiographic Technique and procedures (I)	142.5	**9.5**
DR113	Anatomy, Physiology & Pathology (I)	90	**6**
DR114	Applied physics	82.5	**5.5**
DR 115	Care of patients	120	**8**
	Clinical rotations at X-Ray Department	80	**2.7**
Total		**590**	**36.7**
Semester 2			
DR 121	Radiographic Photography and imaging (II)	60	**4**
DR 122	Radiographic Technique and procedures (II)	157.5	**4**
DR 123	Anatomy, Physiology & Pathology (II)	37.5	**2.5**
DR 124	Radiation physics	60	**4**
DR 125	Basic ultrasound imaging (I)	90	**6**
DR 126	Clinical practice at X-Ray department (I)	160	**5.3**
Total		**565**	**25.8**
Semester 3			
DR 231	Radiographic Photography and imaging (III)	60	**4**
DR 232	Radiographic Technique and procedures (III)	90	**6**
DR 233	Equipment of diagnostic radiography	150	**10**
DR 234	Anatomy, Physiology & Pathology (III)	120	**8**
DR 235	Radiobiology and radiation protection	30	**2**
DR 236	Clinical practice at X-Ray department (II)	160	**5.3**
Total		**610**	**35.3**
Semester 4			
DR 241	Radiographic technique and procedure (IV)	135	**9**
DR 242	Anatomy, Physiology and Pathology (IV)	120	**8**
DR 243	Radiological pathology (I)	105	**7**
DR 244	Basic Ultrasound imaging (II)	45	**3**
DR 245	Clinical practice at X-Ray department (III)	160	**5.3**
Total		**565**	**32.3**
Semester 5			
DR 351	Radiographic technique and procedure (V)	127.5	**8.5**
DR 352	Radiological pathology (II)	105	**7**
DR 353	Basic Ultrasound imaging (III)	45	**3**
DR 354	Management and Administration	67.5	**4.5**
DR 355	Quality Assurance	60	**4**
DR356	Clinical practice at X-Ray department (IV)	160	**5.3**
Total		**565**	**32.3**
Semester 6			
DR 361	Field work	480	**16**
DR 362	Equipment for diagnostic radiography (II)	90	**6**
DR 363	Clinical practice (V)	30	**1**
Total		**600**	**23**

DMLS CURRICULLUM (SEMESTER MODULES)
Summary of the subjects and their code numbers

Code	*Course name*	*Lectures*		*Practicals*		*Total*	
		Hrs	**Units**	**Hrs**	**Units**	**Hrs**	**Units**
Semester 1							
LS 100-102	Anatomy	108	7.2	-	-	108	**7.2**
LS 105-108	Biochemistry (I)	96	6.4	-	-	96	**6.4**
LS 116-117	Basic Sciences	74	4.9	-	-	74	**4.9**
LS 118-120	Communication skills	54	3.6	-	-	54	**3.6**
LS 121-122	Introduction to Information Technology	12	0.8	36	0.8	48	**1.6**
Total		**344**	**22.9**	**36**	**0.8**	**380**	**23.7**
Semester 2							
LS 103-104	Human Physiology	114	7.6	-	-	114	**7.6**
LS 109-112	Biochemistry (II)	96	6.4	-	-	96	**6.4**
LS 113-115	Molecular biology	80	5.3	-	-	80	**5.3**
LS 123-127	Introduction to Health Laboratory Sciences	67	4.4	-		67	**4.4**
Total		**357**	**23.7**	**-**	**0.2**	**357**	**23.7**
Semester 3							
LS 200-202	Blood Transfusion I	34	2.3	32	0.7	66	**3.0**
LS 206-209	Clinical Chemistry I	72	4.8	10	0.2	82	**5.0**
LS 214-217	Haematology I	56	3.7	28	0.6	82	**4.3**
LS 221-224	Health System Research	32	2.1	0	0	32	**2.1**
LS 225-227	Histopathology/Morbid Anatomy I	58	3.9	14	0.3	72	**4.2**
LS 230-234	Microbiology/Immunology I	67	4.4	24	0.5	91	**4.9**
LS 239-241	Parasitology I	56	3.7	18	0.4	74	**4.1**
LP 244	Practical I	0	0	126	2.8	126	**2.8**
Total		**375**	**24.9**	**252**	**5.5**	**625**	**30.4**
Semester 4							
LS 203-205	Blood Transfusion II	49	3.2	14	0.3	63	**3.5**
LS 210-213	Clinical Chemistry II	45	3.0	15	0.3	60	**3.3**
LS 218-220	Haematology II	45	3	45	1.0	90	**4.0**
LS 228-229	Histopathology/Morbid Anatomy II	42	2.8	18	0.4	60	**3.2**
LS 235-238	Microbiology II	56	3.7	15	0.3	71	**4.0**
LS 242-243	Parasitology II	60	4.0	18	0.4	78	**4.4**
LP 245	Practical II	0	0	125	2.8	125	**2.8**
Total		**297**	**19.7**	**250**	**5.5**	**547**	**25.2**
Semester 5							
LS 300-302	Clinical Chemistry III	60	4.0	19	0.4	79	**4.4**
LS 306-307	Haematology III	64	4.2	14	0.3	78	**4.5**
LS 310-312	Health Lab. Management	68	4.5	0	0	68	**4.5**
LS 313-314	Histopathology/Morbid Anatomy III	56	3.7	14	0.3	70	**4.0**
LS 317-320	Medical Entomology	69	4.6	24	0.5	93	**5.1**
LS 321-322	Microbiology III	54	3.6	10	0.2	64	**3.8**
LP 325	Practicals III	0	0	81	1.8	81	**1.8**
LP 332	Field Practice	0	0	320	7.1	320	**7.1**
Total		**371**	**24.6**	**482**	**10.6**	**853**	**35.2**
Semester 6							
LS 303-305	Clinical Chemistry IV	74	5.0	14	0.3	88	**5.3**
LS 308-309	Haematology IV	54	3.6	19	0.4	73	**4.0**
LS 315-316	Histopathology/Morbid Anatomy IV	70	4.7	19	0.4	89	**5.1**
LS 323-324	Microbiology IV	43	2.8	10	0.2	53	**3.0**
LP 326	Practical IV	0	0	62	1.4	62	**1.4**
Total		**241**	**16**	**124**	**2.7**	**365**	**18.8**

OCCASIONAL STUDENTS/ELECTIVE STUDENTS

1. An occasional/elective student is one the duration of whose studentship is less than one academic year. Occasional/elective students should normally stay for less than one semester.
2. The entrance qualifications are the same as for admission to Undergraduate degree course or equivalent.
3. a) The applications must be submitted through the applicant's Institute which should, if it supports the application, send a letter of recommendation to this University.

   c) Applications for occasional studentship at the Catholic University of Health and Allied Sciences (CUHAS- Bugando) should reach the Vice Chancellor at least six months before the date or month for which the applicant seeks admission.

   All correspondence should be addressed to:

   The Deputy Vice Chancellor (ARC)

   Catholic University of Health and Allied Sciences,

   P.O. Box 1464

   Mwanza.

   FAX: 255-28-2502678

   Email: vc@bugando.ac.tz

   Website: http://www.Bugando.ac.tz
4. Non-Tanzanian students are expected to conform to all immigration formalities in force in their countries before they depart for Tanzania. They must also obtain Resident Permit from the nearest Tanzanian Embassy or High Commission before they arrive.
5. Admission is on a semester basis to any year of study.
6. Occasional students will neither sit for exams nor get transcripts or grades except in special circumstances or where regulations allow a special programme could be set up which is recognized by the University.
7. An occasional student will be discontinued on the following grounds: -any serious breach of University regulations, abscondment, or irregular attendance.
8. Occasional students will pay fees like all other students.
9. Non-Tanzanian students will pay fees in foreign currency (US$) or its equivalent in other acceptable currencies.

STUDENTS' PRIZES

1. The Vice Chancellor's Prize:
   For the Academically overall best student in each year of study for all programmes

2. The CUHAS COUNCIL CHAIRMAN'S Prize:
   For the Best all-round student in each year of the degree programmes

3. The Thomas L. Smith Prize:
   For the best male student in each year's MD course university Examinations

4. The Kimiko Ryan Prize:
   For the best female student in each year's MD course university Examinations

5. Twenty Eleven Team Tanzania Scholars Award:
   For the academically overall best student in each year of study for the MD programme.

6. The Hartfield Academic, Research and leadership Award
   Hartfield award to the best MPH candidate who has shown academic, research and leadership excellence.

STAFF LIST

SENIOR STAFF

The Vice Chancellor

Prof. Paschalis G. Rugarabamu	*DDS (UDSM); MDENT (Dental Public Health) (UDSM); MBA (ESAMI)*

Deputy Vice Chancellor Academics, Research & Consultancy

Prof. Stephen E. Mshana,	*MD (UDSM), MMED (Makerere), PhD (SAUT), Fell.Med. Edu. (FAIMER)*

Deputy Vice Chancellor Finance, Planning and Administration

Rev. Dr. Agapit J. Mroso, OFMCap	*Licentiate in Dogmatic Theology (Gregorian- Rome), M. Spiritual Theology (Angelicum-Rome), PhD (Gregorian- Rome)*

Dean, School of Medicine

Prof. Erasmus Kamugisha,	*MD (UDSM), MSc (Makerere), PhD (SAUT)*

Associate Deans, School of Medicine

H. Dika,	*MD (UDSM), M.Sc.(Makerere), PhD (Calgary)*
S.B. Kilonzo	*MD, MMED (CUHAS), PhD Fellow*

Dean, School of Pharmacy

Prof. Gilbert W.M Kongola,	*MD (UDSM), MSc. (Manchester), PhD (Manchester)*

Dean, Archbishop Anthony Mayala School of Nursing

Dr. Rose M. Laisser ,	*ADNE (MUHAS);M.Sc (Leeds Metropolitan University), PhD (University of Umea – Sweden)*

Ag. Dean, School of Public Health

Prof. Domenica Morona,	*M. Sc (LSTMH); PhD.*

Director: Institute of Allied Health Sciences

Mr. Gration R. Tibaijuka,	*B. Pharmacy (UDSM), MSc. Pharm (Zaporozyhye Medical Inst., Ukrane)*

Director: Postgraduate Studies

Dr. Jeremiah Seni	*MD (UDSM), M.Sc.(Makerere), PhD (Calgary)*

Associate Director: Postgraduate Studies

Dr. Dismas Matovelo	*MD (UDSM), MMED (SAUT),*

Director: Research and Innovation

Prof. Domenica Morona	*MSc. (LSTMH); PhD*

Associate Director: Research and Innovation

Dr. Benson Kidenya	*MD (UDSM), MSc (Makerere), MSc. ClinEpidemiology (Cornell, NY), PhD (CUHAS)*

Director: Quality Assurance

Prof. Peter Rambau,	*MD (UDSM), MMED (Makerere), PhD(Calgary)*

Associate Director: Quality Assurance

Vacant

Chief Accountant

Mr. Boniface Kwiyeya,	*ADCA (Mzumbe), CPA (NBAA)*

Internal Auditor

Ms. Bahati Michael Kilungu	*ADA (SAUT), CPA (NBAA)*

Chaplain

Rev. Fr. Christopher Matunda Dinho	*BA in Theology (Rome), M.A in Theology (Rome)*

Corporate Counsel

Rev. Fr. Paul Nhindilo	*Dipl. Philosophy B.A Theology (Pontifical Urbanian University) PhD in Canon Law (Pontifical Luteran University)*

UNIVERSITY-WIDE DEPARTMENTS/UNITS

OFFICE OF DEVELOPMENT & PLANNING

Head: Vacant

ICT DIRECTORATE

Head of Directorate

I. M. Khangane,	*BSc (Eng), MSc (I.T.)*

Senior Computer programmer/Analyst

M.J. Magori	*Adv. Dipl. ICT (Carlisle, UK); B.Sc.(Hons) in ICT (Glamorgan UK); Post Grad. Dipl in Computer Security (Glamorgan UK)*

Systems and Network Administrator

E. Malisha,	*Cert. Comp. Studies; Dipl. IT (UCC), B.Sc (IT) (SAUT)*

Computer Technicians

A. Mihayo	*Dipl. I.T (UCC)*
A. Urassa	*Cert I.T, Dipl. I.T (UCC)*

UNIVERSITY LIBRARY

Ag. Head University Library

Y. Machimu	*Dipl. LADS (Bagamoyo), B.Libr. Inf. Mgt (OUT)*

Library Officer

A. Gihega	*Dipl. LADS (Bagamoyo), BALIS (Tumaini Univ. Dar)*
O. Joachim	*Cert.Libr(Bagamoyo), B.Libr. Inf. Mgt. (OUT)*

Library Assistant

S. Kishosha	*Cert.Libr (Bagamoyo)*
Mr. Oliver Bondo	*Cert. Libr (Bagamoyo)*

WEILL BUGANDO SCHOOL OF MEDICINE

Dean

Prof. Erasmus Kamugisha,	*MD (UDSM), MSc (Makerere), PhD (SAUT)*

Associate Dean-Biomedical Sciences

Dr. Haruna Dika,	*MD (UDSM), M.Sc.(Makerere), PhD (Calgary)*

Associate Dean-Clinical Sciences

Dr. Semvua B. Kilonzo	*MD, MMED (CUHAS), PhD Fellow*

DEPARTMENT OF ANATOMY & HISTOLOGY

Head

Vacant

Professors

A.P. Gesase,	*M.D. (UDSM), Ph.D (Japan): Visiting*
E.P. Mtui	*MD (UDSM), MSc. PhD: Visiting*

Associate Professor

*Mange Manyama,	*MD (UDSM), M.Sc(Makerere), PhD(Calgary)*

***On Leave**

Assistants Lecturer

A. Lukanima	*MD (UDSM), Msc (Makerere)*
N.I. Magele	*MD (HKMU), Msc (Makerere)*

Tutorial Assistant

M. Ndibalema	*MD (CUHAS)*

DEPARTMENT OF ANAESTHESIOLOGY

Lecturer and Acting Head

Dr. Bernard Kenemo,	*MD, Postgraduate Fellowship*

DEPARTMENT OF BIOCHEMISTRY

Senior Lecturer and Head

B. Kidenya	*MD (UDSM), MSc (Makerere), MSc. Clin Epidemiology (Cornell, NY), PhD (CUHAS)*

Associate Professor

E. Kamugisha	*MD (UDSM) MSc (Makerere), PhD (SAUT)*

Assistants Lecturers

B. Okamo	*DMLS (SAUT), BMLS (CUHAS), MSc (Makerere)*
F. A. Tarimo	*MD (CUHAS)*

DEPARTMENT OF EMERGENCY MEDICINE

Lecturer

S. A Suleman	*MD, M.MED*

DEPARTMENT OF INTERNAL MEDICINE

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Associate Professor

A. N. Makubi	MD(*UDSM)*, M.MED (*Norway*), MSc. (*MUHAS)*, PG.Dip (*Austria*), PhD (*Sweden*)
S. E. Kalluvya**,**	*MD (Sofia), MMed (Int. Med)(UDSM)*
R. Perk	*MD, MMED(USA)*

Senior Lecturer

H. Jaka	*MD (HKMU), MMed (SAUT), MSc. Med. Edu (Maastricht), PhD Fellow*
S.B. Kilonzo	*MD, MMED (CUHAS), PhD Fellow*
W. Gunda	*MD, MMED (CUHAS)*

Lecturer

B. Wajanga	*MD (HKMU), MMED (SAUT), MSc Clin Epidemiology (Cornell, NY)*
N. Mang'ondi	*MD (MUHAS), MMED (KCMC)*
E.F.S. Mujuni	*MD (MUHAS), MMED (MUHAS)*
P. Masikini	*MD (SAUT), MMED (CUHAS)*
I. Nkandala	*MD (MUHAS), MMED (MUHAS)*
B.M. Desderius	*MD (MUHAS), MMED (MUHAS)*

Tutorial Assistant

S. Matuja	*MD (CUHAS)*

UNIT OF MEDICAL ETHICS & UNIT OF SOCIAL ETHICS

Head

Vacant

DEPARTMENT OF MICROBIOLOGY/IMMUNOLOGY

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P. Wambura,	*B.Vet (SUA), M.V.M. (SUA), PhD (SUA)*:Visiting

Senior Lecturer

J.J. Seni,	*MD (UDSM), MMED (Makerere)*

Lecturer

M Majigo	*MD (UDSM), Mmed (UDSM):* Visiting
M.F. Mushi	*BSc, MSc (Makerere), PhD Fellow*

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Senior Lecturer

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D.K Matovelo	*MD (UDSM); MMED (SAUT)*
R. N. Rumanyika,	MD (UDSM), MMed (*Obst & Gynae) (*Nbi)

Lecturer

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N. M. Ng'walida,	MD (UDSM), MMed *(Obst & Gynae) (UDSM)*
E. Ndaboine	*MD, MMED(Obst & Gynae)(SAUT)*
K.R. Forget	*MD (MUHAS), MMED (MUHAS)*
H.I. Mbena Sr.	*MD (HKMU), MMED (CUHAS)*
C. Chuma Sr.	*MD (HKMU), MMED (CUHAS)*
P.A. Shayo	*MD (SAUT), MMED (SAUT)*
F. Mujuni	*MD (SAUT), MMED (CUHAS)*
E.C. Chibwe	*MD (SAUT), MMED (CUHAS)*
L. P. Mwaikasu	*MD (Russia), MMED (Russia), Fellow in OBGY Ultrasound, Fellow in Reproductive Medicine & Fertility (India)*

DEPARTMENT OF OPTHALMOLOGY

Lecturer

E. Mgaya	*MD (MUHAS), MMED (KCMC)*

ONCOLOGY DEPARTMENT

Lecturer and Head of Department

N. Masalu	MD (UDSM), MMED (Medical Oncology) (Italy)

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Senior Lecturer

A. Hokororo	*MD (Russia), MMED (Makerere),MSc Clin-Epidemiology (WCMC –USA)*
A. Zuekner	*MD (Germany) MMD (Pediatrics), MMD (Neonatology)* : Visiting

Lecturer

M. Minde	*MD (UDSM); MMED (SAUT)*
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E. F. Manyama,	*MD (MUCHS), MMED (SAUT)*
T. E. Mhada	*MD (MUHAS), MMED (HKMU)*
R. C. Bakalemwa	*MD(MUHAS), MMED(Nairobi)*
F. Mashuda	*MD (MUHAS), MMED (CUHAS)*
B. Msaki	*MD, MMED*
G. S. Joseph	*MD (Russia), MMED (Russia), Fellow in Paed. Cardiology (India).*
M. Seugendo	*MD (SAUT), MMED (CUHAS)*
R.A. Rwezaula	*MD, MMED*
Y.S. Jamnagerwalla	*MD, MMED,Msc*

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H. Mazigo,	*BVM (SUA), MSc (Med. Parasitology) (Jomo Kenyatta), MPH (CUHAS), PhD (Makerere)*

Associate Professor

D. Morona	*M. Sc. (LSTMH), PhD*

Associate Research Professor

E. Kweka	*MSc.(Parasitol/Entomol) (Tumaini), PhD (Tumaini); Visiting*

Assistant Lecturer

M. Zinga	*MD (SAUT), MSc (MUHAS)*
D. Ruganuza	*MD (SAUT), M.Sc. (Jomo Kenyatta)*

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Professor

F. Callea,	MD *(Cath. Univ. Rome), PhD (Cath. Univ. Leuven)*

Associate Professor:

P. Rambau,	*MD (UDSM), MMed (Makerere), PhD (Calgary)*

Lecturer

K.J. Kahima	*MD (Krasnodar Russia); MMed (Path) (Makerere)*
Mbulwa Henry Cosmas	*MD (SAUT), MMED (Makerere)*

Tutorial Assistant

E. Elias	*MD (CUHAS)*

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Professor

G.W.M Kongola,	*MD (UDSM), M.Sc. (Manchester), PhD (Manchester)*
Mary Jande	*B.Pharm(UDSM), M.Sc (Manchester)PhD(Dublin)*

Lecturer

A. Liwa,	*MD (HKMU., M.Sc (Stellenbosch)*

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H. Dika,	*MD (UDSM), M.Sc.(Makerere), PhD (Calgary)*

Professor:

J. P. Mtabaji	*MB. ChB (Makerere); PhD (New Castle Upon Tyne)*
Z. E. Masesa,	*MBChB (Makerere), PhD. (London).*

Senior Lecturer

J.H. Ntogwisangu,	*MBChB (Makerere), PhD. (Leeds)*: Visiting

M.A. Njelekela,	*MD (UDSM), PhD (Japan):*Visiting
Assistant Lecturer	
I. Shaban,	*BVM (SUA), M.Sc. (Makerere)*
E. Malindisa	*MD (CUHAS, M.Sc(MUHAS)*

DEPARTMENT OF PSYCHIATRY

Lecturer and Head	
A.H. Kieti	*MD (HKMU), MMED (Nairobi)*
Lecturer	
M. Matiko	*MD, MMED*

DEPARTMENT OF RADIOLOGY

Senior Lecturer	
V.G. Makwaruzi	*MD (UDSM), MMED*
Lecturer	
P. S. Ngoya	*MD, MSc, MMED, Fellowship*
M. W. Magambo	MD (MUHAS), MMED (MUHAS). Sekuo Toure

DEPARTMENT OF SURGERY

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L. W. Amango	*MD (UDSM); MMed (Makerere University)*
Professor	
W. Mahalu,	*MB.ChB (EA), MMed (Surgery) (UDSM), FRCS (UK)*
Associate Professor:	
J. Gilyoma	*MD, MMED*
Lecturer	
G.C. Giiti	*MD (UDSM); MMed (SAUT)*
G. Mtalitinya	*MD (MUHAS), MMED (MUHAS)*
V. R. Kotecha	*MD (MUHAS), MMED(Nairobi)*
I.H. Ngayomella	*MD (UDSM); MMed (Orth) (Makerere)*
O. M Kimario	*MD(KCMCo) , MMED(ENT-MUHAS)*
M.M. Nkinda,	*MD, MMed (UDSM),M.Sc (UDSM)*
J. Igenge	*MD (UDSM); MMED (KCMC)*
F. J. Mbunda	*MD (HKMU), MMED (CUHAS)*
A. Masenga Sr.	*MD (SAUT), MMED (KCMC)*
I.L. Akora	*MD (MUHAS), MMED (Makerere)*
P.N. Sama Tehya	*MD (HKMU), MMED (MUHAS)*

G.E. Buname	*MD (MUHAS), MMED (Makerere)*
W.M. Richard	*MD , MMED*

SCHOOL OF PHARMACY

Professor and Dean

G.W.M Kongola,	*MD (UDSM), M.Sc. (Manchester), PhD (Manchester)*	
Professor		
M.Rainalds	*B.Pharm, PhD.*	*Visiting*
M. Julius	*PhD*	*Visiting*
M. Jande	*B.Pharm (UDSM), MSc (Manchester); PhD (Dublin)*	
Senior Lecturer		
A. Haule	*B.Pharm (Romania), PhD (UK)*	
C. Mhina	*B.Pharm, PhD*	*Visiting*
S. Maregesi	*B.Pharm, PhD*	*Visiting*
S. Joseph	*PhD*	*Visiting*
N. Mungai	*PhD*	*Visiting*
K. Wilbroad	*M.Sc.*	*Visiting*
Lecturer		
D. Pius	*B.Pharm*	*Visiting*
S. Raphael	*Ph.D*	*Visiting*
M. Motobola	*PhD*	*Visiting*
Assistant Lecturer		
K. Hamasaki	*B.Sc. Pharmacy; M.Sc. Pharmacy*	
D. Katabalo	*B.Pharm (MUHAS), M.Sc (Nairobi University)*	
S. Mwita	*B. Pharm (MUHAS)M.Sc (MUHAS)*	
E. Kimaro	*B. Pharm (MUHAS), MSC. (MUHAS)*	
J. Bipa	M.Sc.	Visiting

Tutorial Assistant

A.Thomas	*B. Pharm (MUHAS)*
R. Matinde	*B.Pharm (CUHAS)*
P. Damiano	*B.Pharm*(CUHAS)

ARCHBISHOP ANTHONY MAYALA SCHOOL OF NURSING

Senior Lecturer and Dean

R. M. Laisser	*ADNE (MUHAS), MSc HEHP (Leeds), PhD (Sweden)*

Lecturer

A. Ndomba	*B.ScN (Dalhouse), M.Sc. Nurs (Uppsala),PhD Fellow*

Assistant Lecturer

A. E. Dinho	*ADNE, M.A.*
F. Sima	*B. ScN, M. N.*
G.M. Marandu	*Dipl.N., B.Sc.N, MSc. N.Ed*
K. Malale	*B.Sc. N (MUHAS), M.Sc (Kenya Methodist University)*
B. Maendeleo	*B.Sc.N (MUHAS)*
M.J. Kiyumbi	*Dipl.Nurs, ADM, B.Sc.(Midwifery), MSc. (Kenya)*
J. S. Mundamushimu	*B.Sc. Nursing (SJUT), M.Sc*

Tutorial Assistant

L. Nsemwa	*B.Sc. Nursing (MUHAS)*

Clinical Instructor

G. L. Omondi	*B. Sc Nursibg (SJUT): Emergency Unit*
T. K. Kajwangya	*B. Sc. Nursing (CUHAS): Emergency Unit*
D. I. Ntutagi	*B.Sc. Nursing (SJUT): Obstetrics & Gynaecology*
P.L. Mvanda	*B.Sc Nursing (SJUT): Obstetrics & Gynaecology*
R. Rakiru	*B.Sc Nursing (KCMC): Paediatrics*
E. P. Rwegasira	*B. Sc. Nursing (SJUT): Surgery*
R. J. Ongito	*B.Sc. Nursing (SJUT): Orthopaedics*

SCHOOL OF PUBLIC HEALTH

Assoc. Proffessor and Acting Dean

D. Morona	*M. Sc. (LSTMH), PhD*

Senior Lecturer

S.E. Ngallaba,	*MD (UDSM), MSc. Epid (Dublin), MPH (Leeds)*

Associate Dean

Vacant

DEPARTMENT OF COMMUNITY MEDICINE

Lecturer and. Head

N. Basinda	MD (SAUT), MMED (MUHAS	

Professors

J. Hatfield	*PhD, CPPsych*	Visiting
W.E. Thurston	MD, PhD (*Calgary*)	Visiting

D. Dewey	MD, MSc, PhD (*Calgary*)	Visiting
T. Donnon	BSc, Bed, MED, PhD(*Calgary*)	Visiting
D. Strong	MD, PhD(*Calgary*)	Visiting
L. Baig	*MD, PhD*	Visiting
Senior Lecturers		
R. Goldstein	MD, CM, FRCPC (Calgary)	Visiting
R. Musto	MD, PhD (Calgary)	Visiting
D. Sabapathy	MD, MBA, MPH (Calgary)	Visiting
R. Zimmer	MD, PhD (Calgary)	Visiting
Lecturers		
A. Kapesa,	*MD, (UDSM), MMED (Comm. Med, MUHAS)*	

DEPARTMENT OF BIOSTATISTICS, EPIDEMIOLOGY AND BEHAVIORAL SCIENCES

Lecturer and Ag. Head of Department:		
E. Konje,	B.Stat *(Makerere), MSc. (CEB) (Makerere)*	
Professor		
R. Sauve	*MD, MMED, FRCS*	Visiting
T. Beran	*BA, MSc, PhD*	*Visiting*
Senior Lecturer		
M. Hardy	*MB, BS, FRCSC, MSc (Clin-Epid)*	Visiting
M. M. Cuodros	*MD, MSc (Epi), FACS, FICS*	Visiting
Lecturer		
R. Kitambo,	*M.DS (UDSM):*	
M. A. Mapela	*Dip. Phil, BA.Theo, Licentiate, PhD*	
R. Ponsiano,	*MD, (MUHAS), PGD-Mch, MPH*	*Visiting*
Assistant Lecturer		
P.M Ndaki	*MA (DS) (UDSM); B. Theol (Scott Christian Univ. Kenya)*	

DEPARTMENT OF ENVIRONMENTAL & OCCUPATIONAL HEALTH AND RESEARCH GIS

Lecturer and Ag. Head		
E. Charles	*PHHC(Kuopio), BSc. ESM (SUA), MPH(SAUT).*	
Professors		
D. Thomas	*BSc, PhD-GIS*	*Visiting*
J. Pekkanen	*MD, MSc, PhD*	*Visiting*
K. Raimo	*MD, MSc, PhD*	*Visiting*
K. Rasanen	*MD, PhD*	*Visiting*

K. Corbert	*MD, PhD*	*Visiting*
Senior Lecturer		
S. Allaire	*MD, PhD*	Visiting
L. McLeod	*MD, FRCSC* (*Calgary*)	Visiting
S. Khan	*MBBS, MPH, PhD*	*Visiting*

INSTITUTE OF ALLIED HEALTH SCIENCES

Director

G.R. Tibaijuka, *B. Pharmacy (UDSM), MSc. Pharm (Zaporozyhye Medical Inst., Ukrane)*

SCHOOL OF PHARMACEUTICAL SCIENCES

Tutor and Ag. Head

J.M. Bitoro, *Diploma, Pharmaceutical Sciences (UDSM), Diploma, Health Personnel Education (CEDHA – Arusha.)*

Principal Tutors

O. Mejja, *B. Pharm. (UDSM), Executive MBA (Maastricht - ESAMI). Diploma in Materials Management (NBMM), Diploma. In Pharmaceutical Sciences – UDSM*

G.R. Tibaijuka, *B. Pharmacy (UDSM), MSc. Pharm (Zaporozyhye Medical Inst., Ukrane)*

Senior Tutor

V. P. Mayunga *B.Pharm (UDSM), M.Sc. Pharmacy (MUHAS)*

SCHOOL OF DIAGNOSTIC RADIOGRAPHY

Tutor and Ag. Head

J. Mhoja *DDR (SAUT), B. Med. Imaging (Kampala*)

Tutors

S.M. Nkwenge, DDR *(UDSM), Diploma in Health Personnel Education (CEDHA, Bachelor of Education (Open University) Visiting*

M.E. Nyandigira, *Dipl. Med. Radiography*. Visiting

E.P. Nabugare *DDR (SAUT), B. Med. Imaging (Kampala)*

R. S. Kidenda *DDR (CUHAS), B.Sc. Med. Imaging (Uganda)*

SCHOOL OF MEDICAL LABORATORY SCIENCES & TECHNOLOGY

Tutor and Ag.Head

A.G. Mujungu *Dipl. Education (Butimba), B.Sc. (Biotechnology) (SUA)*

Tutors

L. Mhando,	*BSc (Chemistry) (UDSM), MPH (CUHAS)*
A. Materu,	*ADMLT (Clin. Chem) (UDSM)*
M. Anga	*DMLS (MUHAS), BMLS (CUHAS)*

ADMINISTRATIVE AND TECHNICAL STAFF

Name	*Qualification*	Title
Administration		
Rev. Dr. Agapit Mroso, OFMCap	Licentiate in Dogmatic Theology (Gregorian-Rome), M. Spiritual Theology (Angelicum- Rome), PhD (Gregorian- Rome)	Deputy Vice Chancellor (PFA)
Rev. Fr. Paul Nhindilo	*Dipl. Philosophy; B.A Theology (Pontifical Urbanian University), PhD in Canon Law (Pontifical Luteran University)*	Corporate Counsel
Rev. Fr. Christopher M. Dinho	*BA in Theology (,Rome); MA in Theology(Rome)*	Chaplain
Ms Thandiwe Y. Peter	B. Com (Wollongong, Aust), Masters StrtHRM (Wollongong, Aust); Masters in Commerce (Wollongong, Aust)	Personal Assistant to the Vice Chancellor
Ms. Norice Frank	BPA (Mzumbe), MSc. HRM	Senior Human Resources Officer
Mr. Daniel Nkuba	BPA (Mzumbe)	Administrative Officer
Ms. Mariam Nhaluke	B.A. Sociology(SAUT)	Convocation Officer/Admissions Officer
Mr. Geofrey Luena	B.A. Mass Comm (SAUT)	Administrative Officer
Ms. Blandina Mahiza	Cert. Rec. Management (TPSC-Tabora); Dipl. Rec. Management (TPSC-Tabora)	Senior Rec. Management Asst.
Mrs. Hellen Simon	Dipl. Secretarial Studies (TPSC-Tabora), MDEA I & II,	Senior Personal Secretary
Ms. Anumie Mtweve	Dipl. Secretarial Studies (TPSC-Tabora), MDEA I & II	Senior Personal Secretary
Ms. Agnes Aswile Kayange	Dipl. Mgt & Admin (ESAMI), Secretarial course stage (NABE) I & II	Principal administrative Assistant
Ms. Bibiana Sekei	Dipl. Mgt & Admin (Shukuru Int. Coll of Business)	Senior administrative Assistant
Ms. Stella Zenge	Cert. in Typing (VETA); Computer Course (CBCS)	Typist
Ms. Limi B. Lufundisha	Dipl. Secretarial Studies (TPSC-Tabora), MDEA I & II,	Senior Personal Secretary
Ms. Grace Masanja	Computer Course	Receptionist
Mrs. Victoria Vicent	Form IV	Attendant
Mr. Alex Msenya Mkome	Std. VII	Attendant
Mr. Hezron Bassu	Std VII	Attendant

Name	*Qualification*	Title
Mr. Juma Katondo	Cert. Driv. Grade II (NIIT)	Principal Driver
Mr. Issa Jumanne	Form IV Cert. Driv. Grade I (NIIT)	Driver
Mr. Nazaeli Manase	Form IV Cert. Driv. Grade I (NIIT)	Driver
Mr. Medard Selestine	Cert. Driv	Driver
Mr. Kelvin A. Magesa	Std. VII, Mortuary Attendant certificate	Lab Attendant
Ms. Rosalia P. Nshome	Form IV, Medical Attendant Certificate	Lab Attendant
Finance and Accounts		
Mr. Boniface Kwiyeya	ADCA (Mzumbe); CPA (T) (NBAA)	Bursar
Ms. Letitia Rutahamibwa	Cert. Acc. Techn (DSA); Cert. Acc (SAUT); ADA (SAUT)	Asst. Accountant
Ms. Alpha Boniface	Cert. Acc.(SAUT); ADA (SAUT), Post. Grad. Dipl. Finance (SAUT)	Senior Asst. Accountant
Ms. Gracia Tibaijuka	Bachelor of Accountancy (SAUT)	Asst. Accountant
Mr. Emmanuel Nyamilonda	BBA in Accounting & Finance, MSc. Accounting & Finance	Loans Officer
Ms. Hellen Mathias Labia	BBA (SAUT); MBA-Finance	Senior Asst. Accountant
Internal Audit		
Mrs. Bahati Michael Kilungu	*ADA(SAUT), CPA (NBAA)*	*Internal Auditor*
Procurement and Supplies		
Mr. Mkufi Ikhala	B. Com (material Management) UDSM; CPSP(T) (NBAA/PSPTB)	Sen. Procurement Officer
Ms. Felister Luambano	Cert. PS (PSPTB), Dipl. PS (ZIFA), BPLM (TIA_ DSM)	Asst. Procurement & Supplies Officer
Library		
Mr. Yanga Machimu	Dipl. LADS (Bagamoyo); B.Libr.& Inf. Mgt (OUT)	Library Officer
Ms. Aziza Gihega	Dipl. LADS (Bagamoyo), BALIS (Tumaini Univ. Dar)	Library officer.
Mr. Oscar Joachim	Cert. Libr. (Bagamoyo), B.Libr.& Inf. Mgt (OUT)	Library Officer
Mr. Oliver Bondo	Cert. Libr (Bagamoyo)	Libr. Asst.
Mrs Scholastica Kishosha	Cert. Libr (Bagamoyo)	Libr. Asst
ICT		
Mr. Ismael M. Khangane	*B.Sc. (Eng) (Cuba), M.Sc. (I.T.) (Spain)*	Head of Computing Center

Name	*Qualification*	Title
Mr. Mataba J. Magori	*Adv. Dipl. ICT (Carlisle, UK); B.Sc.(Hons) in ICT (Glamorgan UK); Post Grad. Dipl in Computer Security (Glamorgan UK)*	Senior Computer Programmer
Mr. Emil Malisha	*Cert. Comp. Studies; Dipl. IT (UCC), B.Sc (ICT) SAUT*	Systems and Network Administrator
Mr. Andrew Mihayo	*Dipl. I.T (UCC)*	Senior Comp Technician
Ms. Adeline Urassa	*Cert I.T, Dipl. I.T (UCC)*	Senior Comp Technician
Students' Welfare		
Mr. Kaspar J. Mapunda	Dipl Educ (Chan'gombe), B.A. (Polit. Sc. & Publ. Admin.), MA (DS) UDSM	Dean of Students
Mrs. Christine K. Kabigiza	Dipl. Agr. Nutr. (Ilonga), Dipl. Gender Relat. & Agric (Netherland), B.A. Comm. Devel. (Daystar C.U. Nairobi), MA in Theol.Comm. Devel. (Wartburg Theological Seminary, USA)	Senior Warden
Technical		
Mr. Emmanuel Kimwaga	*Dipl.Clin. Med, Dipl. In Prosection (UDSM)*	Principal prosector
Ms. Siphael Msuya	*Dipl. In Prosection (UDSM); B. Gen. Sc.(OUT)*	Principal prosector
Ms. Sayyeda Prashant Somaiya	*DPS (CUHAS)*	Health. Techn
Mr. Vitus Silago	*BMLS (CUHAS)*	Health Lab. Scientist
Ms. Caroline A. Minja	*BMLS (KCMC)*	Health Lab. Scientist
Mr. Zabron Mholya	*DMLS (CUHAS)*	Health Lab. Technologist
Ms. Nabina Golola	*DMLS (CUHAS), BMLS (CUHAS)*	Health Lab. Scientist
Betrand Msemwa	*DMLS (CUHAS)*	Health Lab. Scientist
Estates		
Eng. Valeria Aloyce Gabriel	*Bachelor of Civil Engineering (DIT)*	Civil Engineer & Estates Officer
Mr. Emmanuel Mabula	*Adv, Cert in Plumbing (NVTC)*	Plumber Technician
Mr. Eliamin Jimmy	*Dipl. In Electronics (Mbeya Techn. College)*	Electrical Technician

UNIVERSITY MANAGEMENT COMMITTEE

1.	Prof. P. G. Rugarabamu	Vice Chancellor/Chairman
2.	Prof. S.E. Mshana	Deputy Vice Chancellor (ARC)/Vice-Chairman
3.	Rev. Fr. A. Mroso	Deputy Vice Chancellor (PFA)
4.	Rev. Fr. P. Nhindilo	Corporate Counsel
5.	Prof. E Kamugisha	Dean, Weill Bugando School of Medicine
6.	Dr. R.M. Laisser	Dean, Archbishop Anthony Mayala School of Nursing
7.	Mr. K. Mapunda	Dean of Students
8.	Prof. P. Rambau	Director, Quality Assurance
9.	Prof. D. Morona	Director Research and Innovation
10.	Prof Z.E. Masesa	Head Admissions
11.	Mr. R. Tibaijuka	Director IAHS
12.	Mr. I.M. Khangane:	Director ICT
13.	Mr. B. Kwiyeya	Chief Accountant/Bursar
14.	Ms. V A. Gabriel	Estate Officer
15.	Ms. T.Y. Peter	Personal Assistant to the Vice Chancellor
16.		Senior Administrative Officer
17.	Ms N. Frank	Human Resources Officer
18.	Mr. Y. Machimu	Ag. Head, Library
19.	Mr. M. Ikhala	Senior Procurement Officer
20.	Rev. Fr. C. M. Dinho	Chaplain
21.	Mr. D. Nkuba	Adminstrative Officer

The City of Mwanza

Heading Page

ACADEMIC CALENDAR 2018/2019

A. ACADEMIC YEAR 2018/2019

Starts on 29.10.2018
Ends on 30.08.2019

B. SEMESTER I, III, V, VII & IX

Begin: 29.10.2018
End: 29.03.2019

Mid – Semester breather (Christmas breather):
22.12.2018 – 05.01.2019 (2 weeks)

End-of Semester Examinations
Start: 18.03.2019
End: 29.03.2019

End of Semester breather
30.03.2019 – 06.04.2019 (1 weeks)

C. SEMESTER II, IV, VI, VIII & X

Begins: 08.04.2019
Ends: 30.08.2019

Mid – Semester breather
15.06.2019 – 22.06, 2019 (1 weeks)

End of Semester Examinations
Start: 19.08.2019
End: 30.08.2019

End of Year (Long) Vacation
Starts: 31.08.2019
Ends: 26.10.2019
(Duration 8 Weeks)

D. ACADEMIC YEAR 2019/20 START ON 28.10.2019

E. KEY FOR SEMESTERS

Semester	*Applicable for*
Semester I & II	**MD I, BMLS I, B.Sc. NED I, B. Sc. N I, B. Pharm I, MPH, MMED I, MSc. Paed Nurs I & YR1-IAHS**
Semester III & IV	**MD II, BMLS II, B.Sc. NED II, B. Sc. N II, B. Pharm II, MMED II, MSc. Paed Nurs II & YR2-IAHS**
Semester V & VI	**MD III, BMLS III, B.Sc. NED III, B. Sc. N III, B. Pharm III, MMED III & YR3-IAHS**
Semester VII & VIII	**MD IV, B.Sc. NED IV, B. Sc. N IV, B. Pharm IV**
Semester IX & X	**MD V**

ALMANAC FOR THE ACADEMIC YEAR 2018/2019

WEEK NO.	DAY	DATE	EVENT
		30	
		31	CUHAS COUNCIL
SEPTEMBER 2018	Saturday	1	
	Sunday	2	
	Monday	3	
	Tuesday	4	
	Wednesday	5	
	Thursday	6	Ethics & Review Committee
	Friday	7	
	Saturday	8	
	Sunday	9	
	Monday	10	
	Tuesday	11	
	Wednesday	12	
	Thursday	13	Ethics & Review Committee
	Friday	14	
	Saturday	15	
	Sunday	16	
	Monday	17	
	Tuesday	18	
	Wednesday	19	
	Thursday	20	
	Friday	21	
	Saturday	22	
	Sunday	23	
	Monday	24	
	Tuesday	25	
	Wednesday	26	
	Thursday	27	
	Friday	28	
	Saturday	29	IAHS Reporting of New Students
	Sunday	30	
OCTOBER 2018	Monday	1	
	Tuesday	2	
	Wednesday	3	
	Thursday	4	
	Friday	5	Quality Assurance Committee
	Saturday	6	
	Sunday	7	
	Monday	8	IAHS – Beginning of New Academic year 2018/2019. For All Continuing students
	Tuesday	9	

WEEK NO.	DAY	DATE	EVENT
	Wednesday	10	
	Thursday	11	**Appointments Committee**
	Friday	12	**Planning and Finance Committee**
	Saturday	13	
	Sunday	14	
	Monday	15	Supplementary Examinations
	Tuesday	16	
	Wednesday	17	
	Thursday	18	
	Friday	19	
	Saturday	20	Reporting New Students; Semester I (2018/2019)
	Sunday	21	
	Monday	22	
	Tuesday	23	
	Wednesday	24	
	Thursday	25	
	Friday	26	CUHAS SENATE
	Saturday	27	
	Sunday	28	
1	Monday	29	
	Tuesday	30	Academic Year 2018/2019 begins (Semesters I, III, V, VII and IX) **With Holy Eucharist Cerebration for New Academic Year**
	Wednesday	31	
NOVEMBER 2018	Thursday	1	
	Friday	2	
	Saturday	3	
	Sunday	4	
2	Monday	5	
	Tuesday	6	
	Wednesday	7	SPH Board
	Thursday	8	
	Friday	9	
	Saturday	10	
	Sunday	11	
3	Monday	12	Convocation Day
	Tuesday	13	Sports Day
	Wednesday	14	Scientific Conference
	Thursday	15	Scientific Conference, BMC Board of Governors
	Friday	16	**CUHAS COUNCIL**
	Saturday	17	**11TH GRADUATION CEREMONY**
	Sunday	18	

WEEK NO.	DAY	DATE	EVENT
4	Monday	19	
	Tuesday	20	
	Wednesday	21	
	Thursday	22	
	Friday	23	
	Saturday	24	
	Sunday	25	
5	Monday	26	
	Tuesday	27	
	Wednesday	28	
	Thursday	29	
	Friday	30	
DECEMBER	Saturday	1	
2018	Sunday	2	
6	Monday	3	
	Tuesday	4	
	Wednesday	5	
	Thursday	6	Ethics & Review Committee
	Friday	7	
	Saturday	8	
	Sunday	**9**	**Public Holiday (Independence Day)**
7	Monday	10	
	Tuesday	11	
	Wednesday	12	
	Thursday	13	
	Friday	14	
	Saturday	15	
	Sunday	16	
8	Monday	17	
	Tuesday	18	
	Wednesday	19	
	Thursday	20	
	Friday	21	
	Saturday	22	(Mid- Semester I and III, V, VII & IX) Christmas Breather Starts
	Sunday	23	
9	Monday	24	
	Tuesday	25	**Christmas Day**
	Wednesday	26	**Boxing Day**
	Thursday	27	
	Friday	28	
	Saturday	29	
	Sunday	30	
	Monday	31	
JANUARY 2019	Tuesday	1	**New Year's Day**,

WEEK NO.	DAY	DATE	EVENT
10	Wednesday	2	
	Thursday	3	
	Friday	4	
	Saturday	5	End of (mid-Semester I, III, V, VII & IX) Christmas Breather
	Sunday	6	
11	Monday	7	
	Tuesday	8	
	Wednesday	9	
	Thursday	10	Ethics & Review Committee
	Friday	11	**CATS**
	Saturday	12	**Zanzibar Revolution Day (Public Holiday)**
	Sunday	13	
12	Monday	14	
	Tuesday	15	
	Wednesday	16	Committee of Deans and Directors
	Thursday	17	
	Friday	18	Audit Committee
	Saturday	19	
	Sunday	20	
13	Monday	21	
	Tuesday	22	
	Wednesday	23	Ethics & Review Committee
	Thursday	24	**Appointments Committee- Staff Review**
	Friday	25	**Planning and Finance Committee**
	Saturday	26	
	Sunday	27	
14	Monday	28	
	Tuesday	29	
	Wednesday	30	
	Thursday	31	Ethics & Review Committee
FEBRUARY 2019	Friday	1	
	Saturday	2	MPH Field Excursion
	Sunday	3	
15	Monday	4	
	Tuesday	5	
	Wednesday	6	
	Thursday	7	
	Friday	8	**CUHAS COUNCIL**
	Saturday	9	
	Sunday	10	
16	Monday	11	
	Tuesday	12	
	Wednesday	13	

WEEK NO.	DAY	DATE	EVENT
	Thursday	14	
	Friday	15	
	Saturday	16	
	Sunday	17	
17	Monday	18	
	Tuesday	19	
	Wednesday	20	
	Thursday	21	
	Friday	22	
	Saturday	23	
	Sunday	24	
18	Monday	25	
	Tuesday	26	
	Wednesday	27	
	Thursday	28	
MARCH 2019	Friday	1	Quality Assurance Committee
	Saturday	2	
	Sunday	3	
19	Monday	4	
	Tuesday	5	
	Wednesday	6	
	Thursday	7	
	Friday	8	CATS
	Saturday	9	
	Sunday	10	
20	Monday	11	IAHS End of Semester I, II, V Examinations START
	Tuesday	12	
	Wednesday	13	
	Thursday	14	Ethics & Review Committee
	Friday	15	Committee of Deans and Directors
	Saturday	16	
	Sunday	17	
21	Monday	18	**End of Semester I, III, V, VII, IX University Examinations START**
	Tuesday	19	
	Wednesday	20	
	Thursday	21	
	Friday	22	
	Saturday	23	
	Sunday	24	
22	Monday	25	
	Tuesday	26	
	Wednesday	27	

WEEK NO.	DAY	DATE	EVENT
	Thursday	28	
	Friday	29	**End of Semester I, III, V, VII, IX University exams FINISHES**
	Saturday	30	
	Sunday	31	
APRIL 2019	Monday	1	
23	Tuesday	2	
	Wednesday	3	
	Thursday	4	**Examiners Board School of Medicine; IAHS; Pharmacy; Nursing**
	Friday	5	
	Saturday	6	
	Sunday	7	**KARUME DAY**
24	Monday	8	**SEMESTER II, IV, VI, VIII & X STARTS**
	Tuesday	9	
	Wednesday	10	
	Thursday	11	**Appointments Committee/Staff Review**
	Friday	12	**Planning and Finance**
	Saturday	13	
	Sunday	14	
25	Monday	15	
	Tuesday	16	
	Wednesday	17	
	Thursday	18	
	Friday	19	**GOOD FRIDAY**
	Saturday	20	
	Sunday	21	**EASTER SUNDAY**
26	Monday	22	**EASTER MONDAY**
	Tuesday	23	
	Wednesday	24	
	Thursday	25	**CUHAS SENATE**
	Friday	26	**Union Day (Public Holiday)**
	Saturday	27	
	Sunday	28	
27	Monday	29	IAHS Board, School of Medicine Board
	Tuesday	30	School of Pharmacy Board, School of Nursing Board
MAY 2019	Wednesday	1	**International Workers Day (Public Holiday)**
	Thursday	2	
	Friday	3	**CUHAS COUNCIL**
	Saturday	4	
	Sunday	5	
28	Monday	6	
	Tuesday	7	

WEEK NO.	DAY	DATE	EVENT
	Wednesday	8	
	Thursday	9	Ethics & Review Committee
	Friday	10	
	Saturday	11	
	Sunday	12	
29	Monday	13	
	Tuesday	14	
	Wednesday	15	KUBUCHS-AGM
	Thursday	16	
	Friday	17	Quality Assurance Committee;
	Saturday	18	
	Sunday	19	
30	Monday	20	
	Tuesday	21	
	Wednesday	22	
	Thursday	23	
	Friday	24	
	Saturday	25	
	Sunday	26	
31	Monday	27	
	Tuesday	28	
	Wednesday	29	
	Thursday	30	
	Friday	31	
JUNE 2019	Saturday	1	MPH Field Research Begins
	Sunday	2	
32	Monday	3	
	Tuesday	4	
	Wednesday	5	
	Thursday	6	
	Friday	7	
	Saturday	8	
	Sunday	9	
33	Monday	10	
	Tuesday	11	
	Wednesday	12	
	Thursday	13	Ethics & Review Committee
	Friday	14	
	Saturday	15	
	Sunday	16	
34	Monday	17	
	Tuesday	18	
	Wednesday	19	
	Thursday	20	
	Friday	21	

WEEK NO.	DAY	DATE	EVENT
	Saturday	22	
	Sunday	23	
35	Monday	24	
	Tuesday	25	
	Wednesday	26	
	Thursday	27	
	Friday	28	
	Saturday	29	
	Sunday	30	
JULY 2019	Monday	1	
36	Tuesday	2	
	Wednesday	3	
	Thursday	4	
	Friday	5	CATS
	Saturday	6	
	Sunday	7	**Saba Saba Day (International Trade Fair)**
37	Monday	8	
	Tuesday	9	
	Wednesday	10	Quality Assurance Committee
	Thursday	11	Ethics & Review Committee
	Friday	12	Committee of Deans and Directors
	Saturday	13	
	Sunday	14	
38	Monday	15	
	Tuesday	16	
	Wednesday	17	
	Thursday	18	
	Friday	19	**AUDIT COMMITTEE**
	Saturday	20	
	Sunday	21	
39	Monday	22	
	Tuesday	23	
	Wednesday	24	
	Thursday	25	**Appointment Committee**
	Friday	26	**Planning and Finance Committee**
	Saturday	27	
	Sunday	28	
40	Monday	29	
	Tuesday	30	
	Wednesday	31	
AUGUST 2019	Thursday	1	
	Friday	2	
	Saturday	3	
	Sunday	4	

WEEK NO.	DAY	DATE	EVENT
41	Monday	5	
	Tuesday	6	
	Wednesday	7	
	Thursday	8	**Farmers Day (Public Holiday)**
	Friday	9	
	Saturday	10	
	Sunday	11	
42	Monday	12	
	Tuesday	13	**MD 5 University Examinations Begins IAHS End of Semester II, IV, & VI Examinations START**
	Wednesday	14	
	Thursday	15	Ethics & Review Committee
	Friday	16	**CUHAS COUNCIL**
	Saturday	17	
	Sunday	18	
43	Monday	19	**End of Semester II, IV, VI, VIII & X University Examinations START**
	Tuesday	20	
	Wednesday	21	
	Thursday	22	
	Friday	23	
	Saturday	24	
	Sunday	25	
44	Monday	26	
	Tuesday	27	
	Wednesday	28	
	Thursday	29	
	Friday	30	**End of Semester II, IV, VI, VIII & X University Examinations FINISHES CUHAS COUNCIL**
	Saturday	31	**Long Vacation Starts: Beginning of Field Work MD 2 And MD3 Elective MD4,**
SEPTEMBER, 2019	Sunday	1	
	Monday	2	
	Tuesday	3	
	Wednesday	4	Examiners Boards Meetings (School of Medicine, School of Pharmacy, School of Nursing, IAHS)
	Thursday	5	
	Friday	6	Examinations Committee
	Saturday	7	
	Sunday	8	
	Monday	9	
	Tuesday	10	

WEEK NO.	DAY	DATE	EVENT
	Wednesday	11	
	Thursday	12	
	Friday	13	**CUHAS SENATE**
	Saturday	14	
	Sunday	15	
	Monday	16	
	Tuesday	17	
	Wednesday	18	
	Thursday	19	
	Friday	20	
	Saturday	21	
	Sunday	22	
	Monday	23	
	Tuesday	24	
	Wednesday	25	
	Thursday	26	
	Friday	27	CATS
	Saturday	28	
	Sunday	29	
OCTOBER, 2019	Monday	30	
	Tuesday	1	
	Wednesday	2	
	Thursday	3	
	Friday	4	Committee of Deans and Directors
	Saturday	5	
	Sunday	6	
	Monday	7	Supplementary Exams
	Tuesday	8	
	Wednesday	9	
	Thursday	10	**Appointment Committee**
	Friday	11	**Planning and Finance**
	Saturday	12	
	Sunday	13	
	Monday	14	**Nyerere Day**
	Tuesday	15	
	Wednesday	16	
	Thursday	17	
	Friday	18	
	Saturday	19	Reporting of New Students, Semester I (2019/2020)
	Sunday	20	
	Monday	21	**Orientation Week begins**
	Tuesday	22	
	Wednesday	23	
	Thursday	24	

WEEK NO.	DAY	DATE	EVENT
	Friday	25	CUHAS SENATE
	Saturday	26	
	Sunday	27	End of Long Vacation
5	Monday	28	
	Tuesday	29	Academic Year 2019/2020 Begins (Semesters I, III, V, VII, IX) **with Holy Eucharist Cerebrations for the New Academic Year.**
	Wednesday	30	
	Thursday	31	
NOVEMBER 2019	Friday	1	
	Saturday	2	
	Sunday	3	
6	Monday	4	
	Tuesday	5	
	Wednesday	6	
	Thursday	7	
	Friday	8	
	Saturday	9	
	Sunday	10	
7	Monday	11	SPORTS DAY
	Tuesday	12	Convocation Day
	Wednesday	13	Scientific Conference
	Thursday	14	BMC Board of Governors
	Friday	15	**CUHAS COUNCIL;**
	Saturday	16	**12TH GRADUATION CEREMONY**
	Sunday	17	
8	Monday	18	
	Tuesday	19	
	Wednesday	20	
	Thursday	21	
	Friday	22	
	Saturday	23	
	Sunday	24	
	Monday	25	
	Tuesday	26	
	Wednesday	27	
	Thursday	28	
	Friday	29	
	Saturday	30	
December 2019	Sunday	1	
	Monday	2	
	Tuesday	3	
	Wednesday	4	
	Thursday	5	

WEEK NO.	DAY	DATE	EVENT
	Friday	6	
	Saturday	7	
	Sunday	8	
	Monday	9	
	Tuesday	10	
	Wednesday	11	
	Thursday	12	
	Friday	13	
	Saturday	14	
	Sunday	15	
	Monday	16	
	Tuesday	17	
	Wednesday	18	
	Thursday	19	
	Friday	20	
	Saturday	21	
	Sunday	22	
	Monday	23	
	Tuesday	24	
	Wednesday	25	
	Thursday	26	
	Friday	27	
	Saturday	28	
	Sunday	29	
	Monday	30	
	Tuesday	31	