

REGULATIONS AND SYLLABUS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH

1.0. INTRODUCTION

The Department of Community Health proposes to start an innovative multidisciplinary post-graduate course in order to train experts capable of meeting the emerging challenges in the field of health. Over the past 18 years, the Department has exclusively accommodated medical disciplines in the Master of Public Health (MPH) programme. The recognition that multidisciplinary teams are required in addressing health has necessitated the need to train clinicians together with persons of diverse professional backgrounds such as sociologists, nutritionists, environmentalists, health planners and nurses among others. Currently, this integrated approach in training specialists in Masters of Public Health is a common practice worldwide. Subsequently, there has been a high demand for the MPH degree from persons with diverse professional backgrounds. In order to accommodate candidates with the requisite professional backgrounds into the MPH degree, the Department has restructured the graduate programme with the aim of expanding the criteria for admission into the MPH degree course.

The objectives of the programme are as follows:

The overall objective of this course is to offer a multidisciplinary post-graduate course in order to train experts capable of meeting the emerging challenges in the field of public health.

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

- Apply a multidisciplinary approach to assessment of public health issues and health care delivery;
- Provide leadership in the practice of public health, conduct research and provide consultative services to the community.

2.0 ADMISSION REQUIREMENTS

- 2.1 The common regulations for the Master's Degree in all faculties of the University of Nairobi shall apply.
- 2.2 The following shall be eligible for admission into the programme.
 - 2.2.1 Holders of any of the following degrees, Bachelor of Medicine and Surgery (MBChB), Bachelor of Dental Science (BDS), Bachelor of Nursing Sciences (BScN), Bachelor of Pharmacy (B. Pharm.), Bachelor of Veterinary Medicine (BVM) of the University of Nairobi or a degree from any other institution recognised by the University of Nairobi Senate and at least one year of post-registration experience in a medical or other health related field.
 - 2.2.2 Holders of a first degree from the University of Nairobi in a discipline closely related to public health and medicine including an upper second class honours degree in

- environmental health, sociology, nutrition, demography, statistics, economics, planning, administration and anthropology, education and communication, who in addition have relevant and adequate practical experience of not less than two years.
- 2.2.3 Holders of Bachelor of Science degree of lower second class in the discipline mentioned in. 2.2.1 or 2.2.2 with relevant Post Graduate Diploma or three years relevant experience.
- 2.2.4 Holders of equivalent qualifications to those in 2.2.1, 2.2.2 or 2.2.3 recognized by the University of Nairobi Senate.

3.0 COURSE EXEMPTIONS

- 3.1. A candidate may be exempted from taking up to a maximum of one third of the taught courses provided that these are from institutions recognized by the Senate of the University of Nairobi.
- 3.2. Applicants seeking course exemptions shall send a formal application to the Director, Board of Post Graduate Studies through the Dean, Faculty of Medicine seeking exemption of units, justifying the request and attach evidence of credentials supporting such a request.
- 3.3. Application for course exemption shall be processed only after payment of the prescribed fees.
- 3.4. Applicants will only be allowed exemption of courses, which are equivalent and/or at the same level with what is offered by the University of Nairobi.

4.0 COURSE STRUCTURE AND DURATION

The course shall consist of course work, examination and research leading to a dissertation.

- 4.1 The Master of Public Health shall run for a minimum of 4 semesters of 15 weeks each and a maximum of 10 semesters of 15 weeks each.
- 4.2 The course shall consist of two parts. Part I shall consist of course work. Part II shall be devoted to a research project culminating into a dissertation.
- 4.3 Students shall be required to take 6 core courses and 2 elective courses from one of the three options.
- 4.4 Students shall be required to take a minimum of 3 courses and a maximum of 6 courses in the first semester.
- 4.5 The research project will be taken after completion of the course work.

5.0 COURSE OUTLINE

FIRST YEAR

I. Core Courses

| Code | Course | Hours |
|---------|--|-------|
| HCH 600 | Epidemiology I | 60 |
| HCH 601 | Biostatistics and computing I | 60 |
| HCH 602 | Social sciences and health | 60 |
| HCH 603 | Management sciences | 60 |
| HCH 604 | Research methodology | 60 |
| HCH 605 | Principles of disease prevention, Control and health promotion | 60 |

II. Elective Courses

Option I: Health Care System and Policy Development any 2 units

| | | |
|---------|---|-----|
| HCH 606 | Health planning and policy development | 180 |
| HCH 607 | Health services administration and evaluation | 180 |
| HCH 608 | Primary health care | 180 |
| HCH 609 | Health economics | 180 |

Option II: Disease Prevention and Control and Health Promotion any 2 units

| | | |
|---------|---|-----|
| HCH 610 | Communicable and non-communicable diseases prevention and control | 180 |
| HCH 611 | Family health | 180 |
| HCH 612 | Nutrition | 180 |
| HCH 613 | Environmental health | 180 |
| HCH 614 | Occupational and industrial health | 180 |

Option III: Community Health Sciences any 2 units

| | | |
|---------|---|-----|
| HCH 615 | Epidemiology II | 180 |
| HCH 616 | Biostatistics and computing II | 180 |
| HCH 617 | Demography | 180 |
| HCH 618 | Medical sociology and health anthropology | 180 |
| HCH 619 | Health education, communication and educational methodology | 180 |

SECOND YEAR

| | | |
|----------|------------------|-----|
| HCH: 700 | Research Project | 720 |
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6.0 EXAMINATION REGULATIONS

6.1 Written Examinations

- 6.1.1 The common regulations for the Masters Degree in all the Faculties of the University of Nairobi shall apply.
- 6.1.2 Candidates enrolled for the degree shall be required to take examinations and pass in all courses before being allowed to proceed to the second year of study.
- 6.1.3 All the courses will each be examined by 1x3hour written examination paper at the end of the semester.
- 6.1.4 Continuous assessments shall comprise assignments, end of term papers, written tests, seminar presentations and any other tests as may be given during the course.
- 6.1.5 The final examination in each course will constitute 70% of the total mark while the continuous assessment test shall constitute 30%.
- 6.1.6 The pass mark for each course shall be 50%.
- 6.1.7 A candidate who fails to obtain a pass mark in any of the course, shall on the recommendation of the Faculty Board of examiners and approval by the Senate, be allowed to re-sit the failed courses for a maximum of two times during the next regular examinations.
- 6.1.8 The pass mark obtained after a re-sit examination shall be recorded as 50% while that for a retake examination shall be the mark obtained at the said sitting.
- 6.1.9 A candidate who fails a second re-sit or retake examination or fails to complete the programme within the prescribed period shall on recommendation of the Faculty Board of Examiners and approval of the Senate be discontinued.

6.2 Examination of Dissertation

- 6.2.1 The common regulations of examination of dissertation in all Faculties shall apply.
- 6.2.2 The dissertation shall be examined out of 100% and marks distributed as 70% for the dissertation and 30% for the oral defence of the dissertation.
- 6.2.3 The pass mark shall be 50%.
- 6.2.4 A candidate who fails to obtain a pass mark in the dissertation, may on the recommendation of the Faculty Board and approval of Senate, be allowed to re-submit the dissertation after three months up to a maximum of two times.

- 6.2.5 The pass mark obtained by re-submission of the dissertation shall be recorded as 50%.
- 6.2.6 A candidate who fails in a second re-submission of the dissertation, shall on the recommendation of Faculty Board of Examiners and approval of Senate, be discontinued.

7.0 DEGREE AWARD

A Candidate who passes in both the course work written examination and dissertation examination shall be awarded the Degree of Master of Public Health of the University of Nairobi.

8.0 COURSE DESCRIPTIONS

HCH 600: Epidemiology 1

Concepts activities and applications. Sources of data. Historical development of epidemiology. Determinants of disease. Populations and samples. Sampling and sample size determination. Measuring disease. Measures of association. Epidemiological studies. Biases inherent in epidemiological studies. Disease control and prevention. Disease surveillance and Geographical Information Systems (GIS). Epidemics, their investigation and control and screening.

HCH 601: Biostatistics and Computing I

Descriptive statistics. Types of variables. Graphic presentation of data. Measures of central tendency. Dispersion. Population distributions. Spatial statistics. Inferential statistics. Tests of hypothesis. Confidence intervals. Enumeration of data. One way analysis of variance. Simple linear regressions. Computing: Computer hardware. Software and operating systems. Word processing. Data entry and analysis software. Graphics. Importing and exporting data. American standard code for information interchange(ASCII) files.

HCH 602: Social Science and Health

The relevance of Social Science in the study of health; Integrative analytical framework of health; Concepts of health and disease. Determinants of health; Culture and health. Disease and stigma; Death and dying; the role of religion. Community dynamics and participation in health. Health systems as cultural systems. Medical pluralism; Ethno-medicine. The sick role; Factors affecting health seeking behaviour; Patterns of care seeking. Culture and nutrition; the notion of food. Social change and nutrition. The concept of development; Development contexts and impact on health; Diseases of development. Health and sustainable development. Evaluation of international and national health policies.

HCH 603: Management Sciences

Concept and functions of management. Managerial roles. Systems theory. Health care delivery systems. Organization theory and concepts. Planning, application of elements of economics, resource utilization and control in health services organization. Managerial problem-solving and decision making. Project management. Human resources management. Quality management. evaluation in health care. Organization of health care services in Kenya. Health legislation and ethics. Patient bill of rights. international health organization.

HCH 604: Research Methodology

History and application of research methods. Literature review and systems. Use of libraries. Study type and design: Designing research protocol. Research objectives. Research methodology. Hypothesis testing. Sampling. Data collection and instruments of data collection: Planning the survey activities. Selection and training of interviewers. Pre-testing of interview instruments. Data management, analysis and presentation.

HCH 605: Principles of Disease Prevention, Control and Health Promotion

Background to communicable and non-communicable diseases. The communicable disease process. Agents and vectors of communicable diseases of public health importance. Transmission of communicable diseases. Immunity of communicable diseases. Community

aspects of disease control: investigation of disease outbreaks. Collection and handling of specimens. Surveillance strategies. Risk factor concept for non-communicable

HCH 606: Health Planning and Policy Development

Systems approach in health planning; Government planning processes. Data needs for health planning, drawing national health plan; role of epidemiology in programme planning; problem identification and priority setting. Evolving a logical frame work- setting goals, objectives and targets. Feasibility analysis and budgeting: obstacles. How to categorise and rank obstacles and produce possible remedies. Plan implementation, monitoring and evaluation. Evolution of health policy. Role of stakeholders in health policy. District focus and health planning in Kenya. Rationale for district focus policy approach. Planning for health in the district and other issues related to district focus policy.

HCH 607: Health Services Administration and Evaluation

Health care system. General concepts of organization, administration and management. Systems approach in organization. Functions of management. Introduction to health policy. Application of elements of economics. Decision making in health sector.. Qualitative techniques for decision making in health sector. Cost-effectiveness analysis (CEA). Cost-benefit analysis (CBA). Staff analysis and job analysis. PHC concept and patient and clients rights.

HCH 608: Primary Health Care (PHC)

Definition and elements of PHC. Principles and strategies of PHC. The Bamako Initiative: Drug supply. Rational prescribing. Herbal medicine. Comparison of health care systems. Planning the implementation and evaluation of PHC programmes. Using Target Oriented Project Planning (TOPP) approach. Options of health care. Concept of volunteerism: pros and contrasts. Community involvement. Community based rehabilitation. Supervision and community based data collection. Disaster and epidemics management

HCH 609: Health Economics

Basics of economics. New classical micro and macro economic model. Application of economic model to the health sector. Concepts of need and demand. Cost-benefit analysis. Human capital and willingness to pay approach. Decision-making criteria. Cost-effectiveness analysis: Health production. Consumption of care by individuals, family, community and nation. Hospital as care production unit. Health insurance market. Health and development. Allocation of resources to the structures. Time management. Health care markets in different types of economies. Health services financing. Equity in health. Economic and social consequences of disease.

HCH 610: Communicable and Non-communicable Diseases Prevention and Control

Aetiology, transmission, epidemiology, prevention and control of communicable diseases. The major vector borne disease in Africa. Nematode diseases. Helminthic infections. Diarrhoeal diseases. Zoonoses. Viral hemorrhagic fevers. Primary infections of the liver. Primary infections of the brain. Mycobacterial infections. Sexually transmitted diseases. Human Immunodeficiency Virus/Acquired Immuno Deficiency Syndrome (HIV/AIDS). Emerging disease threats. Severe Acute Respiratory Syndrome (SARS) and Avian flu. Epidemiology, prevention and control of non-communicable diseases. Rheumatic heart disease. Infective endocarditis. Ischaemic heart disease. Respiratory diseases. Liver diseases.

Renal disorders. Eye diseases. Dental disorders. Metabolic disorders. Neoplastic disorders, Cardiovascular disorders, Psychiatric disorders

HCH 611: Family Health

Rationale for maternal and child health care. Maternal problems of public health importance. Types of organisations of maternal health services. Childhood problems of public health importance. Types and organisations of maternal and child health services. Indicators of health status of mothers and children. The high-risk concept in maternal and child health work. School health programmes. Family health - rationale, services and techniques. Social factors influencing family health.

HCH 612: Nutrition

Food and nutrients. Nutritional requirements in the lifecycle. Nutritional anthropology. Evaluation of the nutritional status of the individual and community. Indicators of nutritional status. Relevance and applicability of international growth standards. Nutritional disorders of public health significance. Malnutrition and infections cycle. Nutritional interventions – selection, design, implementation, monitoring and evaluation. Nutrition in primary health care. Nutritional surveillance. Nutritional surveillance for timely warning and intervention. Nutritional programme planning management and evaluation. Nutrition in emergencies.

HCH 613: Environmental Health

Concepts and principles of environmental health. Relationship between environment and human being. Water, health and environment. Water related infections. Control of water related infections. Conventional, non-conventional human excretal disposal systems and excreta related infections. Management of municipal solid waste. Health and infections associated with solid wastes. Management of health care and other hazardous wastes. Housing needs. Health risks associated with types of housing. Food hygiene. Sources and types of food contaminants. Food borne diseases outbreaks. Application of hazard analysis critical control (HACCP) in food hygiene. Legislative and other control measures. Types of pollution and effects of pollution on the environment and health. Control measures on environmental pollution. Types of urban and rural environmental problems. Control of urban and rural environmental problems. Global emerging environmental health issues. Application of statistical and epidemiological tools in environmental health. Planning and community participation in control of environmental health problems.

HCH 614: Occupational and Industrial Health

Concepts and principles of occupational and industrial health. Comparison of occupational health between developed and developing countries. Classification of occupational hazards. Types and causes of occupational related diseases, accidents and injuries. Types of occupational health services. Occupational & industrial policy. Legislative structures. International and local legislation. Exposure and standards as control measures. First aid and training needs. Administrative role in control of exposure. Application of engineering control measures. Assessment of exposures. Surveillance and monitoring procedures. Personal protective equipment (PPE) as control measures.

HCH 615: Epidemiology II

Endemic and epidemic diseases. Potential for epidemics. Disease surveillance. Classification of diseases. Conducting of epidemiological studies. Investigation and control of epidemics.

Biases inherent in epidemiologic investigations and their control. Levels of disease prevention, and Screening in disease control.

HCH 616: Biostatistics and computing II

Further considerations of probability and chi-square techniques. Introduction to procedures used in the planning of experiments. Variance analysis. Non-parametric methods. Regression. Medical surveys. The role of biostatistics in public health. Application of statistical software. Advanced computer packages for the social sciences. Two way analysis of variance. Multiple regression. Logistic regression. Kruskal-Wallis one-way analysis of variance. Friedman's two-way analysis of variance.

HCH 617: Demography

Concept, principles and components of medical demography. Definitions. Sources of demographic data. Application of demography in health. Rates of natural population increase: Methods of calculation. Consequences of population growth in terms of provision of health Services. Demographic trends in Africa and the world. Rural-urban migration. Implications of trends in rural-urban migration. Approaches to fertility management. Modern and traditional methods of regulating fertility in Kenya. Modern and traditional methods of regulating fertility in the rest of Africa.

HCH 618: Medical Sociology and Health Anthropology

Approaches in the social analysis of Health. Inter-relationships between culture, society and environment. Ecology of health and disease. Demographic features of health and disease. Inter-relationship between human ecology, occupation, social change and specific disease patterns. Structural constraints to provision and utilization of healthcare. Socio-economics of health care. Socio-economic cost of disease.

HCH 619: Health Education, Communication and Medical Education Methodology

The concepts of health education and promotion. Socio-cultural factors in health education. Environment and health. Health communication. Instructional and evaluation. Methods in health education. Educational planning. The process of curriculum development. Instructional methods and research. Philosophies of education. Principles of learning. Assessment of learning. Types of evaluation and evaluation methods.

HCH 700: Research Project

Proposal writing. Proposal presentation. Fieldwork/data collection. Data management and analysis. Report writing. Seminar. Oral dissertation defence.