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Pursuing Excellence

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Busitema University

Faculty of Health Sciences

Department of Community and Public Health

Curriculum for the Master of Public Health (MPH)

October 2022

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1.0 Background

Busitema University was established as a public University under the Universities and other Tertiary Institutions Act, 2001 (Establishment of Busitema University Instrument 2007 No. 22 made on 25th of May, 2007, having been enacted by Parliament on the 10th of May, 2007).

The University was established as a Multi-campus University with its headquarters located at Busitema along Jinja- Tororo highway. The campuses that form Busitema University are as follows: Busitema, Nagongera, Namasagali, Arapai, Mbale, and Pallisa and Kaliro which is not yet operationalized.

Mandate of the University-To provide higher education through teaching, research and outreach.

Vision: "A centre of academic and professional excellence in science, technology and innovation".

Mission: "To provide inclusive high standard training, quality research, and outreach for industrialization and sustainable development".

Core values

The University Core values are:

i. Respect
ii. Professionalism
iii. Customer first
iv. Innovativeness
v. Integrity

The Faculty of Health Sciences located at Mbale Regional Referral & Teaching Hospital Complex (MRR&TH) was established in 2013.

It hosts the Master of Public Health (MPH), which commenced in 2015.The establishment of the MPH programme was pivotal to the faculty's mission of improving the health of the underserved communities of Uganda through innovative ways of teaching, research and healthcare delivery. In this vein, the MPH programme is one of the vehicles that plays a critical role in the economic and social development of Uganda through training of distinguished health professionals with competencies to serve underserved and rural populations. To attain this, the Busitema University Faculty of Health Sciences (BUFHS), has established partnerships with rural health facilities, health care programmes, NGOs, partners, District health offices and hospitals in the region so as to fulfil the aspirations of the MPH programme.

Strategic fit

- The strategy of this MPH programmes is contributory to addressing the national response to NPD III, SDGs and poverty alleviation. The project aligns with the Human Capital

Development strategy of the NPIII objectives aligned towards improving the foundations for human capital development and streamlining STEI/ STEM in the education system. The program will contribute to the strategic objectives of the Science, Technology, Engineering and Innovation (STEI)**.** It will help to enhance the integration of science and technology into the national development process. Against this background, this MPH programme is not only a timely programme, but developed to critically address health related issues as identified in:

- The NDP III's highlighted growth rate of 3.2 percent per annum since 1991.
- The mismatch between the population growth rate and resources.
- The rise of both communicable and non-communicable disease burden in the country.
- Increasing mobility of population and emerging and re – emerging diseases that characterize Uganda demographic and health systems.
- The National Health Policy (NHP) that provides for a minimum health care package, which requires adequate number of Public Health specialists for its effective and efficient delivery.
- Increase Equitable Access to Higher Education in STEM areas
- Increased proportion of labour force transitioning into decent employment
- Promote research, technology, incubation and commercialization of Innovations which is vital for increased production, productivity and industrialization
- Consolidate the young graduates into groups to develop and advance their innovations into patent, industrial setup for mass production of specific machine tools and services needed in society
-

The program will address critical issues in Human Capital Development Program Implementation Plan (HCDPIP), and they include;

a) Equip and support all lagging higher education institutions to meet the basic requirements and minimum standards
b) Establish centres of excellence in Universities
c) Prioritize investment in STEI/STEM Research and incubation to transform it into goods and services for national growth and societal wellbeing
d) Skilling for Employment and Productivity
e) Develop and implement a distance learning strategy

The program directly addresses sustainable development goal three that aims to promote good health and well being, sustainable development goal four that aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, and sustainable development goal nine that aims to foster innovation among others.

Busitema University, therefore, through this Master of Public Health program is contributory to direct response to the development, economic and health challenges in Uganda and Sub-Saharan Africa.

COLLABORATIONS: The University has strategic collaborations. On policy matters, Busitema University has working collaborations with the various government ministries and agencies such as: the Ministry of Health (MoH), Uganda National Institute of Public Health (UNIPH) and Uganda Ministry of Science, Technology and Innovation (MoSTI), and Uganda National Health Research Organisation (UNHRO). Collaborations with other Universities nationally and internationally are for progressive networking for advancement of research, training and outreach activities. For instance, collaborations with Makerere University are for training purposes and onlinisation of courses. Collaborations with DAAD (German Academic Exchange Services) is for research and training scholarships. In the last 5 years, DAAD has sponsored at least 5 MPH students on annual basis. The scholarships are run and managed by Busitema University. Associations with the Swedish Embassy is through Makerere-Sweden Research Cooperation which provides training scholarships and small research grants. In 2016/2018 three MPH students benefitted from these scholarships. These demonstrate progressive collaborations and Busitema University's MPH international scholarship management abilities.

1.1 Rationale for the revision of the MPH programme

The current revisions and updates of the MPH programme is cognisant of the rationale for the initial design and implementation of the programme at the BUFHS. These include:

- Using the Primary Healthcare approach as a pillar, promote equitable access to health care to all people of Uganda. This will be achieved through training of specialists to fill in the existing and emerging human resource gap in the decentralized health sector in the country.
- Enhancing effective and culturally acceptable research as means of advancing knowledge, innovations, practices and skills in medical and public health fields, and above all as the basis for health policy formulation.
- Building capacity for translation of research into policy through an inbuilt advocacy framework in training curriculum as well as publication of students' and faculty research findings through relevant for media.
- Enhancing institutional networking as a catalyst for efficiency.

The revisions and updates have therefore been done to attain high standards of MPH training through:

1. The start of a new cycle after completing the initial regulatory accredited implementation cycle of 5years.
2. To remain relevant i.e., keep up with the changing world.
3. Fulfilment of the requirements of re-accreditation of the programme.
4. Updating areas with emerging methodologies, training methods and materials.
5. Aligning the smooth implementation of the programme after successful implementation of the first phase of the programme.
6. Up-to-dates on emerging public health trends.

7. Promotion of accountability to the university, regulatory authorities, esteemed trainees and communities.
8. Recommitment to contributing to improved health care deliver, alleviation of poverty and promotion of health.
9. Tracer studies with graduates and employers will be conducted to inform periodic curriculum review processes.

2.0 Program Justification

There are changes taking place in the management and organisation of health services in Uganda. Some of these changes include: decentralisation of management of routine health service delivery to the Health Sub-District (HSD) from the district as previously known; efforts to improve efficiency, cost-effectiveness and quality of services; greater options for patients and regulation of costs.

As an outcome of these changes there is a requirement for new skills for public health professionals. They need to be able to manage health services, from assessing the health needs of communities to supervising health personnel in a supportive manner and from motivating community participation to allocating health resources effectively, monitoring quality and managing change.

In the light of the above the aim of MPH is to train public health specialists who can provide leadership in addressing national and regional health care challenges form the integrated community, clinical, preventive and health promotion health perspective. In addition, these individuals should be self-directed in their style of learning and capable of mobilising their learning skills throughout their future careers as cadres of national health systems.

Busitema University has become a research-intensive institution in Eastern Uganda and there is a need to build the research ethics capacity of its graduate students, investigators, mentors, and Research Ethics Committee, as well as those of other local institutions.

3.0 Program Goal

The main goal of this program is to train public health specialists who can provide leadership in addressing national and regional health care challenges form the integrated community, clinical, preventive and health promotion health perspective.

4.0 Program Objectives

1. To strengthen the capacity to implement health programs at national and sub-national levels in Uganda
2. To create a pool of public health trainees with skills to design, implement and evaluate health interventions
3. To strengthen the collection and utilization of health information to improve the quality of health services

4. Strengthen the model of Public Health training that focuses on student-centred learning and academic independence.
5. To strengthen the capacity for implementing health services at the district level;
6. To provide leaders with the capacity and skills to meet the demands arising from the decentralisation policy of the Ugandan Government;
7. To strengthen the capacity to carry out Public Health research;
8. To strengthen the capacity of trainees to deliver quality health services;
9. To prepare public health practitioners to work within an integrated multidisciplinary, multi-sectoral health system
10. To enhance the capacity to contribute to reduction of morbidity and mortality;
11. To promote linkages between Busitema University and the Ministries providing health services;
12. To increase the awareness and appreciation of the importance of public health as a means to enhance the attractiveness of careers in public health;
13. To promote linkages between institutions providing public health training, locally, regionally and worldwide.

5.0 Program competencies

1. Evidence-based approaches to public health

i. Apply epidemiological methods to the breadth of settings and situations in public health practice

ii. Select quantitative and qualitative data collection methods appropriate for a given public health context

iii. Analyse quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate

iv. Interpret results of data analysis for public health research, policy or practice

2. Public health and health care systems

i. Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings

ii. Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels

3. Planning and management to promote health

i. Assess population needs, assets and capacities that affect communities' health

ii. Apply awareness of cultural values and practices to the design or implementation of public health policies or programs

iii. Design a population-based policy, program, project or intervention

iv. Explain basic principles and tools of budget and resource management

v. Select methods to evaluate public health programs

4. Policy in public health

i. Discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence

ii. Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes

iii. Advocate for political, social or economic policies and programs that will improve health in diverse populations

iv. Evaluate policies for their impact on public health and health equity

5. Leadership

i. Apply principles of leadership, governance and management, which include creating a vision, empowering others, fostering collaboration and guiding decision making

ii. Apply negotiation and mediation skills to address organizational or community challenges

6. Communication

i. Select communication strategies for different audiences and sectors

ii. Communicate audience-appropriate public health content, both in writing and through oral presentation

iii. Describe the importance of cultural competence in communicating public health content

iv. Provide inter-professional practice

v. Perform effectively on inter-professional teams

7. Systems thinking

i. Apply systems thinking tools to a public health issue

Busitema University specific competencies

The program focuses on training health care cadres with the following competencies:

i. Knowledge and its application in public health process, epidemiology, biostatistics, research methods population health and health systems.
ii. Critical inquiry and scientific methodology to address public health challenges.
iii. Development of interpersonal and communication skills
iv. Leadership and management skills
v. Public health innovations.
vi. Advocacy and development of health policies
vii. Environmental and occupational health
viii. Poverty eradication, health promotion and development.

The above competencies will be measured using:

i. Written progressive tests and examinations
ii. Oral examinations (Viva-Voce)
iii. Cases or problems extracted from the district health offices
iv. Self- and peer assessments will be conducted during field supervision visits
v. Field reports
vi. Viva-Voce examination
vii. Thesis

6.0 Regulation and requirement for the program

6.1 Program duration

The duration of the program is two years. Each academic year shall be divided into 2 semesters, each lasting of 17 weeks (15 weeks of training and two weeks of examinations) and a recess term of 10 weeks.

6.2 Program award

This program will result in the award of Master of Public Health Degree of Busitema University.

6.3 Program Regulations

The regulations and guidelines for the graduate programs at Busitema University shall generally apply as guiding principles but specific elements as required for the standards of this program have been incorporated. These include but are not limited to guidelines and regulations on;

a) Admission and regulation of students
b) University examination
c) Research, supervision and examination of dissertation.

6.4 Admission Requirements

The minimum entry requirements will be as follows:

i. A degree in health sciences, e.g. Bachelors in Medicine and Bachelors in Surgery, BSc Nursing, Bachelors in Pharmacy, Bachelors in Veterinary Medicine, BSc. Physiotherapy, BSc. Public Health, Bachelors in Midwifery, and Bachelors in Environmental Health Science
ii. A degree in biological sciences, e.g., Biology; Laboratory Sciences; Nutrition and Fisheries, Statistics, Demography and Bachelors in Veterinary Medicine
iii. A degree in social sciences, e.g., Social Work and Social Administration, Sociology, and Economics.

6.5 Nature of curriculum

Courses have theoretical, practical and research components, but with practical and competence building aspects. The courses are conducted both at the training institution where lectures, practical sessions and tutorials are conducted through face-to-face sessions, online blended learning, and community or site outreaches. All practical sessions are under guidance of supervisors, preceptors or mentors.

7.0 Assessment and examinations

7.1Progressive assessments and examinations

Progressive assessment will be in the form of written papers, case reports and continuous progress assessments. The end of semester/course examination will consist of:

i. Competence-based Public Health Open Book Examination, 24hours before onset of classroom-based timed examinations.
ii. Objective-type Questions
iii. Short Essay Questions
iv. Long Essay Questions
v. Extended viva voce
vi. Dissertation

7.2Assessment and Grading

Each course will be assessed in two parts:

Course work (progressive, continuous assessment) shall contribute 40% of the total marks, the end of semester course examination shall be graded out of 60%, and therefore each course shall

be graded out of one hundred percent (100%) marks and assigned appropriate letter grade points as follows:

Marks % Point	Letter Grade	Grade
80 - 100	A	5
75 – 79.9	B +	4.5
70 – 74.9	B	4,0
65 – 69.9	B -	3.5
60 – 64.9	C +	3,0
55 – 59.9	C	2.5
50 – 54.9	C -	2.0
45 – 49.9	D +	1.5
40 – 44.9	D	1 0
35 – 39.9	D -	0.5
Below 35	E	0

The minimum pass mark in any course will be 60%. No credits should be awarded for any course in which a student fails.

When a student has to retake a course, he/she has to wait and retake that course when it is next offered. However, the student should be involved in all activities of the course accordingly when retaking the course. Furthermore, if a student missed an exam, he/she may take the exam under special arrangements as stipulated in the university regulations for managing examinations.

7.3 Progress

7.3.1 NORMAL PROGRESS

- To sit for the end of semester examination, a candidate must have attained a certificate of performance from the department/faculty

7.3.2PROBATION

- A candidate who scores less than grade point 3.0 in a semester examination will retake the course when next offered, but may proceed to the next academic year on condition that he/she retakes the courses that they failed and pass them.

7.3.3DISCONTINUATION

A candidate will be discontinued after obtaining;

i. Three consecutive probations in a course, or
ii. Three consecutive probations based on GPA(Grade point average)

7.4 Dissertation

The dissertation shall conform to the standing guidelines and regulations of the University on higher degrees. A candidate shall submit a research proposal to the Departmental Research Committee (DRC), which will assess, score and recommended the proposal in the semester of the second year. Thereafter, the proposal will be approved by the Faculty Higher Degrees and Research Committee (HDRC) and Busitema University Faculty of Health Sciences Research and Ethics Committee (BUFHS REC) before commencement of research activity. In case a candidate is conducting an interventional study or any other study mandated for reporting to the Uganda National Council of Science and Technology, we will request them to do so.

The candidates and the respective supervisors are required to follow all the provisions of the HDRC:

i. Concept presentations to the department
ii. Supervisor Contracts
iii. Submit Signed Contracts to the HDRC
iv. Proposal presentation to HDRC
v. Proposal presentation to BUFHS REC or any other REC
vi. Start of data collection: Allow 2-6 months of data collection and analysis and report writing
vii. First draft book of theses/dissertations ready
viii. Schedule for supervisors to review the dissertations and feedback to the candidate
ix. SUBMISSION DEADLINE: The last day for submitting Master's dissertations for examination should be at least 3 months before the end of September of each year.

The candidate shall submit an "Intention to submit the dissertation" to the faculty/department report"at least four months before the end of Semester II in Year II. The candidate shall hand in three copies of the dissertation report. To pass a dissertation, the candidate has to satisfy the examiners in both the written dissertation and the viva voce. A candidate who fails to satisfy examiners, shall re-submit a revised dissertation report in accordance with the recommendations of the external and internal examiners. Failure to satisfy the panel of examiners in viva voce will result in repeating the viva voce.

8.0 Award of the degree

For the award of the degree, a candidate must pass all semester examinations and the dissertation. The Degree of Master of Public Health of Busitema shall be awarded without classification.

8.0 Important changes in the curriculum

i. The course unit Primary Health Care: Principles and Practice (MPH 7101) has been changed to Principles, Determinants and Promotion of Public Health (MPH 7105). The initial course was focusing on primary health care, which we thought was too narrow, and did not provide adequate introduction to the field of public health to our students. We

have expanded the course to include post-primary health care philosophies such Universal Health Care, Sustainable Development Goals and determinants of health.

ii. We have introduced a course called Principles of Epidemiology (MPH 7106). Epidemiology is a core discipline for public health. We therefore suggest we have an independent course that introduces students to this core discipline. Furthermore, we propose that it is taught early on in the course.

iii. We have introduced a course called Applied Biostatistics I (MPH 7107). Biostatistics is a core discipline in public health. We have titled it as applied biostatistics as we aim to teach primarily the application not mathematical theory behind these concepts. We hope to transfer usable skills in biostatics to our students.

iv. We have introduced a course titled occupational, environmental and one health (MPH 7108) previously referred to as occupational health. The new course entails aspects of environmental health, and the concept of one health. This is intended to introduce students to the current public health thinking of the inter-relationship between human health, animal health and the environment.

v. Course 7209 was previously health economics and policy. This has been changed to health economics, leadership and policy (MPH 5205). This follows consultations with employers who noted that leadership skills are key to excellence in the workplace. We hope this will prepare our graduates for leadership opportunities upon graduation.

vi. We have introduced a course called Scientific Writing and Effective Communication Skills (MPH 8209) to assist our students to translate their dissertations to publishable manuscripts and equip them with skills in manuscript, grant and policy brief writing. This is in addition to communication skills. These competences have been highlighted as key to success in the marketplace.

vii. We have introduced Advanced Applied Biostatistics (MPH8207). This course will introduce the students to regression methods in statistics. This will be a practical course using STATA to assist students grasp the concepts of the most common regression techniques used in the market place. This course guarantees that our graduates have necessary and marketable skills relevant to the market place.

viii. The course research proposal writing has been changed from a theoretical to a practical course (MPH 7208) by adding features such as presentation of the final proposal as the examinable output. This way, we hope to promote finally completion of the course, as proposal development has been one of the bottlenecks.

Summary of changes made in the proposed new curriculum

S/N	AREA	CHANGES
1	General overview	1. In fulfillment of the re-accreditation of the program after the first successful cycle. 2. To remain relevant especially with the changing locally and internationally

		3. Updating areas with emerging methodologies, training methods, materials and demand by the consumers of our products for skilled and competence based graduates. 4. Tracer studies with our graduates and employers / consumers will be done to inform periodic review process 5. We are improving our easements to assess skills and competencies as a higher level on the Blooms taxonomy
2	Changing World	1. Embraced decentralization which has now taken root in management of the health services 2. Prioritization of public health in prevention of morbidity and mortality form communicable and non-communicable diseases and health promotion. 3. Empower or graduates with skills and competencies to provide leadership and research in addressing national, regional and international health care challenges
3	Specific areas	**MPH 7105(originally MPH 7101) Principles, Determinants and Promotion of Public Health** 1. This has been enriched from the previous Primary Health Care to include Principles, determinants and promotion of public health which is wider than the previous course. **MPH 7106(originally MPH 7102) Principles of Epidemiology** 2. We suggest the introduction of a course unit Principles of Epidemiology as a core discipline of public health **MPH 7107(originally MPH 7103) Applied Biostatistics** 3. We propose the introduction of Biostatistics as a core discipline as titled applied biostatistics. 4. We have introduced a course "Occupational, environmental and one health" upgrading from only occupational health to empower the graduate with the relationship between human, animal and thw environment **MPH 7209 (originally MPH 7205) Health economics, Leadership and Policy**. 1. This was introduced following consultations with employers / consumers of our graduates who noted deficiency leadership skills. **MPH 8219 (originally MPH 8213) Scientific writing and effective communication**

		1. We have introduced a course unit called scientific writing and effective communication to empower our graduates in manuscripts and grant writing, disseminate their research results and publish their findings. 2. We have introduced applied Biostatistics II to empower our graduates with skills on regression statistics and hands on with Stata 3. The course on research proposal writing has greatly changed to a more practical course including its assessment.
4	Mode of delivery	To increase on enrolment we are including blended method of delivery which includes both face to face and online (virtual sessions) to allow those already in employment to access the program while in their place of work. In addition students will have field attachments after face to face sessions, so that they acquire practical skills. Students will be given log books that field supervisors must sign, when they perform stipulated procedures. Faculty members will periodically visit the various sites, to ensure students are acquiring the stipulated skills and competencies.
5	Mode of assessment	We propose to gradually move away from the assessment based on recall to a more practical, critical thinking and analytical assessment. Where students employ the theory to solve problems.

9.0 Course outline

9.1 program Course units

The program course shall be conducted on the credit unit basis. One credit unit shall be equivalent to one contact hour per week per semester or a series of 15 contact hours. One contact hour is equivalent to 1 hour of lecture / tutorial / seminar or two hours of practical assignments.

Year1 Semester 1

Code	Course	LH	TH	PH	CH	CU
MPH 7105	Principles, Determinants and Promotion of Public Health	30	15	30	75	5
MPH 7106	Principles of Epidemiology	30	15	15	60	4
MPH 7107	Applied Biostatistics	20	10	30	60	4
MPH 7108	Occupational, Environmental and One Health	30	15	15	60	4
	T o t a l	**110**	**55**	**90**	**255**	**17**

Year 1 Semester 2

Code	Course	LH	TH	PH	GH	CU
MPH 7209	Communicable and Non-communicable Disease Control	30	15	30	75	5
MPH 7210	Disease Surveillance and Response	30	15	30	75	5
MPH 7207	Research Methods	10	5	30	45	3
MPH 7208	Research Proposal Writing	25	5	30	60	4
	Total	**95**	**40**	**120**	**255**	**17**

Year 1 Recess Term

Code	Course	LH	TH	PH	CH	CU
MPH 7304	Health Economics, Leadership and Policy	30	15	15	60	4
MPH 7305	Health and Health Systems	30	15	15	60	4
	T o t a l	**60**	**30**	**30**	**120**	**8**

Year 2 Semester 1

Code	Course	LH	TH	PH	CH	CU
MPH 8105	Qualitative Research Methods	10	5	30	45	3
MPH 8106	Advanced Epidemiology	30	15	15	60	4
MPH 8107	Advanced Applied Biostatistics	10	5	30	45	3
MPH 8108	Ethics in Public Health and Research	30	15	15	60	4
	T o t a l	**80**	**40**	**90**	**210**	**14**

Year 2 Semester 2

Code	Course	LH	TH	PH	CH	CU
Core Courses						
MPH 8219	Scientific Writing and Effective Communication Skills	15	15	15	45	5
MPH 8220	Dissertation					10
	Total	**15**	**15**	**15**	**45**	**15**
Elective practicum courses (students will offer any 2 of these courses – 10 CUs)						
MPH 8212	Maternal, New born, Child and Adolescent Health	30	15	30	75	5
MPH 8213	Innovation in Health Services	30	15	30	75	5

MPH 8214	Fundamentals of Nutrition	30	15	30	75	5
MPH 8215	Public health in emergency situations	30	15	30	75	5
MPH 8216	Monitoring and Evaluation	30	15	30	75	5
MPH 8217	Health Care Human resource management	30	15	30	75	5
MPH 8218	Health management information systems	30	15	30	75	5

MPH 7105: PRINCIPLES, DETERMINANTS AND PROMOTION OF PUBLIC HEALTH

Course Description

This is an advanced course that covers the philosophy of modern meaning and concept of Public health, brief historical background, introduces the student to the roles of different actors behind public health behindpublic health, with emphasis to Primary Healthcare and models of primary health care in the developing world. We will introduce our learners to the third sustainable goal (https://sdgs.un.org/goals/goal3): ensure healthy lives and promote wellbeing for all at all ages. The course highlights the individual, their families and their community as partners in health care provision. The course also introduces the student to communicable, non-communicable, injuries and mental health. The course also helps students to understand the pillars of health promotion and contemporary promotion, health information, health education, proper and adequate nutrition.

Courses Aim

This course introduces the students to the Sustainable Development Goals (SDG) and in particular SDG 3in the perspective of primary health care programs and Universal Health Care (UHC). The course also provides students insights on how to design and supervise health promotion programs.

Intended Learning Outcomes

By the end of this course, the student should be able:

i. To define concepts of health, including One Health, knowledge on Primary Health Care and health promotion useful in improving community health.
ii. To ably discuss communicable, non – communicable, injuries and Mental Health.
iii. To apply innovations and creativity in solving community problems

iv. To appreciate the importance of Primary Health Care and health Promotion in improving community health.
v. To appreciate and analyse the determinants of health (biological, physical social behavioural, life – style, environmental etc.)
vi. To analyse climate change and its implications
vii. To at appreciate and apply communication skills for social mobilisation.
viii. To identify community health problems their associated problems and possible solutions

Course content

i. Definition of public health, including that of One Health, Universal health coverage, health promotion, disease prevention, creativity and innovations.
ii. History and models of successful primary health care
iii. The pillars of primary health care and elements of primary health care
iv. The concept of "causation' of both communicable and non - communicable diseases
v. Terminologies associated communicable disease transmission (port of exit, port of entry, transmission routes, reservoir, direct/indirect transmission, mechanisms, immunity
vi. Discuss the relevance of SDG3 to the major health challenges in your country and its importance of national priority setting
vii. Discuss the relevance of other SDGs to attainment of SDG3
viii. Discuss major historical events, interventions and trends in public health
ix. Explain the distribution of communicable diseases, non-communicable diseases, injuries and sexual and reproductive health problems in different geographical and socio-economic settings
x. Discuss the social determinants of health and health care seeking

Means of delivery: Lecture, tutorials, self-study, practical exposure/fieldwork, laboratory work, seminars.

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to concepts of health, one health, PHC and UHC	6	2	2		
	Tue	Sustainable Development Goals. SDG 3	6	2	2		
	Wed	Communicable and Non-communicable diseases, injury and Mental Health	6	2	2		
	Thu	The concept of "causation' of both communicable and non - communicable diseases. The concept of "causation' of both communicable and non - communicable diseases	6	2	2		

		Discuss the Major Historical events, intervention and trends in public health					
	Fri	The levels of prevention, Proper nutrition, Design and communication of effective health messages PROGRESSIVE TEST	6	2	2		
Week 2		Community mobilisation.Advantages and challenges		6			
Week 3		History and models of successful PHC, cite examples		6	1		
Week 4		Explain the distribution, of communicable and Non-communicable diseases, injuries, Mental and Substance abuse in different geographic locations		6	2		
Week 5		Assessment		2			
Total			30	30	15	75	5

Key Competences

Knowledge

Knowledge of the pillars and elements of primary health care and their application in improvement of the health of communities

Skills

Searching literature

Mode of assessment

End of week test / assessment, progressive assessment (weekly assignments), (40%) end of month examination and end of course/ semester examination that includes theory written paper (50%)and viva voce (10%)

Reading Materials

1. Detels R, Gulliford M, QuarraishaAbdool Karim, ChorhChuan Tan (ed.) 2015. Oxford Textbook of Global Public Health. 6th edition
2. Shaw, D., 2008. Social determinants of health. Clinical Medicine, 8(2), pp.225-226.
3. Marmot, M., 2005. Social determinants of health inequalities. The Lancet,365(9464),pp.1099-1104
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11. Evans, R.G., Barer, M.L. and Marmor, T.R., 1994. Why are some people healthy and others not? The determinants of health of populations (pp. 27-64). New York: Aldine de Gruyter.
12. Currie, C., Zanotti, C., Morgan, A., Currie, D., de Looze, M., Roberts, C., Samdal, O., Smith, O.R. and Barnekow, V., 2009. Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the, 2010, p.271.

Facilitators;

Course Coordinator: Dr Wanume Benon MB Ch B, MMed Community Practice

No	Name	Qualification	Employer	Status
1	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time
3	Dr. David Soita	DCM, BSc PHC, MSc PHC, PhD	Busitema University	Part-Time
4	Dr. David Okia	MBchB, MPH	Busitema University	Full Time

MPH 7106: PRINCIPLES OF EPIDEMIOLOGY

Course description: This is a foundation course for public health. The course covers general principles of epidemiology, and introduces the student to the design, conduct, and analysis of observational and interventional studies.

Course aim: The course aims to provide the student with the ability to use key epidemiological concepts in the analyses of epidemiological issues and the design and analysis of epidemiological studies

Intended Learning Outcomes

By the end of this course unit, the student should be able to:

1. Describe principal epidemiological concepts
2. Apply principal epidemiological concepts
3. Implement observational epidemiological studies
4. Implement interventional epidemiological studies

Course Content

1) Introduction to epidemiology

Definition of epidemiology, History of epidemiology, key concepts in epidemiology, applications of epidemiology

2) Measures of disease frequency and association

Proportions, risk, rate, prevalence, incidence, attack rate, case fatality, odds ratios, risk ratios, prevalence ratios, rate ratios and absolute measures of association

3) Direct and Indirect standardization

Utility of standardization, application of standardization, interpretation of standardized rates

4) Outbreak investigation

Definitions of outbreaks and process of outbreak investigation

5) Disease surveillance

Definitions of disease surveillance, process of disease surveillance

6) Sampling

Random and non-random sampling, description of various types of random and non-random sampling

7) Validity

Specificity, Sensitivity, NPV, PPV

8) Ecological studies

Definitions, conduct, analysis, ecological fallacy

9) Cross sectional studies

Definition, conduct, analysis, limitations

10) Case control studies

Definitions, conduct, types of controls, recall bias, analysis

11) Cohort studies

Definitions, types, analysis, loss to follow up

12) Interventional epidemiological studies

Definitions, randomized and non randomized controlled studies, conduct and ethical issues, analysis, intention to treat principle, selection and allocation of participants, delivery of the intervention, blinding, randomization, follow-up

13) Causation, Bias, Confounding and Biological Interaction

Models of causation, Bradford Hill Criteria, introduction to bias, Confounding, and Interaction

Mode of delivery: Lectures, tutorials, participatory learning, Case studies, online lectures and quizzes

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to epidemiology Measures of disease frequency and association	6	1	1		
	Tue	Direct and indirect standardization Outbreak investigation Disease surveillance	6	1	1		
	Wed	Sampling Validity	6	1	1		
	Thu	Observational studies Causation, Bias, Confounding and Interaction	6	1	3		
	Fri	Interventional studies PROGRESSIVE TEST	6	2			
Week 2		Standardization, outbreak investigation & surveillance		3	3		
Week 3		Observational studies & causation		3	3		
Week 4		Interventional studies		3	3		
Total			30	15	15	60	4

Key Competences

Knowledge

i. Knowledge of the history and relevance of epidemiology
ii. Know the different measures of association and how to interpret them
iii. Knowledge of different kinds of observational and experimental studies
iv. Understand different kinds of bias and how to prevent them
v. Understand the concepts of confounding and biological interaction and how to prevent them
vi. Know the principles underlying causal thinking

Skills

i. Design and conduct both observational and experimental studies
ii. Analyze epidemiological data
iii. Interpret epidemiological analysis
iv. Conduct sampling
v. Conduct outbreak investigation
vi. Conduct surveillance

Assessment: Written exam (60%), progressive assessments (individual and group) (30%), participation in online tutorials and discussions (10%)

Reference Material

1. Leon Gordis (2014). *'Epidemiology'*, 5th Edition
2. Rothman,K.J. (2012). *Epidemiology: An Introduction* (2nd ed.). USA: Oxford University Press
3. Rothman, K. J., & Greenland, S. (1998). *Modern epidemiology* (2nd ed.). Philadelphia: Lippincott-Raven.
4. Epidemiology in Medicine Charles H. Heinekens and Julie E. Burring
5. Dictionary of Epidemiology by John M Last
6. Principles of Epidemiology, The Centers for Disease Control and Prevention Training Manual (3rd ed.)2006
7. Bonita R, Beaglehole R, Kjellstrom T. Basic epidemiology. 2006. 2nd Edition. Available at: https://people.montefiore.uliege.be/kvansteen/GeneticEpi-PublicHealth/ac0910/Chapter3/BackgroundReading_CH3b_BonitaGEpiBook.pdf. Chapters 1-3; pages 1-60.

Facilitator;

Course Coordinator: Dr David Mukunya MBChB; PhD

Facilitators

No	Name	Qualification	Employer	Status
1	Dr. David Okia	MBchB, MPH	Busitema University	Full Time
2	Professor Peter Olupot-Olupot	MBchB, MPH, PhD, FUNAS	Busitema University	Full Time
3	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
4	Dr Agnes Napyo	BSN, PGD-DPPM, MPH, PhD	Busitema University	Part-Time

MPH 7107: APPLIED BIOSTATISTICS

Course Description
This course is designed to enable students to understand and apply the basic concepts of statistics in epidemiological and public health research. Students should therefore be able to use statistical techniques to summarize, analyse, interpret and present data for public health use.

Course aim: The aim of this course is to provide the student with the ability to select and use scientifically sound statistical techniques to summarize, analyse, interpret and present data for public health use.

Intended Learning Outcomes

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

1) Describe the basic statistical concepts and relate them to applications in public health
2) Apply descriptive statistics in summarizing and presenting statistical data to those who need to use it to undertake appropriate public health interventions
3) Compare and contrast the different probability distributions and explain the situations in which they are applied in the process of statistical inference.
4) Apply point and interval estimates to test hypotheses about epidemiological associations so as to generalize sample parameters to populations.
5) Employ computers in the management of data, the search for information and the design of text documents

Course Content
- Introduction to basic statistical concepts
- Descriptive statistics: Measures of location and dispersion and their application; measures for summarizing categorical data; presentation of data; Practical application of descriptive data analysis (introduction to statistical computing)
- Probability distributions
- Key concepts in inferential statistics (Point and interval estimates and significance p-values; confidence intervals for population means and proportions; steps in statistical hypothesis testing; conducting statistical tests: using the standard normal distribution, conducting a z-test for a one sample mean and a one sample proportion; constructing confidence intervals for population means and proportions; two sample t-tests for independent samples and dependent samples, comparing two proportions; chi-square tests for contingency tables; an introduction to one-way ANOVA; computation of the three main sources of variation (SSE, SST and SSR) and testing hypotheses using the F-distribution; and practical application of hypothesis testing – introduction to bivariate analysis).
- Introduction to data management

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to Biostatistics, Scales of measurement Frequency distribution and other data presentation Measures of Central Tendency, Variation, Position Probability Distributions: Normal Distribution	4	2	1		
	Tue	Standard Normal Distribution, *z* values and tables Introduction to Hypothesis testing, Introduction to Statistical inference	4	2	1		
	Wed	Sampling Distribution, Confidence interval for proportion and mean, One/Two sample inference, Independent samples /paired t-test	4	2	1		
	Thu	Sample size calculation, Analysis of categorical data: Chi square/Fishers	4	2	1		
	Fri	Presenting baseline characteristics: Table 1 of baseline characteristics, Introduction to Correlation and Linear regression, Assessment of the linearity, independence, normality and equality of variances assumptions, Multiple linear regression, assessment of multicollinearity	4	2	1		
	Week 2	Assignment on probability distributions		10	2		
	Week 3	Assignment on hypothesis testing		4	2		
	Week 4	Anova assignment		6	2		
	Total		20	30	10	60	4

Key Competences

Knowledge

Knowledge of descriptive epidemiology
Basic theory underlying statistics

Knowledge of probabilistic distributions

Skills

Familiarity with STATA
Ability to classify data

Assessment: Written exam (60%), progressive assessments (individual and group) (30%), Participation in online tutorials and discussions (10%)

Reading Materials

1. Practical Statistics for Medical Research, Douglas G. Altman, 1991
2. Essential Medical statistics, B. Kirkwood and JAC Sterne 2nd Edition, 2003

Facilitators

Course Coordinator: Professor Jovani LubaleBStat, PhD

No	Name	Qualification	Employer	Status
1	Professor Jovani Lubale	BStat, PhD	Busitema University	Part time
2	Professor Peter Olupot-Olupot	MBChB, MPH, PhD, FUNAS	Busitema University	Full Time
3	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
4	Dr Agnes Napyo	BSN, PGD-DPPM, MPH, PhD	Busitema University	Part-Time

MPH 7108: OCCUPATIONAL, ENVIRONMENTAL AND ONE HEALTH

Course Description

This course gives students an introduction to as well as an overview of the key areas of environmental health and occupational health. It will enable the students to acquire scientific knowledge, appropriate attitude and, adequate skills to handle and manage human environment at all levels of health service delivery. Using the acquired skills and competencies the students will thus play a significant role in the promotion of environmental and occupational health in Uganda and beyond. The course covers toxicology, biophysics, and ergonomics and the impact of human activity to water, soil, air, food and the ecosystem. The course will consist of a series of lectures and will cover principles derived from core environmental health disciplines. In addition to academic concepts, the course topics will also be discussed from a field-practitioners point of view.

Course aim: The aim of this course is to provide the student with the ability to recognise environmental and occupational hazards and use scientific methods to mitigate environmental degradation. Be able to advise the authorities on occupation health and work place safety for public health.

Course learning outcomes

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

1. Understand and demonstrate skills and knowledge required in the promotion of better Environmental and occupational health in the communities and work environments.
2. Understand and comprehend definitions and major operational concepts in environmental and occupational health.
3. Describe specific applications of environmental health concepts to fields such as water quality control, food safety, occupational health, and injury prevention.
4. Define the major types, sources, and environmental distribution of environmental agents and Predict the nature of the agent's adverse effects from its physical, chemical, or biological properties, and how that may influence environmental or public health
5. Analyse causes of environmental pollution and propose strategies to address them.
6. Describe methods used in epidemiology and toxicology to conduct risk assessment, asses' exposures and hazard.
7. Appraise water supply and food management systems and understand appropriate interventions to prevent water and food borne diseases in communities.
8. Appraise waste management systems and understand appropriate methods for safe waste disposal and prevention of waste related diseases.
9. Discuss the Strategies, approaches and Tools used for sanitation and hygiene promotion in Uganda and other countries.

10. Describe the Emerging and re-emerging environmental health threats and Diseases (climate change, microbial disease resistance, disease out breaks and diseases of the 21st century.
11. Describe the Occupational health and safety legal, policy and Institutional frame work
12. Comprehend the ILO code of practice on HIV/AIDS and the world of work
13. Describe current legislation and regulation regarding environmental issues

Course content

1. Definitions and operational concepts in Environmental Health.
2. Description of major Components of Environmental health (water supply and water associated diseases, food hygiene and food borne diseases, waste management (solid waste and human excreta management), vectors and vermin of public health importance (their classification, diseases caused and control measures), environmental pollution (air, land, water and noise) and its effects on both humans and the environment).
3. Hazardous and Toxic materials (Hazardous waste/material management approaches
4. Environmental degradation and its effects, global warming, climate change and the precautionary principle
5. Strategies, approaches and tools used for sanitation and hygiene promotion in Uganda and other countries.
6. Environmental health (sanitation and hygiene) in special /emergency situations
7. Environmental health legislations (legal, policy and institutional frame work)
8. Behaviour change communication in promotion of good sanitation and hygiene practices
9. Monitoring and evaluation of sanitation and hygiene interventions
10. Emerging and re-emerging environmental health threats and Diseases (climate change, microbial disease resistance, disease out breaks and diseases of the 21st century.
11. Principles of risk assessment and Management

B) Occupational health and safety:

1. Definitions and operational concepts in occupational health
2. Key principles in occupational safety and health
3. Occupational health diseases and hazards
4. Principles of prevention and control of occupational diseases and hazards
5. Types of medical examination in occupational health and safety
6. Occupational health legislations general considerations, concepts, organization and, functions of Occupational health and safety services
7. Occupational health and safety legal, policy and Institutional frame work
8. ILO code of practice on HIV/AIDS and the world of work

Means of Delivery: Lecture, practical, seminars. Group work and discussions, Site visits and reports written

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Definitions and operational concepts in Environmental Health. Definitions and operational concepts in occupational health. Description of major Components of Environmental health	6	1	1		
	Tue	Key principles in occupational safety and health. Hazardous and Toxic materials. Environmental degradation and its effects, global warming, climate change and the precautionary principle.	6	1	1		
	Wed	Behaviour change communication in promotion of good sanitation and hygiene practices	6	1	1		
	Thu	Principles of risk assessment and Management	6	1	1		
	Fri	Principles of prevention and control of occupational diseases and hazards Types of medical examination in occupational health and safety	6	1	1		
Week 2		Occupational health legislations general considerations, concepts, organization and, functions of Occupational health and safety services. Environmental health legislations (legal, policy and institutional frame work) (In Assignments)		2	2		
Week 3		Emerging and re-emerging environmental health threats and Diseases (climate change, microbial disease resistance, disease out breaks and diseases of the 21st century(In Assignments)		2	2		
Week 4		Assignments		2	2		

Total		30	15	15	60	4

Key Competences
Development of innovations, implementation of interventions.

Assessment methods: Written exam (60), progressive assessments (individual and group) (30%), reports from site visits, participation in online tutorials and discussions (10%)

Reading materials:
1. Northouse, Peter Guy. (2004). Leadership. Theory and Practice 3rd Edition. London
2. Detels R, Gulliford M, Karim QA, Tan CC. Oxford Textbook of Global Public Health: Oxford University Press, 2015.

Facilitators
Course coordinator; Dr. Charles OkolimongBEHS, MPH, ADHSM, DipCMCH

No	Name	Qualification	Employer	status
1	Dr. Charles Okolimong	BEHS, MPH, ADHSM, DipCMCH	Busitema University	Part Time
3	Dr. Joseph Matovu	BS, MPH, PhD	Busitema University	Full Time
4	Dr. David Okia	MBChB, MPH	Busitema University	Full Time
5	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

MPH 7209: COMMUNICABLE AND NON-COMMUNICABLE DISEASE CONTROL

Course Description

This is a practical course, which enables students to have hands on experience on the management and control of approaches infectious/communicable diseases and their control. The student learns the concepts of communicable and non - communicable diseases as well as their control. The course exposes the underlying biological, epidemiological, ecological and evolution of pathogens in relation to the extraordinary immune defences of their human hosts. The students will get hands on evaluation of infectious diseases, diagnostics, and investigations strategies for treatment and control.

Learning outcomes

By the end of this course the student should be able;

- To develop strategies to counter the spread of infectious diseases.

Content outline;

By the end of this course, the learner should be able to;

- Explain the causative organisms of disease and their vectors
- Explain the evolution of pathogens in relation to the extraordinary immune defences of their human hosts
- Describe emerging and re – emerging infections
- Measurement and Control of infectious disease epidemics
- Infectious disease control strategies
- Distinguish the causes, transmission, and factors responsible for the propagation of major diseases of public health concern
- Critique specific disease control programs to assess the strength, weakness and impact.

Course Content

i. Principles of Communicable disease control. This will introduce and discuss the concepts of Communicable Diseases control, elimination and eradication; Definition and Classification of Communicable Diseases; and Key approaches in Disease Control (Measures for prevention of infection, Control of patient contacts and immediate environment, epidemic measures, measures for disaster situation, international measures)
ii. Infections and immunity relationships, the concept of host defence, agent and environment / vector will be discussed. The epidemiologic triad.
iii. Control of specific disease of public importance, the criteria of determining diseases of public health importance, epidemiology prevention and control of tuberculosis, HIV/STD, respiratory diseases, diarrhoeal diseases, Viral Haemorrhagic diseases plague.
iv. The concept or emerging and re – emerging diseases including One Health

v. The concepts of Non-communicable disease control: including cancers and mental health

Means of delivery: Lectures, practical exposure/fieldwork and seminars.

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
Week1	**Mon**	Principles of Communicable disease control. The concepts of Communicable Diseases control, elimination and eradication; Definition and Classification of Communicable Diseases; and Key approaches in Disease Control (Measures for prevention of infection,	6	2	2		
	Tue	Infections and immunity relationships, the concept of host defence, agent and environment / vector. . The epidemiologic triad	6	2	2		
	Wed	Control of specific disease of public importance, the criteria of determining diseases of public health importance, Epidemiology prevention and control of tuberculosis, HIV/STD, respiratory diseases, diarrhoeal diseases, Viral Haemorrhagic diseases plague.	6	2	2		
	Thu	The concept of Non – communicable disease control the 10 top, including cancers.	6	2	2		

	Fri	The concept or emerging and re – emerging diseases, including One Health. Mental health	6	4	2		
Week2		Investigating an out break		2	2		
Week3		Describe disease control programs in your area. Critique one program		2	2		
Week4		Critique one published manuscript on non-communicable disease epidemiology		2	2		
Total			30	15	15	60	4

Key competences;

Knowledge

i. Knowledge of disease burden attributable to communicable and non-communicable diseases

Skills

i. Outbreak investigation
ii. Critiquing literature

Reading materials

Northouse, Peter Guy. (2004). Leadership. Theory and Practice 3rd Edition. London

Oxford Textbook of Public Health (2009), fifth Edition, Oxford University Press ISBN; 9780999218707

Facilitators

Course coordinator; Dr Wanume Benon MB ChB M; Med Comm Practice

No	Name	Qualification	Employer	status
1	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

2	Dr. Charles Okolimong	BEHS, MPH, ADHSM, DipCMCH	Busitema University	Part Time
3	Dr. Joseph Matovu	BS, MPH, PhD	Busitema University	Full Time
4	Dr. David Soita	DCM, BSc PHC, MSc PHC, PhD	Busitema University	Part- Time

MPH 7210: DISEASE SURVEILLANCE AND RESPONSE

Course Description

This course covers the concepts of Public Health surveillance, Surveillance Systems & Reporting mechanisms; Objectives of the surveillance system; Structure and function of a surveillance system; priority diseases, conditions and events, evaluating a surveillance program, sampling methods, and questionnaire design for surveillance.

Course Learning Outcomes

Upon completion of this course, the student will be able to:

a) Define Public Health Surveillance
b) Explain the basic Surveillance Systems and Reporting mechanisms.
c) Examine the objectives of a surveillance system
d) Analyse the structure and function of a Surveillance system
e) Identify and list priority diseases, conditions and events
f) Design a surveillance program
g) Apply practical steps in investigating a disease outbreak
h) Examine methods and issues in planning, managing, and evaluating a public health surveillance program

Course content/Topics to be covered

i) Introduction to Public Health Surveillance
ii) Public Health Surveillance Systems and reporting mechanisms
iii) Structure, design and function of a Surveillance System
iv) International Health Regulations
Global Health Security Agenda and over view (topics to include: Global Health Security Action Packages including Antimicrobial resistance, One Health/Zoonotic disease package, Biosafety and Biosecurity, National Lab system, Immunization, Medical Countermeasures, Linking Public Health with the Law)
v) Priority Diseases, Conditions and Events
vi) Surveillance and mapping for rare emerging and deadly infectious diseases: The concept of 'hot spots' (High risk geographic hot spots, high risk hosts, high risk pathogens, and high risk populations)

vii) Risk factor surveillance of selected infectious and non-infections disease conditions and events including (e.g. HIV, Malaria, Tuberculosis, NCDs, surveillance for perinatal/neonatal outcomes, injuries, etc)
viii) Integrated surveillance and response
ix) Immunization surveillance, assessment and monitoring
x) Data collection (including Sampling approaches and methods in surveillance)
xi) Practical steps investigating a disease outbreak
xii) Surveillance data quality, analysis, interpretation and dissemination

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	i) Introduction to Public Health Surveillance v) Public Health Surveillance Systems and reporting mechanisms) Structure, design and function of a Surveillance System	6	2	2		
	Tue	i) International Health Regulations Global Health Security Agenda and over view (topics to include: Global Health Security Action Packages including Antimicrobial resistance, One Health/Zoonotic disease package, Biosafety and Biosecurity, National Lab system, Immunization, Medical Countermeasures, Linking Public Health with the Law) ii) Priority Diseases, Conditions and Events	6	2	2		
	Wed	iii) Surveillance and mapping for rare emerging and deadly infectious diseases: The concept of 'hot spots' (High risk geographic hot spots, high risk hosts, high risk pathogens, and high risk populations) x) Risk factor surveillance of selected infectious and non-infections disease conditions and events including (e.g. HIV, Malaria, Tuberculosis, NCDs, surveillance for perinatal/neonatal outcomes, injuries, etc)	6	2	2		

	Thu	) Integrated surveillance and response i) Immunization surveillance, assessment and monitoring ii) Data collection (including Sampling approaches and methods in surveillance)	6	2	2		
	Fri	I. Practical steps investigating a disease outbreak II. Surveillance data quality, analysis, interpretation and dissemination Progressive Test	6	4	2		
Week 2		Flied attachment in surveillance unit		10	2		
Week 3		Flied attachment in surveillance unit		8	3		
Total			30	30	15	75	5

Mode of delivery

Lectures, practical exercises, flied attachments and assignments

Assessment methods

Practical exercises, assignments and tests. A final in-class examination will be administered at the end of the course.

Reading Material

1. Leon Gordis 'Epidemiology', 6th Edition, 2018
2. Moyses Szklo , Javier Nieto (2007) 'Epidemiology beyond the basics.' 2nd Edition Published by Jones and Bartlett Publishers
3. CDC (2001) Updated Guidelines for Evaluating Public Health Surveillance Systems
4. Global Health Security Agenda: Action Packages
5. Global Health Security Agenda (2015) Global Health Security Agenda Pilot Assessment of Uganda
6. World Health Organization 2008. International health regulations (2005) -- 2nd ed
7. World Health Organization 2010. Technical Guidelines for Integrated Disease Surveillance and Response in the African Region-- 2nd ed
8. WHO Regional Office for Africa, 2014. Integrated disease surveillance and response in the African Region: a guide for establishing community based surveillance
9. WHO Regional Office for Africa, 2015. E-Surveillance implementation in the context of Integrated Disease Surveillance and Response in the WHO African Region
10. WHO STEPS Surveillance Manual for Surveillance of Chronic Disease Risk Factors
11. World Health Organization 2015. Consolidated strategic information guidelines for HIV in the health sector
12. World Health Organization 2007. Global framework for immunization monitoring and surveillance

Facilitators
Course Coordinator: Dr David OkiaMBChB; MPH

No	Name	Qualification	Employer	status
1.	Dr. Okia David	MD, MPH	Busitema University	Full Time
2.	Dr Benon Wanume	MBchB, Mmed	Busitema University	Full Time
3.	Dr. Charles Okolimong	BEHS, MPH, ADHSM, DipCMCH	Busitema University	Part Time
4.	Dr. David Soita	DCM, BSc PHC, MSc PHC, PhD	Busitema University	Part Time

MPH 7207: RESEARCH METHODS

Course Description
Several approaches are used to guide decision-making in health programs. Deciding on which course of action to take should not be by gut feeling, but rather, should be supported by sound scientific evidence. The collection and use of proper information at the right level contribute to the decision-making process. This course gives an overview of the meaning and importance of research. Research includes a broad range of scientific methods between two main domains: On one end are precise empirical measurements that generate quantitative data while on the other end is the use of observation, experience and knowledge translation to inform decision making. It is desirable that before taking this course, the students should have undertaken Applied Epidemiology I and Applied Biostatistics I courses

Course aim
By the end of the course, students will have the ability to design, conduct and analyze qualitative and quantitative research findings of properly selected and prioritized health problems of Public Health importance using internationally acceptable standards and methodologies, and communicate research findings to fill key knowledge gaps.

Course Learning Outcomes: By the end of this course, the graduate trainees should be able to:
a) Identify priority research problems so as to formulate qualitative and quantitative research questions and objectives
b) Conduct a problem analysis to formulate a concise but informative problem statement and justification and conceptual framework
c) Conduct appropriate scientific literature review and citation to defend and further clarify research-related knowledge gaps

d) Identify appropriate qualitative and quantitative methodologies and use them to write and implement a research proposal to address specified research questions
e) Prepare a data analysis plan and conduct basic data analysis from both qualitative and quantitative studies
f) Explain the key ethical principles and quality control in research, with emphasis on protection of human participants and attainment of internal validity
g) Apply appropriate statistical and qualitative computer packages to conduct basic analysis of qualitative and quantitative data
h) Employ appropriate methods to communicate key research findings to those who need to take action

Course outline

i) Theory of science
ii) Problem identification, prioritization, analysis and presentation, and framing of objectives, hypotheses and research questions
iii) Literature review, citation, referencing; use of referencing software
iv) Research designs
v) Identifying appropriate study populations and describing study settings
vi) Determining appropriate sample sizes for non-comparative and comparative studies
vii) Sampling procedures for selection of study respondents
viii) Ethics in research
ix) Quantitative data collection methods (face-to-face and self-administered methods) and quantitative data collection tools including questionnaires and checklists
x) Management of quantitative data before analysis: entry, cleaning, and storage
xi) Principles of quantitative data analysis, interpretation and presentation of results
xii) Considerations in secondary analysis of data
xiii) Sample size determination and sampling procedures in qualitative studies
xiv) Discussion of research findings, conclusions and recommendations
xv) Quality control and quality assurance in research
xvi) Principles and application of research ethics
xvii) Research proposal and report format guidelines and procedures
xviii) Introduction to systematic reviews
xix) Grant applications
xx) Public Participant Involvement in research
xxi) Gaining access to the field
xxii) Creating a good poster

Mode of delivery: Lectures, skills labs, demonstration, group work

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to research methods Problem identification and research justification Conceptual framework, objectives,	6	2	2		

		research questions and variables					
	Tue	Ethical issues in research Participant, Public Involvement in research (INVOLVE framework) Practical: Literature search and storage using Endnote Methodological issues in research: • Study designs • Study setting • Study population • Sampling	6	2	2		
	Wed	Methodological issues in research: • Data collection tools • Data quality control • Data management • Work plan • Budgeting • Reporting results Practical: Sample size calculation using OpenEpi and other software such as sample-size.net	6	2	2		
	Thu	Dissertation guidelines at BUFHS Practical: Creating a poster	6	2	2		
	Fri	Writing and publishing scientific papers Writing policy and research briefs PROGRESSIVE TEST: Presentation of posters	6	2	2		
Week 2		Write a well referenced two-page literature review Critique a background section		10	2		
Week 3		Sample size calculation exercises Design a conceptual framework & questionnaire		8	2		

Key Competences

Knowledge

i. Knowledge of various types of research
ii. Understanding of ethical issues in research
iii. Understanding of the role of participant and public involvement in research
iv. Understanding different research designs
v. Appreciation of various methodological issues in research design, conduct and analysis

vi. Knowledge of different sections of a dissertation required by BUFHS

Skills

i. Sample size calculation
ii. Literature management using Endnote
iii. Creating a poster
iv. Presentation
v. Elevator pitch
vi. Designing a conceptual framework
vii. Designing a questionnaire

Assessment: Objective written test, progressive assessments (individual and group),

Reference Material

1. Varkevessier CM, I. Pathmanathan and A. Brownlee, (1991). Designing and conducting health systems research projects. Pt1. proposal development and fieldwork. Pt2. Data analysis and report writing. IDRC. Ottawa, Canada
2. Kakitahi J.T. (1998). Students' guidelines for dissertation and research proposal write-up. Makerere University Kampala
3. Research methodology: Methods and Techniques (Second Revised Edition) 2004 by C.R Kothari
4. Matthews JR, Matthews RW (2010): Successful Scientific Writing: A step-by-step guide for the biological and medical sciences, Edition 3, Cambridge
5. Community Health Surveys: A practical guide for health workers 1. Planning and Organizing; 2. Survey Sampling; 3. Using available information; 4. Questionnaire design; 5. Interviewing and Recording 6. Presenting survey Data; http://www.amazon.co.uk/Linda-Lockerbie/e/B00IO1NU1S

Facilitators

Course Coordinator: Dr Rebeccah Nekaka, MBChB, MPH, DPPM

No	Name	Qualification	Employer	status
1	Dr Rebeccah Nekaka	MBChB, PGD-DPPM, MPH	Busitema University	Full-time
2	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
3	Dr. Joseph Matovu	BA, MHS, PhD, Dev. Fellow	Busitema University	Full Time
4	Dr. David Okia	MBchB, MPH, PhD	Busitema University	Full Time
5	Dr. Benon Wanume	MBChB, MMed	Busitema University	Full Time

MPH 7208: RESEARCH PROPOSAL WRITING

Course description
This is a research preparedness course which introduces students to the concept of academic research proposal development.

Course aim
The aim of the course is to enable candidates master the skill of scientific writing by being able to draft a research proposal ready for implementation. Together with a series of other modules, the student should be able to conduct the research.

Intended learning outcomes:

By the end of the course, students should be able to:
- Identify a research gap and formulate a research topic
- Formulate pertinent research questions and hypotheses
- Develop structured objectives to address the research gap
- Plan an appropriate research design
- Make use of relevant online databases to conduct literature review
- Demonstrate understanding of reference management software tools
- Write and submit a detailed research proposal for consideration by the Higher Degrees Research Committee.

Content outline
- Identifying a research gap and formulating a research topic
- Formulating research questions and research hypotheses
- Developing SMART study objectives
- Distinguishing between research questions, research hypotheses, and study objectives
- Overview of epidemiological study designs
- Concept paper writing
- Components of an academic research proposal
- Writing the Introduction and Background sections of a proposal
- Writing the Literature review section of a proposal
- Writing the Methodology section of a proposal
- Designing study tools
- Informed consent process
- Planning and budgeting in research
- Reference management, styles and citations
- Research protocol review process
- Introduction to the BUFHS guidelines on Dissertation/Proposal Writing

Mode of delivery: Lectures, interactive discussions; take-home, practical assignments

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	• Identifying a research gap and formulating a research topic • Formulating research questions and research hypotheses • Distinguishing between research questions, research hypotheses, and study objectives	6	2	2		
	Tue	• Developing SMART study objectives • Overview of epidemiological study designs	6	2	2		
	Wed	• Concept paper writing • Components of an academic research proposal	6	2	2		
	Thu	• Writing the 'Introduction' and 'Background' sections of a proposal • Writing the 'Literature review' section of a proposal	6	2	2		
	Fri	• Writing the 'Methodology' section of a proposal • Reference management, styles and citations • Research protocol review process	6	2	2		
Week 2		• Designing study tools • Informed consent process • Planning and budgeting in research • Submit a concept paper for marking		10	2		
Week 3		• Introduction to the BUFHS guidelines on Dissertation/Proposal Writing		8	2		

Key Competences

Knowledge

- Knowledge about the components of an academic research proposal
- Knowledge about the difference between a concept paper and a research proposal
- Knowledge about the informed consent process

Skills

- Skills in writing a concept paper and the different sections of an academic research proposal

- Skills in designing study tools
- Skills in planning and budgeting for research
- Skills in using the reference management software.

Assessment: This is a practical course. Students will present their concept papers in a departmental seminar (10 marks) and submit a revised copy of their concept papers for marking (30 marks). The presentation in the seminar series along with the submitted revised concept paper will fully constitute the progressive assessment, At the end of the semester, students will be expected to submit a draft copy of their proposal which will be marked out of 60%.

Reference Material

1. Busitema University Research Dissemination Handbook.
2. Zevia Schneider & Jeffrey Fuller. Writing research proposals in the health sciences: a step by step guide. ISBN-13: 978-1526411303. 1st Edition. Sage Publications Ltd. March 2018. https://us.sagepub.com/en-us/nam/writing-research-proposals-in-the-health-sciences/book256635
3. Hatem Abu Zayda. How to write a research proposal in health sciences. April 2018. Available at: https://www.noor-book.com/en/ebook-How-to-Write-a-Research-Proposal-In-Health-Sciences-pdf
4. Iheanacho Peace N. Writing a research proposal and a research protocol in clinical nursing research. Available at: https://media.tghn.org/articles/WRITING_A_RESEARCH_PROPOSAL__AND_A_RESEARCH_PROTOCOL_Dr_Iheanacho.pdf
5. Asya Al-Riyami. How to prepare a research proposal. Oman Med J. 2008; 23(2): 66-69. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3282423/
6. Grad Coach. How to write a research proposal for a dissertation or thesis. November 2019. Video lecture available at: https://www.youtube.com/watch?v=eALzUfkQJRU.
7. Jones & Bartlett Learning, LLC. PICOT, Problem Statement, Research Question, Hypothesis. Available at: https://samples.jbpub.com/9781449695071/81968_CH05_121_146.pdf

Facilitators

Course Coordinator: Professor Peter Olupot-Olupot

No	Name	Qualification	Employer	status
1	Dr. Joseph Matovu	BA, MHS, PhD, Dev. Fellow	Busitema University	Full Time
2	Professor Peter Olupot-Olupot	MBChB, MPH, PhD, FUNAS	Busitema University	Full Time
2	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
4	Dr. David Okia	MBchB, MPH	Busitema University	Full Time
5	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

MPH 7304: HEALTH ECONOMICS, LEADERSHIP AND POLICY

Course description

This course introduces students to the complex economic issues in health sector administration, and the economic impacts of decisions. It also highlights aspects of policy, its formulation and administration.

Course Aim

To enable students to understand the economic issues in health.
To enable candidates gain understanding of the health policy and planning processes.

Intended Learning outcomes:

By the end of this course the student should be able:

i. To understand economic basis of health policy and planning.
ii. To appreciate the use of information on health economics and for improvement of healthcare planning and delivery.
iii. Demonstrate understanding of health policy and the policy development process
iv. To understand the purpose of Health policy as well as factors that might affect its formulation and implementation
v. Gain understanding of the Health Insurance
vi. To apply knowledge of policy on the day-to-day health services

Content

i. Econometrics applied to health, health sector financing, Economic decision techniques.
ii. Burden of disease analysis methods, Benefit-cost analysis.
iii. Importance and application of health economics in day-to-day health delivery of health services.
iv. Government role in Private Health Care Service delivery costing
v. Economic evaluation of health outcomes
vi. Health Insurance and future health care demand
vii. What health policy and policy analysis are.
viii. What policies aim to achieve?
ix. Policy development process
x. Actors and forces in Health policy development/implementation process
    a. (Governance, gender)
xi. Application of health policy on monitoring of health services programmes.
xii. Evaluation of effectiveness of health policy

Mode of delivery: Lectures, tutorials and fieldattachments

Topics and Time frame

Weeks	Days	Topic	Lecture hours	PH	TH	CH	CU
ONE	Monday	• Econometrics applied to health, health sector financing, Economic decision techniques. • Burden of disease analysis methods, Benefit-cost analysis. • Importance and application of health economics in day-to-day health delivery of health services.	6	1	1		
	Tuesday	• Government role in Private Health Care Service delivery costing • Economic evaluation of health outcomes • Health Insurance and future health care demand	6	1	1		
	Wednesday	• What health policy and policy analysis is • What policies aim to achieve? • Policy development process	6	1	1		
	Thursday	• Actors and forces in Health policy development/implementation process (Governance, gender) Application of health policy on monitoring of health services programmes	6	1	1		
	Friday	• Evaluation of	6	2	2		

		effectiveness of health policy					
WEEK TWO	Monday to Friday	Flied Attachment		3	3		
WEEK THREE	Monday to Friday	Flied Attachment		3	3	10	
WEEK FOUR	Monday to Friday	Flied Attachment		3	3		
Total			30	15	15	60	4

Key competences

Knowledge of the scope of health economics and policy implications and its use in equitable health services delivery and monitoring of health programs

Mode of assessment:

Reading materials

1. Charles E Phelps (2009) Health Economics 4th Edition
2. James W Henderson (2009) Health Economics and health 4th Edition, South – Westerncengage Learning Ohio
3. Drummond, M. F., Sculpher, M. J., Torrance, G. W., O'Brien, B. J. and Stoddart, G. L. (2005) *Methods for the* Sherman Folland, Allen C. Goodman and MironStano (2010): The Economics of Health and Health Care, Seventh Edition.
4. *Handbook of Health Economics*, ed. A.J. Culyer& J.P. Newhouse, Elsevier, Amsterdam
5. *Economic Evaluation of Health Care Programmes,* 3rd edition, Oxford University Press: Oxford. RA410.5D77 2005

Facilitators

Course Coordinator: Dr. RachealNamulondoBA(Econ), MA (Econ), PhD (Econ)

No	Name	Qualification	Employer	status
1.	Dr.RachealNamulondo	BA(Econ), MA (Econ), PhD (Econ)	Busitema University	Full Time
2.	Francis Okello	BSc, MSc (QE – Research)	Busitema University	Part Time
3.	Dr. David Soita	DCM, BSc PHC, MSc PHC, PhD	Busitema University	Part Time
4.	Dr. Okia David	MD, MPH	Busitema University	Full Time

MPH 7305: HEALTH AND HEALTH SYSTEM

Course Description

This course gives students an introduction to and overview of the key areas of Health Systems. It will enable the students to acquire scientific knowledge, appropriate attitude and, adequate skills to handle and manage Health Systems at all levels of health service delivery. They will thus play a significant role in System Strengthening in Uganda and beyond. The course covers concepts of Health Systems, Components of Health Systems, and Characteristics of functional Health System and emerging Health System issues. The course will consist of a series of lectures and one week flied attachment.

Intended Learning Outcomes

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

i. Define concepts of a health system
ii. Describe the components of a health system
iii. Explain the importance of system thinking for health system strengthening
iv. Discuss the characteristics of functioning health system
v. Describe the challenges and emerging health system issues in Uganda
vi. Describe the health systems used in the UK and Israel

Course Content

i. Definitions of System, Health System and Health Care System
ii. Definition of System thinking and principles of health systems
iii. Context(economic,legal and sociocultural) of Health Systems in Uganda and Organizational arrangements
iv. Main Actors in Health systems
v. Components of Health System(Health System building blocks)
vi. System thinking for health system strengthening
vii. Elements and principles of system thinking
viii. Skills of system thinking
ix. Characteristics of functional health system and characteristics of responsive health care system

x. Emerging issues in Health Care Systems

xi. UK and Israel Health Systems

Topics and Time frame

Week	Day	Topic	LH	PH	TH	CH	CU
One	Monday	• Definitions of System, Health System and Health Care System • Definition of System thinking and principles of health systems • Context(economic, legal and sociocultural) of Health Systems in Uganda and Organizational arrangements	6	1	1		
	Tuesday	• Main Actors in Health systems • Components of Health System(Health System building blocks)	6	1	1		
	Wednesday	• System thinking for health system strengthening • Elements and principles of system thinking • Skills of system thinking	6	1	1		
	Thursday	• Characteristics of functional health system and characteristics of responsive health care system • Emerging issues in Health	6	1	1		

		Care Systems					
	Friday	• UK and Israel Health Systems • Progressive Test	6	2	2		
Week Two Monday to Friday		Flied attachment in DHO office		3	3		
Week Three Monday o Friday		Flied attachment in Health System strengthening project		3	3		
Week Four		Report writing and exam preparation		3	3		
Total			30	15	15	60	4

Key Competencies

i. Knowledge of the scope of Health Systems and policy implications and its use in equitable health services delivery and monitoring of health programs. Specifically, student should have knowledge in;
ii. System thinking and how its used in health system strengthening.
iii. Building blocks of health systems
iv. Characteristics of functional health systems

Skills
To design and evaluate health system strengthening projects.

Assessments
Written and oral exams, progressive tests and flied reports

Reading materials

1. WHO, Health sector Reforms and District Health systems 2004
2. WHO. Everybody's Business: Strengthening systems to improve health outcomes 2007
3. MOH Uganda. Governance, Leadership and management for system strengthening in Uganda 2015

Facilitators

Course Coordinator:Dr. David Soita

No	Name	Qualification	Employer	status
1.	Dr. David Soita	MPH, PhD	Busitema University	Part Time
2	Dr BenonWanume	MB ChB, M Med	Busitema University	Full Time
3.	Ms. Nancy Amejje	BSWASA MPH	Busitema University	Part Time
4.	Dr David Okia	MBChB; MPH	Busitema University	Full Time

MPH 8105: QUALITATIVE RESEARCH METHODS

Course Description

Qualitative research is designed to reveal a target audience's range of behavior and the perceptions that drive it with reference to specific topics or issues. It uses in-depth studies of small groups of people to guide and support the construction of hypotheses. The results of qualitative research are descriptive rather than predictive. Qualitative research methods originated in the social and behavioral sciences: sociology, anthropology and psychology. This course introduces participants to the methods used in qualitative research, how to conduct qualitative research studies, and qualitative data analysis and report writing. Some limited time will be used to discuss how to write qualitative research papers.

Course aim

This course prepares the students to apply qualitative research methods in research

Learning outcomes

By the of this course, you should be able to:

a) Understand the differences between qualitative and quantitative research
b) Describe the theories and concepts in qualitative research
c) Design qualitative research tools
d) Conduct qualitative data collection, analysis and reporting
e) Write qualitative research reports and/or critique a qualitative research paper

Content outline

i. Definition of concepts in qualitative research methods
ii. Differences & linkages in qualitative and quantitative research paradigms
iii. Concepts and theories in qualitative research
iv. Designing qualitative research studies
v. Qualitative research methods
vi. Mixed-methods research
vii. Qualitative interviewing
viii. Rigor and credibility in qualitative research
ix. Designing qualitative data collection tools
x. Collecting qualitative research data
xi. Data management and quality control in qualitative research
xii. Qualitative data analysis
xiii. Writing qualitative research reports

Mode of delivery: Lectures, interactive discussions and practical assignments

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Definitions of concepts in qualitative	2	4	1		

		research methods Differences and linkages in qualitative and quantitative research paradigms					
	Tue	Concepts and theories in qualitative research	2	4	1		
	Wed	Designing qualitative research studies Qualitative research methods	2	4	1		
	Thu	Mixed-methods research Qualitative interviewing Rigor and credibility in qualitative research	2	4	1		
	Fri	Designing qualitative data collection tools	2	4	1		
Week 2		Collecting qualitative research data Data management and quality control in qualitative research		5			
Week 3		Qualitative data analysis Writing qualitative research reports		5			
Total			10	30	5	45	3

Key Competences

Knowledge

i. Knowledge of qualitative research methods
ii. Knowledge of the differences between qualitative and quantitative research methods
iii. Knowledge of mixed-methods research

Skills

i. Designing qualitative research tools
ii. Skills in qualitative interviewing
iii. Skills in data collection using different data collection methods
iv. Skills in qualitative data analysis
v. Skills in writing qualitative research reports

Assessment methods: Progressive assignments and final examination. The progressive assessment will include two key assignments: a) developing qualitative research tools (a student will develop tools for a focus group discussion, key informant interview or in-depth interview), marked out of 10% and field data collection using the tool so developed, which will be marked out of 30%. The final examination will consist of two parts: a) analysis and presentation of findings from the qualitative research conducted (20%) and a research report written based on the data analysis conducted (30%). The viva voce examination will account for 10% of the final mark.

Reading Materials

1. Maxwell, JA. Designing a Qualitative Study. Chapter 7. Available at: http://www.corwin.com/upm-data/23772_Ch7.pdf. Last accessed: November 6, 2020
2. Morgan DL. Practical strategies for combining qualitative and quantitative methods: Applications to health research. Qualitative Health Research 1998;8(3):362-376.
3. Clark JP. Balancing Qualitative & Quantitative Methodology in Health Services Research:
4. How can qualitative research methods best complement administrative data analysis? Central East Health Information Partnership 2000. 17250 Yonge Street, Box 234, Newmarket, Ontario L3Y 4X1
5. Johnson RB, Onwuegbuzie AJ. Mixed Methods Research: A Research Paradigm Whose Time Has Come. Educational Researcher 2004; 33(7): 14–26

Facilitators

Course Coordinator: Dr. Joseph KB Matovu BS, MPH, PhD

No	Name	Qualification	Employer	status
3	Dr. Joseph KB Matovu	BS, MPH, PhD	Busitema University	Full Time
2	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
3	Ms. Nancy Amejje	BSWASA MPH	Busitema University	Part Time
4	Dr. Napyo Agnes	BSN, MPH, PhD	Busitema University	Part Time

MPH 8106: ADVANCED EPIDEMIOLOGY

Course description: This course builds on the basic epidemiology concepts introduced in Applied Epidemiology I to provide a more in-depth exploration of key concepts in applied Epidemiology.

Course aim:

Intended Learning Outcomes

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

a) Demonstrate deeper knowledge of epidemiologic research designs and advanced concepts in study designs
b) Describe the concepts of validity and reliability of measurement and their application to validation of multi-item tools
c) Appraise different study designs to identify and address biases in design, conduct and analysis
d) Assess for confounding and interaction and interpret the findings, and take actions to address them given an epidemiological dataset
e) Explain and interpret models of causation and cause-effect relationships.
f) Apply common concepts in infectious disease and chronic disease epidemiology
g) Explain the application of epidemiological approaches to the assessment of health care interventions such as screening programs, field investigations

Course Content

UNIT 1: BASIC DESIGNS IN ANALYTICAL EPIDEMIOLOGY

Lesson 1: Special considerations in RCTs *(Blocked designs, Factorial designs, parallel & cross-over designs, Equivalence, Superiority and Non-inferiority trials*

Lesson 2: Systematic Reviews and Meta-analysis

Lesson 3: Concepts in sample size considerations for comparative studies

UNIT 2: THREATS TO VALIDITY OF EPIDEMIOLOGIC STUDIES

Lesson 1: Review of important threats to an epidemiologic study's validity (Measurement error, confounding and effect modification)

Lesson 2: Validity and Reliability of measurement

Lesson 3: a) Bias and Misclassification

Lesson 4: Confounding

Lesson 5: *Effect modification*

Lesson 6: Reporting and interpreting results of epidemiologic studies

UNIT 3: CAUSAL INFERENCE

Lesson 1: Review of basic concepts in causal inference

Lesson 2: Advanced issues in causal frameworks.

Lesson 3: Exploring causal associations in real data:

Lesson 4: Exploring criteria for causal inference using case scenarios

UNIT 4: Application of Epidemiologic concepts to Disease Prevention

Lesson 1: Use of epidemiologic data for the prevention of disease and injury
Lesson 2: Vaccination and its practical application.

Lesson 3: Concepts in chronic diseases epidemiology &The Health Transition.

Lesson 4: Social Epidemiology and disease prevention

UNIT 5: EPIDEMIOLOGY IN PUBLIC HEALTH POLICY FORMULATION AND EVALUATION

Lesson 1: Evaluating evidence from epidemiologic studies

Lesson 2: Evidence-based medicine and public health practice: (implementation science)

Lesson 3: Therapeutic treatment, chemotherapy and their public health application:

Lesson 4: Application of Genetic epidemiology to population health.

Lesson 5: Epidemic diseases causing threat to global public health

UNIT 6: Flied Attachment in Epidemiological Monitoring unit inMbale

Mode of delivery: Lectures, skills labs, in-class assignments, Case-studies, Flied Assignments

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Topic 1: Special considerations in RCTs *(Blocked designs, Factorial designs, parallel & cross-over designs, Equivalence, Superiority and Non-inferiority trials* Topic 2: Systematic Reviews and Meta-analysis Topic 3: Concepts in sample size considerations for comparative studies	6	1	1		
	Tue	1: Review of important threats to an epidemiologic study's validity (Measurement error, confounding and effect modification) 2: Validity and Reliability of measurement 3: a) Bias and Misclassification 4: Confounding 5: *Effect modification* 6: Reporting and interpreting results of epidemiologic studies	6	1	1		
	Wed	1: Review of basic concepts in causal inference 2: Advanced issues in causal frameworks. 3: Exploring causal associations in real data: 4: Exploring criteria for causal inference using case scenarios	6	1	1		
	Thu	1: Use of epidemiologic data for the prevention of disease and injury 2: Vaccination and its practical application. 3: Concepts in chronic diseases epidemiology &The Health Transition. 4: Social Epidemiology and disease	6	2	2		

		prevention					
	Fri	1: Evaluating evidence from epidemiologic studies 2: Evidence-based medicine and public health practice: (implementation science) 3: Therapeutic treatment, chemotherapy and their public health application: 4: Application of Genetic epidemiology to population health.	6	2	2		
Week 2 Monday to Friday		• *Effect modification* • Reporting and interpreting results of epidemiologic studies • Case studies on all the above topics		3	3		
Week 3& Week 4		Flied attachment		6	6		
Total			30	15	15	60	4

Assessment: Written exam (60%), progressive assessments (individual and group) (40%)

Reference Material

1. Leon Gordis 'Epidemiology', 6th Edition, 2018
2. Moyses Szklo, Javier Nieto (2007) 'Epidemiology beyond the basics.' 2nd Edition Published by Jones and Bartlett Publishers
3. Dictionary of Epidemiology by John M Last
4. Principles of Epidemiology, The Centers for Disease Control and Prevention Training Manual 1992
5. Essentials Of Epidemiology In Public Health 3rd Edition by Ann Aschengrau and George R. Seage
6. Epidemiology: Principles and Practical Guidelines. Editors: Jan Van den Broeck, Jonathan R Brestoff
7. Farmer, R.D.T. Miller, D &Lawrenson, R, (1996). Lecture Notes on Epidemiology and Public Health Medicine, 4th Edition. Oxford &Northamton, Alden Press
8. Bonita R, Beaglehole R and Kjellstrom T (2009) Basic Epidemiology 2nd Edition. World Health Organisation. Geneva.

Facilitators

Course Coordinator: Dr. David Mukunya MBChB, MPhil, PhD, DPPM

No	Name	Qualification	Employer	Status
1	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
2	Professor Peter Olupot-Olupot	MBchB, MPH, PhD, FUNAS	Busitema University	Full Time
3	Dr. Joseph Matovu	BS, MPH, PhD	Busitema University	Full Time
4	Dr. David Okia	MBchB, MPH	Busitema University	Full Time
5	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

MPH 8107: ADVANCED APPLIED BIOSTATISTICS

This course builds on what was covered in introduction of biostatistics. The aim of Applied Biostatistics is to equip the student with skills of conducting common regression analyses (linear regression, logistic regression, and Cox) in public health research and interpreting the outputs. The student will also learn how to present results in scientific articles. We will use Stata software (StataCorp; College Station, TX, USA) for this course.

Course aim: To equip the student with skills of conducting common regression analyses (linear regression, logistic regression, and Cox) in public health research and interpreting the outputs.

Intended Learning Outcomes

1) Describe the logic and methods underpinning common regression analyses (linear, logistic and Cox)
2) Conduct common regression analyses in Stata (linear, logistic and Cox)
3) Interpret statistical output from analysis using different regression models
4) Write a statistical report (including data description, analysis methods and outputs with their respective interpretations) from the multivariate analysis outputs
5) Explain the relationship between different variables (outcome, exposure and other independent) accounting for confounding and interaction

Course Content

- Linear regression: single predictor models, multiple predictor models, confounding (model building), interaction, checking model assumptions, interpretation, reporting
- Logistic regression: OLS, single predictor models, multiple predictor models, confounding (model building), interaction, checking model assumptions, interpretation, reporting
- Analysis of time-to-event data: why survival, hazard function and ratio, proportional hazards assumption, cox proportional hazards model, checking model assumptions
- Application of generalized linear regression models, accounting for clustering in data, structure,

Mode of Delivery: Lecture, skills labs, group work, self-study, practical exposure.

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to Stata	2	4	1		
	Tue	Linear regression	2	4	1		
	Wed	Logistic regression	2	4	1		
	Thu	Time to Event analysis	2	4	1		
	Fri	GLM Practical test	2	4	1		
Week 2		Linear and Logistic regression		5			
Week 3		Time to Event analysis		5			
Total			10	30	5	45	3

Key Competences

Knowledge

i. Knowledge of the principles underpinning linear regression
ii. Understand the concepts underpinning Logistic regression
iii. Understand why time to event analysis is important
iv. Understand the challenges of dealing with correlated Data and simple ways of dealing with this using GLMs

Skills

i. Conduct linear regression in Stata
ii. Conduct logistic regression in Stata
iii. Conduct survival analysis in Stata

Assessment: Practical exam (60%), progressive assignments (3 home assignments) (40%)

Reading Materials

1. Eric Vittinghoff, David V. Glidden, Stephen C. Shiboski, Charles E. McCulloch. Regression Methods in Biostatistics: Linear, Logistic, Survival, and Repeated Measures Models
2. Altman, D.: Practical statistics for medical research; Chapman & Hall, London.
3. https://stats.idre.ucla.edu/other/mult-pkg/seminars/#Stata

Facilitators

Course Coordinator: Prof Yovani Lubaale BSc Stat, MSc, PhD

No	Name	Qualification	Employer	Status
1	Professor Jovani Lubale	BStat, PhD	Busitema University	Part time
2	Dr. David Okia	MBChB, MPH	Busitema University	Full Time
3	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
4	Dr Agnes Napyo	BSN, PGD-DPPM, MPH, PhD	Busitema University	Part-Time

MPH 8108: ETHICS IN PUBLIC HEALTH AND RESEARCH

Course description

This course introduces students to professionalism, bioethics, legal and social foundations of public health. The learner shall appreciate the codes of public health discipline, when the individual interests yield to achieve collective benefits of the community. The learner shall be introduced to legal and moral systems and how they interplay to ensure health of the population.

Course Aim

The students to appreciate principles and application of ethics in public health, understand the norms, values and that form legal and social foundations of public health. The students shall examine the rights and freedoms of individuals and communities. They will be taken through the ethical dilemmas and how to go over them.

Intended Learning Outcomes

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

i. To define, understand bioethics and professionalism
ii. Examine the construction of norms, values and morals that legal and social foundations of public health codes and practice.
iii. Assess the risks of the public and communities against rights and freedoms of individuals
iv. To apply knowledge of bioethics and professionalism to practical situations
v. Demonstrate understanding of use of bioethics and professionalism in improvement of healthcare and research
vi. Apply ethical principles in public decision making, project designs, apprising research findings and adopting new technologies.
vii. Appraise the circumstances for the application of national laws, regulations and police powers as tools for regulating private interests, promoting healthy behaviour, and enforcing safety standards for enterprises, social interactions and control of infectious diseases.
viii. Analyse the interaction between national and global laws and conventions in dealing with globalised health threats arising from trade and capitalism transnational disease outbreaks and bio-terrorism.

Course content

i. Understanding the origins of ethical code of conduct of health professionals
ii. Public health reasoning for the collective good, private rights, human rights and societal costs and benefits
iii. Tort litigation, laws, licencing and similar tools for promoting public health and community wellbeing.
iv. Regulations of occupational, environmental risks and threats in drugs, foods and industries

v. Legal and ethical issues in infectious disease control, e.g., civil confinement, immunisation and bioterrorism.
vi. Key elements of ethical codes of conduct
vii. Ethical dilemmas.
viii. Ethics and human rights
ix. Research in vulnerable populations.
x. Sensitive and controversial procedures.

Mode of Delivery: Lecture, tutorials, laboratory work, self-study, practical exposures and seminars.

Topics and timeframe

Week	Day	Topic	LH	PH	TH	CH	CU	
1	Mon	Understanding the origins of ethical code of conduct of health professionals Public health reasoning the collective good, private rights, human rights and societal costs and benefits	6	2	2			
	Tue	Tort litigation, laws, licencing and similar tools for promoting public health and community wellbeing. Regulations of occupational, environmental risks and threats in drugs, foods and industries	6	2	2			
	Wed	Legal and ethical issues in infectious disease control, e.g., civil confinement, immunisation and bioterrorism. Key elements of ethical codes of conduct Ethical dilemmas	6	2	2			
	Thu	Ethics and human rights Research in vulnerable populations.	6	2	2			
	Fri	Sensitive and controversial procedures. Assessment Test	6	2	3			
Week 2		Assignment 1 You are the Officer in Charge of Health in your district / Town. In this COVID 19		5	1			

		pandemic with social distancing, describe how you go over it to protect your citizens and yet solicit for votes						
Week 3		Family planning is controversial in many cultures, the controversies and Dilemmas.		5	1			
Week 4		The Role Ethical / Institute Review Boards/ Committees (assignment)		5	1			
Week 5		Flied attachment		5	1			
Total			30	30	15	75	5	

Key competences

Knowledge of the nursing profession; commitment to national development; compassion; Accountability to society; integrity; team work and communication skills.

Assessment methods: Written exam (60%), progressive assessments (individual and group) (30%), participation in online tutorials and discussions (10%)

Reading materials

- Roberto Rivera and David Borasky (2009) Research Ethics training curriculum, second edition. Family health international.
- African Malaria Network Trust (Website based courses on ethics)
- British Medical Association (2001) Consent, Rights and choices in Healthcare for children and young people 2nd Edition BMJ publishing Group
- Lawrence O. Gostin A (2008) Theory and Definition of Public Health Law In Public Health Law Power, Duty, Restraint, Research Paper No. 8 Georgetown University Law Center.
- Lawrence O. Gostin (2008) Public Health Law and Ethics: A Reader,
- Shiffman, Jeremy. "Knowledge, Moral Claims and the Exercise of Power in Global Health." International Journal of Health Policy and Management 3.6 (2014): 297–299. PMC. Web. 27 May 2016.
- Bernheim RG1, Melnick A. Principled leadership in public health: integrating ethics into practice and management. J Public Health Manag Pract. 2008 Jul-Aug;14(4):358-66
- Baum, Nancy M, Baum NM (2007) looking ahead: addressing ethical challenges in public health practice. Journal of law, medicine & ethics 657-67, 513
- Ethical considerations in developing a public health response to pandemic influenza (WHO)
- Adapted Summary of a Public Health Ethics Framework Bernheim et al. (2009) Ethics and the Practice of Public Health
- Fundamentals of Health Law in Uganda. Ben Kiromba Twinomugisha School of Law, Makerere University, Uganda, 2015.

Facilitators

Course Coordinator: Dr Rebeccah Nekaka

No	Name	Qualification	Employer	Status
1	Dr Rebeccah Nekaka	MBChB, MPH, DPPM	Busitema University	Full Time
2	Dr. Benon Wanume	MBChB, MMed	Busitema University	Full Time
3	Dr. Joseph Matovu	BS, MPH, PhD	Busitema University	Full Time
4	Dr. David Okia	MBChB, MPH, PhD	Busitema University	Full Time

MPH 8219: SCIENTIFIC WRITING AND EFFECTIVE COMMUNICATION SKILLS

Course description
The overall objective of this course is to equip learners with the knowledge and skills in scientific writing and the fundamentals of effective scientific communication. Learners will review and critic a published article. Instruction will focus primarily on the process of writing and publishing scientific manuscripts and preparing PowerPoint presentations.

Course aim
This course aims at providing learners with practical, hands-on experience in writing manuscripts for scientific publication and PowerPoint presentations for presentation at national and international conferences.

Learning Outcomes
By the end of the course, you should be able to:

a) Describe the importance of scientific writing in public health practice
b) Summarize the steps used in conducting a literature review
c) Demonstrate ability to use a referencing software
d) Distinguish the steps followed in writing a publishable scientific manuscript
e) Describe the steps involved in submitting a scientific manuscript for publication
f) Demonstrate the ability to communicate clearly and concisely to a scientific audience
g) Prepare a scientific presentation

Course content

1. Introduction to scientific writing
2. How to conduct a literature search
3. How to conduct a literature review
   - Selection of relevant literature
   - Summarizing the relevant literature
4. Reference management
   - Creating an EndNote library (or library based on other reference manager)
   - Inserting citations in written text
   - Updating citations and bibliography
   - Referencing styles
5. Writing a manuscript/publishable paper
   - Essentials of writing (word choice, sentence construction, the basic elements of sentences and sentence structure, punctuation, etc.), clarity, brevity, flow, etc.
   - General composition/elements of a scientific manuscript
   - How to present tables, graphs and graphics in a scientific manuscript: how to present data effectively
   - How to write a qualitative research paper
   - How to write a quantitative research paper
   - How to write a mixed-methods paper

6. Critiquing publishable papers
7. Manuscript submission
   - Choosing the journal to submit your paper to
   - Authorship and authors' guidelines
   - Preparing to submit a manuscript to a journal
8. The peer-review process and dealing with manuscript rejections
9. How to prepare PowerPoint presentations
10. Communicating research findings to potential users (policy-makers, program managers, national and international conferences)

Mode of delivery: Lectures and practical exercises

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to scientific writing	3	2	2		
	Tue	How to conduct a literature search How to conduct a literature review	3	2	2		
	Wed	Reference management	3	2	2		
	Thu	Writing a manuscript/publishable paper Critiquing a published journal article	3	2	2		
	Fri	Submitting manuscripts The peer-review process	3		2		
Week 2		How to prepare PowerPoint Presentations		3	3		
Week 3		Communicating research findings to potential users		2	2		
Total							

Key Competences

Knowledge

- Knowledge of scientific writing
- Knowledge of the process of preparing manuscripts; submitting manuscripts to journals, and the peer-review process

Skills

- Skills in writing for science
- Effective communication skills
- How to handle manuscript rejections
- Skills in responding to reviewers' comments

Assessment: The course will be assessed through a progressive assessment and a final examination. The progressive assessment shall consist of a critique of a published paper, presented in the departmental seminar (marked out of 10%) and a draft paper submitted to the

department for marking (30%). The final exam shall consist of a final, publishable paper submitted to a journal for consideration (50%) and a viva voce exam that will account for 10% of the final grade.

Reading materials

1. Jennifer Peat, Elizabeth Elliot, Louise Baur, Victoria Keena (2002). Scientific Writing Easy When You Know How. Print ISBN:9780727916259.
2. Robert B. Taylor (2011). Medical Writing: A Guide for Clinicians, Educators and Researchers. 2nd Edition. ISBN-13: 978-1441982339.
3. Michael Jay Katz (2009). From research to manuscript: a guide to scientific writing. Softcover ISBN: 978-1-4020-9466-8.
4. Matthews JR, Matthews RW (2010): Successful Scientific Writing: A step-by-step guide for the biological and medical sciences, Edition 3, Cambridge
5. Allison Tong, Peter Sainsbury and Jonathan Craig. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. International Journal for Quality in Health Care; 2007; 19(6)349–357 10.1093/intqhc/mzm042
6. George M Hall (2003). How to Write a Paper (3rd Edition) Published by BMJ Publishing Group
7. Lisa Bartle. Writing academically: the mechanics and style of academic writing. April 2020. Scientific writing video: https://www.youtube.com/watch?v=VMC8JgpGOCE

Facilitators:

Course Cordinators:Dr. Joseph KB Matovu, BA, MHS, PhD

No.	Name	Qualification	Employer	Status (Full-time or Part-time)
1	Dr. Joseph KB Matovu	BA, MHS, PhD	Busitema University	Full-time
2	Dr David Mukunya	MBChB, MPhil, PhD	Busitema University	Full-time
3	Prof Yovani Lubaale	B. Stat, M Stat, PhD	Busitema University	Full-time
4	Prof. Peter Olupot-Olupot	MB ChB, MPH, PHD	Busitema University	Full-time
5	Ms Agnes Napyo	BSN, MPH, PHD	Busitema University	Full-time

MPH 8212: MATERNAL, NEWBORN, CHILD AND ADOLESCENT HEALTH

Course description

This course provides you with a detailed insight on the determinants of women's, newborn, child and adolescent health across the life span. The course also covers aspects of sexual and reproductive health including equity and justice. The course covers issues related to the perinatal period, inter – conception care, child health including mental health and special needs; youth and adolescent development. You will be given opportunity to internalise the key interventions in women health and how they are being rolled out.

Course aim:

Intended Learning Outcomes

By the end of this course the student should be able;

i. Describe the causes and determinants of maternal newborn and child morbidity and mortality
ii. Conduct disease surveillance for women and children
iii. Explain the gender dynamics in maternal, newborn and child health
iv. Conduct viable research in maternal, newborn and child health
v. Design implement, monitor and evaluate maternal, newborn and child health programs

Content

i. Reproductive epidemiology
ii. Continuum of care and the life cycle approach
iii. Maternal death surveillance and response
iv. Perinatal death surveillance and response
v. Maternal, newborn and child health services and interventions
vi. Civil registration and vital statistics
vii. Quality improvement programming in maternal, newborn and child health
viii. Gender sensitive planning in maternal, newborn and child health
ix. Gender analysis and approaches to analysis for maternal, newborn and child health
x. Demographic dividends
xi. Population estimates projection, standardization and life expectancy

Means of delivery: Practical exposure/fieldwork, seminars

Topics and time frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Introduction to Maternal and Child Health Demographic Divide	6	2	2		
	Tue	Life Course Perspective and Social determinants of Health Family Planning	6	2	2		
	Wed	Reproductive Health Maternal Mortality and its causes	6	2	2		
	Thu	Infant Mortality and its causes Neonatal mortality and its causes	6	2	3		
	Fri	Adolescent health PROGRESSIVE TEST	6	2	2		
Week 2		Health problems affecting mothers: • Antenatal, perinatal and postnatal care • Female genital mutilation • Female cancers		5	1		
Week 3		Health problems affecting children • Common childhood illnesses • Immunization and disease prevention • Breastfeeding advantages		5	1		
Week 4		Cultural Social and Political factors affecting maternal and child birth • Gender and social inequalities • Male involvement • Health systems and Policy		5	1		
Week 5		Malnutrition • Definitions • Epidemiology • Assessment • Management and public health interventions		5	1		
Total			30	30	15	75	5

Key competences

a. Knowledge

i. Knowledge of the causes of MNCAH morbidity and mortality
ii. Knowledge of determinants of MNCAH

b. Skills

i. Ability to identify and analyse causes of MNCAH problems
ii. Ability to critique MNCAH literature
iii. Ability to evaluate and develop health prevention and promotion interventions for MNCAH

Assessment methods: Written exam (60%), progressive assessments (individual and group) (40%)

Reading materials

1. Making every baby count: audit and review of stillbirths and neonatal deaths
2. Lancet Maternal health series http://www.thelancet.com/series/maternal-health-2016
3. Lancet Every newborn series http://www.thelancet.com/series/everynewborn
4. Integrating poverty and gender into health programmes: A sourcebook for health professionalhttp://www.who.int/gender-equity-rights/knowledge/poverty-gender-in-health-programmes-sexual-reproductive-health/en/
5. The global strategy for women's, children's and adolescents' health (2016-2030) http://globalstrategy.everywomaneverychild.org/pdf/EWEC_globalstrategyreport_200915_FINAL_WEB.pdf
6. Maternal death surveillance and response: technical guidance information for action to prevent maternaldeath.http://www.who.int/maternal_child_adolescent/documents/maternal_death_surveillance/en/Uganda Information on maternal and newborn care
7. Uganda demographic and health survey
8. Reproductive,Maternal, new-born and child health sharpened planhttps://www.usaid.gov/sites/default/files/documents/1860/Reproductive_Maternal_Newborn_and_Child_Health_Sharpened_Plan_for_Uganda-Final_Version_Nov2013.pdf
9. Ministry of health Policy documents http://health.go.ug/publications/strategic-plans
10. Health Sector Quality Improvement Framework & Strategic Plan 2015/16-2019/20
11. Oxford Textbook of Public Health (2009), fifth Edition, Oxford University Press ISBN; 9780999218707

Facilitators

Course Coordinators: Prof Peter OlupotOlupot

No	Name	Qualification	Employer	status
1	Prof Peter OlupotOlupot	MBChB, MPH, PhD	Busitema University	Full Time
2	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
3	Dr. Joseph Matovu	BS, MPH, PhD	Busitema University	Full Time
4	Dr. David Okia	MBchB, MPH, PhD	Busitema University	Full Time
5	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

MPH 8213: INNOVATION IN HEALTH SERVICES

Course description

This is a practical course covering the application of innovative research and evaluation approaches in developing tools and interventions to address health problems. The course particularly highlights the role of general public health consumers, health practitioners, health organisations and government locally and internationally in development and implementation of innovations into health challenges.

Course aim:

Intended Learning Outcomes

By the end of this course, students should be able;

- To apply research and evaluation in solving pressing health challenges of the 21st century.
- To develop organisations enterprises or improved products that can measurably prevent disease and promote better global health.

Course Content

- Variability and equity in health delivery; society needs
- Research innovations in health services delivery.
- Engagement of communities, practitioners and policy makers.
- Bottom – up approach to addressing community health needs.
- Developing innovative responses to community needs

Means of Delivery: Lecture, seminars

Topics and time-frame

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	Variability and equity in health delivery; society needs	6	2	2		
	Tue	Research innovations in health services delivery	6	2	2		
	Wed	Engagement of communities, practitioners and policy makers.	6	2	2		
	Thu	Bottom – up approach to addressing community health needs	6	2	3		
	Fri	• Developing innovative responses to community needs	6	2	2		
Week 2		Flied attachment		5	1		
Week 3				5	1		
Week 4		Flied attachment		5	1		
Week 5		Flied attachment		5	1		
Total			30	30	15	75	5

Key competences

Development of innovations, implementation of interventions.

Assessment methods: Progressive tests and examinations

Reading materials

1. Northouse, Peter Guy. (2004). Leadership. Theory and Practice 3rd Edition. London
2. Oxford Textbook of Public Health (2009), fifth Edition, Oxford University Press ISBN; 9780999218707
3. Elena A, Theodore Tulchinsky(2000) The New Public Health

Facilitators

Course coordinator; Dr Okia David MB Ch B, MPH.

No	Name	Qualification	Employer	status
1	Dr Okia David	MBChB, MPH	Busitema University	Full Time
2	Dr Matovu Joseph	BA,MPH,PHD	Busitema University	Full Time

3	Dr. Charles Okolimong	BEHS, MPH, ADHSM, DipCMCH	Busitema University	Part Time
4	Dr Benon Wanume	MBChB,Mmed	Busitema University	Full Time

MPH 8214: FUNDAMENTALS OF NUTRITION

Course Description

The course aims at developing basic understanding about public health nutrition, its effect on human health. This course encompasses physiological, biochemical and social aspects of food and discusses the relationship between metabolites and human health. The course also has multidisciplinary emphasis providing abroad base of knowledge and understanding of wide role of nutrition in sustaining health and preventing disease.

Course Aim: The course fundamental of nutrition is aimed to enable students to gain knowledge about interaction between food, body and health under normal and special circumstances.

Intended Learning Outcomes

On successful completion of the course students should be able to

- Summarise and critically discuss both fundamental and applied aspects of nutrition. They will be able to explain the functions of specific nutrients in maintaining health, identify nutrient specific foods and apply principles from various facets of nutrition to solve practical world problems
- Use current information technologies to locate and apply evidence –based guidelines and protocols and get imparted with critical thinking to take leadership roles in flied of public health nutrition, die tics and nutritional counselling

Course Content

- Basic definition, function, classification and dietary sources of foods and dietetics
- Concepts of malnutrition, health and immunity
- Causes, prevention and management of macro and micro nutrient deficiencies
- Definition and classification of Nutraceuticals
- Introduction and chemistry of Probiotics as functional foods
- Nutrition under special circumstances (in case of war, natural disaster etc.)
- Beneficial and harmful aspects of genetically modified foods
- Flied attachment in nutrition unit in nearby hospital

Mode of delivery: Lectures,Tutorials, practical and flied attachments

Topics and Timeframe

Weeks	Days	Topics	LH	PH	TH	CH	CU
ONE	Monday	• Basic definition, function, classification and dietary sources of foods and dietetics • Concepts of malnutrition, health and immunity	6	2	2		
	Tuesday	• Causes, prevention and management of macro and micro nutrient deficiencies • Definition and classification of Nutraceuticals	6	2	2		
	Wednesday	• Introduction and chemistry of Probiotics as functional foods Nutrition under special circumstances (in case of war, natural disaster etc.	6	2	2		
	Thursday	• Beneficial and harmful aspects of genetically modified foods6 • Flied attachment in nutrition unit in nearby hospital	6	2	3		
	Friday	Progressive Test					
TWO	Mon to Fri	Field attachment		5	1		
THREE	Mon to Fri	Field attachment		5	1		
FOUR	Mon to Fri	Field attachment		5	1		
FIVE	Mon to Fri	Field attachment		5	1		
Total			30	30	15	75	5

Key competences: Knowledge in nutritional deficiencies and their management

Skill: Designing nutritional interventions

Assessment methods: Progressive tests 20%, course work 20% and exam 60%

Reading Material

1. Introduction to nutrition volume 1.0 by Maureen Zimmerman and Beth Snow, 2012
2. Nutrition and dietetics by Sheila John, 2016
3. Essentials of Human Nutrition by Jim Mann, 2017

4. KRAUSE'S FOOD & NUTRITION THERAPY, International Edition, 12e ISBN: 978-0-8089-2378-7Copyright (c) 2008, 2OO4, 2OW, 1996, 1992, 1984, 1979, 1972, 1966, 1961, 1957,1952 by Saunders,an imprint of Elsevier Inc.

Course coordinator: Ms Prossy Nabachenje BSc Nutr, MPH

Facilitators

No	Name	Qualification	Employer	status
1.	Ms Prossy Nabachenje	BSc Nutr, MPH	Busitema University	Full Time
2.	DrMatovu Joseph	BA,MPH,PhD	Busitema University	Full Time
3.	DrMukunya David,	MBChB,MPH, PhD	Busitema University	Full Time
4.	Dr. BenonWanume	MB ChB, Mmed	Busitema University	Full Time
5.	Dr. Okia David	MD, MPH	Busitema University	Full Time

MPH 8215: PUBLIC HEALTH IN EMERGENCY SITUATIONS

Course description

The course aims at providing participants with an in-depth understanding of the complex range of issues involved in planning, implementing and accounting for health interventions in contemporary emergencies contemporary emergencies. This includes an understanding of the rapidly evolving humanitarian reform process, and the roles which may be taken by local, national and international partners. This is a practical course and students will be attached organizations with the mission to manage emergency situations.

Course Aim

Candidates will be equipped with competencies in assessment and management of public health issues in emergence situations.

Intended Learning Outcomes

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

- Knowledge and understanding on various types of emergency situations and their public health outcomes
- Ability to conduct community assessment for public health needs during emergency situations
- Have knowledge and understanding for post disaster epidemiological surveillance
- Understand partnerships in emergency situations
- Develop and implement a health delivery plan during emergencies
- Coordinate health delivery during emergencies be it curative or preventive

Content

The course exposes students to public health tools necessary for making appropriate decisions in emergency situations involving large populations. The course focuses on:

- Economic security, water and habitat, environmental health, communicable diseases during emergencies.
- Ethical issues in humanitarian activities and main legal instruments, particularly international humanitarian law and human rights law, professional codes and declarations that guide decision-making in humanitarian operations.
- Public health among humanitarian organizations.
- Programme coordination during emergencies; Bioterrorism, Natural Disasters, Radiation Emergencies

Key focus areas underpinning the above will be the following:

- Definition of emergency/Disaster situations
- Stakeholders during emergence situations
- Ethics and professionalism during emergence situations
- Possible emergence Health Services including Reproductive and Mental health.

- Water, Sanitation and Hygiene in emergencies
- Control of Communicable Diseases
- Food and Nutrition

Means of delivery: Lectures, Tutorials,Practical exposure/fieldwork, seminars

Topics and timeframe

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	• Economic security, water and habitat, environmental health, communicable diseases during emergencies.	6	2	2		
	Tue	• Ethical issues in humanitarian activities and main legal instruments, particularly international humanitarian law and human rights law, professional codes and declarations that guide decision-making in humanitarian operations.	6	2	2		
	Wed	• Public health among humanitarian organizations.	6	2	2		
	Thu	• Programme coordination during emergencies; Bioterrorism, Natural Disasters, Radiation Emergencies	6	2	2		
	Fri	Progressive Tests	6	2	3		
Week 2		Flied attachment		5	1		
Week 3		Flied attachment		5	1		
Week 4		• Flied attachment		5	1		
Week 5		• Flied attachment		5	1		
Total		•	30	30	15	75	5

Key competences

Development of health delivery plan in emergencies. Leadership during emergencies.

Assessment methods: Progressive tests 20%,course work 20% and exams 60%.

Reading materials

- Northouse, Peter Guy. (2004). Leadership. Theory and Practice 3rd Edition. London
- Oxford Textbook of Public Health (2009), fifth Edition, Oxford University Press ISBN; 9780999218707
- Assignments and course works
- Student projects

Facilitators

Course coordinator: Dr. Okia David

No	Name	Qualification	Employer	status
1.	Dr. Okia David	MD, MPH	Busitema University	Full Time
2.	Dr. Matovu Joseph	BA, MPH, PhD	Busitema University	Full Time
3.	Dr. David Soita	DCM, BSc PHC, MSc PHC, PhD	Busitema University	Part Time
4.	Ms. Nancy Amejje	BSWASA MPH	Busitema University	Part Time

MPH 8216: MONITORING AND EVALUATION

Course description
This course introduces students to basic concepts in monitoring and evaluation for public health. The areas to be covered include; monitoring as a continuous function to ensure activities progress well in relation to milestones and output targets.

Course aim: The aim of the course is to help students to appreciate the importance of M&E in the implementation of programs and delivery of health services. While the students will not be trained to turn into M&E specialists, they will be supported to understand and appreciate the important role that M&E plays in health systems strengthening.

Intended Learning Outcomes
By the end of this course, students should be able to:

a) Define basic M&E concepts and analyse its applicability in public health context
b) Explain the different types of evaluation
c) Apply basic techniques for developing data collection instruments and M&E reports
d) Identify types, uses and characteristics of indicators
e) Apply Logical frameworks in monitoring and evaluation within the health system context

Content outline:

- Introduction to M&E: overview of concepts, methods, frameworks and tools, systems paradigm & project cycle
- Program strategic direction: vision, mission, objectives, strategies, activities, resources
- SWOT analysis
- Developing SMART indicators
- Project/Program evaluation (planning, designing and implementation)
- Development of project goals, objectives, strategies, activities
- Definitions, characteristics and development of indicators
- Introduction to Logical/Results Frameworks and Theories of Change
- Expanded logical framework
- Types of evaluation
- Developing evaluation questions
- Evaluation study designs
- Designing a monitoring and evaluation plan
- Dissemination and use of M&E data
- Overview of the national M&E reporting system (DHIS2; HMIS)

Means of Delivery
Lectures, interactive discussions, practical exposure/fieldwork and seminars

Topics and timeframe

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	• Introduction to M&E: overview of concepts, methods, frameworks and tools, systems paradigm & project cycle • Program strategic direction: vision, mission, objectives, strategies, activities, resources	6	2	2		
	Tue	• SWOT analysis • Developing SMART indicators • Project/Program evaluation (planning, designing and implementation)	6	2	2		
	Wed	• Development of project goals, objectives, strategies, activities • Definitions, characteristics and development of indicators • Introduction to Logical/Results Frameworks and Theories of Change • Expanded logical framework	6	2	2		
	Thu	• Types of evaluation • Developing evaluation questions • Evaluation study designs	6	2	2		
	Fri	• Designing a monitoring and evaluation plan • Dissemination and use of M&E data • Overview of the national M&E reporting system (DHIS2; HMIS)	6	2	2		
Week 2		M&E placement		5	1		
Week 3		M&E placement		5	1		
Week 4		M&E placement		5	1		
Week 5		M&E placement		5	1		
Total			30	30	15	75	5

Key competencies

Knowledge

i. Knowledge of monitoring and how different it is from evaluation
ii. Knowledge of how M&E systems are organized
iii. Knowledge about the role of the logic framework in program implementation and evaluation
iv. Knowledge about impact evaluation

Skills

i. Skills in designing M&E systems
ii. Skills in using the Theory of Change to inform program design, implementation and evaluation
iii. Skills in evaluating programs

Assessment methods: This course will be assessed through progressive assessments and a final exam. The progressive assessment will be composed of a progressive test (20%) and a field placement report (based on a field placement at a site involved in M&E programs). The field placement will be marked out of 20%. The final examination shall consist of a theory paper (30%), a practical, open-book exam, on the use of a selected Theory of Change to inform program design and evaluation (20%) and a final viva voce (10%).

Reading materials

1. Oxford Textbook of Public Health (2009), Fifth Edition, Oxford University Press. ISBN: 97801999218707
2. UNDP (2009). Handbook on Planning, Monitoring and Evaluating for Development Results. http://web.undp.org/evaluation/handbook/documents/english/pme-handbook.pdf
3. Jody ZallKusek& Ray C. Rist (2004). Ten steps to a results-based monitoring and evaluation system: a handbook for development practitioners. https://openknowledge.worldbank.org/bitstream/handle/10986/14926/296720PAPER0100steps.pdf?sequence=1&isAllowed=y
4. Gorgens, Marelize; ZallKusek, Jody. 2009. Making Monitoring and Evaluation Systems Work: A Capacity Development Toolkit. World Bank. https://openknowledge.worldbank.org/handle/10986/2702
5. Danielle Stein and Craig Valters (2012). Understanding Theory of Change in International Development. http://www.theoryofchange.org/wp-content/uploads/toco_library/pdf/UNDERSTANDINGTHEORYOFChangeSteinValtersPN.pdf
6. Sue O. Funnell and Patricia J. Rogers (2011). Purposeful Program Theory: Effective Use of Theories of Change and Logic Models (Research Methods for the Social Sciences Book 48) 1st Edition, Kindle Edition. ISBN-13: 978-0470478578.

7. Gertler, Paul J; Martinez, Sebastian; Premand, Patrick; Rawlings, Laura B; Vermeersch, Christel MJ. (2016). Impact Evaluation in Practice, Second Edition. Washington, DC: Inter-American Development Bank and World Bank. https://openknowledge.worldbank.org/handle/10986/25030

Course Coordinator
Dr. Joseph Matovu -BA, MHS, PhD

No	Name	Qualification	Employer	status
1	Dr. Joseph Matovu	BA, MHS, PhD	Busitema University	Full Time
2	Dr. David Mukunya	MB ChB, MPhil, PhD, DPPM	Busitema University	Full Time
3	Prof Peter Olupot-Olupot	MBChB, MPH, PhD	Busitema University	Full Time
4	Dr. David Okia	MBChB, MPH, PhD	Busitema University	Full Time
5	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

MPH 8217: HEALTHCARE HUMAN RESOURCE MANAGEMENT

Course description

This course introduces students to styles of leadership and human resource management.
The course introduces students to brief aspects of human resource management within the healthcare industry.

Course Aim

This course prepares students in utilizing health information systems in health system planning
This course prepares students to:

- Be able to identify healthcare human resource and management challenges and suggest theoretical or practical solutions
- To equip the graduate with skills in leading/managing and guiding healthcare systems

Learning outcomes:

By the end of this course the student should be able:
• To describe various leadership styles.
• To apply different leadership styles in management of human resources.
• To develop correct attitudes in health human resources management.

- To be able to describe the various human resources in health sector including their roles in healthcare system and how their absence impact on service delivery.
- Brief overview of human resource planning and organization for current and future needs
- To appreciate the principle of improved staff performance through motivation and compensation

Content outline

• Definition of leadership and human resources management
• Identification of leadership and human resources problems and solutions
• Leadership types and styles
• Conflict resolution
• Communication techniques and skills
• Use of leadership and human resources knowledge for improvement of health services
Delivery

- Healthcare resource planning, forecasting and retention
- Healthcare labour resources within settings including their roles
- Motivation and compensation for improved health staff performance

Topics and Timeframe

Weeks	Days	Topics	LH	PH	TH	CH	CU
ONE	Monday	• Definition of leadership and human resources management • Identification of leadership and human resources problems and solutions	6	2.5	2		
	Tuesday	Leadership types and styles • Conflict resolution • Communication techniques and skills	6	2.5	2		
	Wednesday	• Use of leadership and human resources knowledge for improvement of health services Delivery • Healthcare resource planning, forecasting and retention	6	2.5	2		
	Thursday	• Healthcare labour resources within settings including their roles • Motivation and compensation for improved health staff performance	6	2.5	4		
	Friday	Progressive Test		2			
TWO	Mon to Fri	Field attachment		1	3		
THREE	Mon to Fri	Field attachment		1	1		
FOUR	Mon to Fri	Field attachment		1	1		
Total			30	15	15	60	4

Key competences.

Knowledge on leadership, challenges and solutions to problems in leadership. Use of human resources knowledge and skills maximising outputs in resource limited settings.

Reading materials

Northhouse, Peter Guy. (2004). Leadership; theory and practice 3rd Edition. London

Robert l. Mathias & John H Jackson.(2011) Human Resources Management.13Th Edition South western Cengage Learning Ohio.

Facilitators

Course coordinator: Dr David Soita–DCM, BSc PHC, MSc PHC, PhD

No	Name	Qualification	Employer	status
1	Dr David Soita	DCM, BSc PHC, MSc PHC, PhD	Busitema University	Part Time
2	Dr. Charles Okolimong	BEHS, MPH, ADHSM, DipCMCH	Busitema University	Part Time
5	Dr. Benon Wanume	MBChB, MMed	Busitema University	Full Time
4	Dr. David Okia	MBChB, MPH, PhD	Busitema University	Full Time

MPH 8218: HEALTH MANAGEMENT INFORMATION SYSTEMS

Course description

This is an advanced course that covers key components of a health information system and its application in health planning and delivery systems.

Course Aim

This course prepares students in utilizing health information systems in health system planning.

Intended Learning Outcomes

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

1. To understand routine health information and its use in health systems planning and delivery of healthcare.
2. To collect and interpret routine health information in health systems.
3. Appreciate importance of routinely collected health data

Course Content

1. Components of health information systems
2. Overview of use of information in planning and decision making
3. Collection and use of routine information
4. Analysis of data to produce information
5. Data quality
6. Data quality checks and evaluation

7. Programme designs, development, monitoring and evaluation using goals targets and indicators
8. Interpretation and use of information for health system planning
9. Equity and resources allocation

Means of delivery: Lecture, tutorials, laboratory work, self-study, practical exposures and seminars.

Topics and timeframe

Week	Day	Topic	LH	PH	TH	CH	CU
1	Mon	1. Components of health information systems 2. Overview of use of information in planning and decision making	6	2	2		
	Tue	1. Collection and use of routine information 2. Analysis of data to produce information	6	2	2		
	Wed	1. Data quality 2. Data quality checks and evaluation	6	2	2		
	Thu	1. Programmedesigns, development, monitoring and evaluation using goals targets and indicators 2. Interpretation and use of information for health system planning	6	2	2		
	Fri	1. Equity and resources allocation 2. Progressive Test	6	2	3		
Week 2		Field attachment		5	1		
Week 3		Field attachment		5	1		
Week 4		Field attachment		5	1		
Week 5		Field attachment		5	1		
Total			30	30	15	75	5

Reading Materials

- Kevin Beaver (2003) Health information System 2nd Edition.Auerbach Publication A CRC Practical Approach for healthcare management 2nd Edition Wiley

Facilitators

Coordinator: Dr David Okia, MB.ChB, MPH

No	Name	Qualification	Employer	status
1	Prof Peter OlupotOlupot	MBChB, MPH, PhD	Busitema University	Full Time
2	Dr. David Mukunya	MBChB, MPhil, PhD, DPPM	Busitema University	Full Time
3	Dr. Joseph Matovu	BS, MPH, PhD	Busitema University	Full Time
4	Dr. David Okia	MBChB, MPH, PhD	Busitema University	Full Time
5	Dr. BenonWanume	MBChB, MMed	Busitema University	Full Time

10.0 TEACHING RESOURCES

10.1 Academic staff to teach on the program

No.	Name	Title	Qualification	Position
1	Prof Julius Wandabwa	Professor	MBChB, M Med, PhD	Full-time
2	Dr Peter Olupot – Olupot	Professor	MBChB, MPH, PhD, FUNAS	Full-time
3	Dr JPM Masaba	Lecturer	MBChB M Med (Med)	Full-time
4	Dr David Okia	Lecturer	MBChB; MPH	Full-time
5	Dr CrispusTegu	Lecturer	MBChB Med(Pead)	Full-time
6	Dr Waiswa Stephen	Lecturer	MBChB; M Med (Obs&Gyn, Cert. HSM, Dip Physiotherapy)	Full-time
7	Dr Joseph Mpagi	Senior Lecturer	BSc, MSc, PhD (Microbiology)	Full-time
8	Dr Joseph KB Matovu	Senior lecturer	BA, MHS, PhD, Dev. Fellow	Full-time
9	Dr BalyejjusaJaffer	Lecturer	MB ChB; MMed (surg, FCOSECSA)	Adjunct-lecturer

				(MbaleHosp.)
10	Dr Fred Bisso	Lecturer	MBChB, MMed (ENT)	Adjunct-lecturer (Mbale Hosp.)
11	Dr BenonWanume	Lecturer	MBChB, M Med (CP)	Full-time
12	Dr Andrew Kasoro	Lecturer	MBChB, MMed (Paed)	Adjunct-lecturer (Mbale Hosp.)
.13	Dr Julian AbesoMasolo	Lecturer	MBChB MMed (Paed)	Part-time
14	Mr Francis Okello	Lecturer	BSc, MSc (QE – Research)	Adjunct-lecturer (Mbale Hosp.)
15	Dr Rebecca Nekaka	Lecturer	MBChB MPH	Full-time
16	Dr Soita David	Lecturer	DCM, BSc PHC, MSc PHC, PhD	Part-time
17	Dr Mukone George	Lecturer	MBChB; MPH	Part-time
18	Dr TwaTwa Jeremiah	Lecturer	MBChB; MPH	Part-time
19	Dr Dominic Waburokoh	Lecturer	MBChB, MSc (HSM)	Part-time
20	Dr Charles Engoru	Lecturer	MBChB, MMed(Pead)	Part-time
21	Prof Jeanette Meadway	Lecturer	MBChB MRCP, FRCP	Visiting Professor
22	Dr DavidMukunya	Senior Lecturer	MBChB, MPhil, PhD, DPPM	Full-time
23	Dr Gerald Makoba	Lecturer	MBChB, MMed (Radiology)	Adjunct-lecturer (Mbale Hosp.)
24	Dr Elijah Wakemuke	Lecturer	MB Ch B, MMed (Radiology)	Adjunct-lecturer (Mbale Hosp.)
25	Dr Julius Nteziyaremye	Assistant Lecturer	MBChB, DTMH	Full-time
26	Dr Rose KyaloNabirye	Sen Lecturer	BSN, MPH, PhD	Full - time
27	Dr. Agnes Napyo	Lecturer	BSN, MPH, PhD	Part – time

10.2Space

The study facilities summarised below will be available for use when the program is launched.

	Item	**Number**

1	Lecturer rooms	3
2	Tutorial rooms	30
3	Biomedical Laboratories	4
4	Skills laboratory	1
5	Computer laboratory	1
6	Library	1
7	Canteen	1

10.3 Laboratory Equipment and specimens

A number of equipment already exists at the training institution and they will be upgraded every year. The government is going to support the upgrading of the equipment according to the budget attached to this proposal.

10.4 Collaboration with other teaching institutions

The university is going to collaborate with institutions, which are already running similar programs through student and staff exchanges. These institutions include; Makerere University, (Uganda); Moi University (Kenya) and Walter Sisulu University in South Africa.

10.5 Financial resources

Funding of the program will come from private sponsored students that are domestic, East African and Internationals. The program will take on approximately 20 students per year. Ugandan privately sponsored students will pay UGX 7,000,000 Shs per year. East African and International students will pay UGX 8,000,000Shs per year. The faculty will retain 60% of this collection. The expenditure budget for this money is listed below. The government will further support the University with UGX 25,000,000 per student to meet the capital development budget.

Appendix I: Program budget for the two years

a) Income:

1. 18 Ugandan private students @ UGX 7,000,000 Shs. per year =UGX 126,000,000
2. 2 International students @ UGX 8,000,000 Shs. per year = UGX 16,0000,000

Total collection= UGX 142,000,000 X 2=284,000,000

Amount available to program = 0.6 x 142,000,000 X 2 = UGX 170,400,000

b) Expenditure for the 2 years

Item	Activity/Item	Resource/Items	Amount (Ug. Shs)
1.	**Office allocations**	Office of the Dean	16,000,000
		Departmental office	16,000,000
		Support to part-time teaching staff	44,000,000
		Subtotal	**76,000,000**
2.	**Office supplies, cleaning and Equipment**	Stationery: paper, box files, cartridges, pens, printing, photocopying, envelopes	5,800,000
		Internet	2,000,000

		Cleaning equipment	2,600,000
		Subtotal	**10,400,000**
3.	**Teaching materials and extra costs**	Teaching materials and soft ware licenses	10,000,000
		Library	2,000,000
		Internal examinations	3,000,000
		External examinations	6,000,000
		Subtotal	**21,000,000**
4.	**Outreach**	Field supervision	20,000,000
		Graduate tracer study	10,000,000
		Community outreach	2,000,000
		Subtotal	**32,000, 000**
5.	**Staff development**	Workshops and Conferences	20,000,000
		Research and publication	8,000,000
		Subtota1	**28,000,000**
6.	**Others**	NCHE	800,000
		Student's guild	800,000
		Identity cards	800,000
		Airtime	600,000
		Sub-Total	**3,000,000**
	GRAND TOTAL		**170,400,000**