Master of Science in Medical Microbiology

Introduction:
The most serious health problems in the world today, particularly in developing countries, are caused by bacteria, fungi, viruses and parasites. Most of these occur in communities with low socio-economic status living in overcrowded and poor hygienic conditions. Although it may be likely that such conditions commonly occur in developing countries, little has been done to educate people on modalities of diagnosis and control. Due to deterioration in health standards, infectious diseases caused by these microorganisms are now occurring with increased frequency in Kenya and many other countries within the African region. HIV/AIDS, malaria, tuberculosis and typhoid are among some of the diseases whose frequency has increased tremendously and which require control.

Whereas the Department of Medical Microbiology is a leader in research on infectious diseases particularly HIV/AIDS, little has been done within the department to mount middle level degree programmes, which would be useful for the training of properly skilled personnel in the diagnosis and control of infectious diseases. The mounting of a Master of Science degree in Medical Microbiology will incorporate training in various methods of diagnosis and control of these diseases. Apart from focusing on understanding the biology, pathology, immunology, molecular biology, diagnosis, control and management of these diseases, the proposed course will also prepare candidates for higher doctorate degrees in the field of microbiology. It is hoped that through training, there will be improved supply of skillfully trained manpower in the field of infectious diseases.

To following are the objectives of the programme:

i) To equip students with skills and ability to teach and carry out research in infectious diseases

ii) To equip the students with skills required in the diagnosis and control of infectious diseases

iii) To train at postgraduate level, students of human and veterinary medicine, and biological sciences on the current identification procedures of microorganisms which cause disease

Entry Requirements:
The common regulations for the Master's degree in the Faculty of Medicine and those of the University of Nairobi shall apply.

Candidates eligible for admission into the Master of Science degree in Medical Microbiology shall have the following minimum qualifications:

a) Holders of a Bachelor of Medicine and Surgery degree, Bachelors of Veterinary Medicine degree, Bachelor of Dental Surgery degree, Bachelor of Pharmacy degree and Bachelor of Nursing degree from the University of Nairobi, or any other institution recognized by the Senate of the University of Nairobi as being of comparable academic status.

b) Holders of Bachelor of Science upper second class degree in zoology from the University of Nairobi or any other institution recognized by the University of Nairobi.
c) Holders of Bachelor of Science lower second class degree in Zoology with at least three years working experience in a relevant field of microbiology or with a postgraduate diploma in Microbiology.

d) Holders of Bachelor of Science pass degree in zoology with a postgraduate diploma in Microbiology and at least three years working experience in a relevant field of microbiology.

e) In addition to provision of evidence of eligibility for admission, candidates may be required by the Faculty to appear for interview to determine their suitability for admission.

Transfer of Credits
i) A candidate may be allowed to transfer up to a maximum of one third of the taught units provided that these are from institutions recognized by the Senate of the University of Nairobi

ii) Applicants seeking transfer of credit shall:
   a. Send a formal application to the Director, Board of Postgraduate Studies through the Dean, Faculty of Medicine seeking transfer of credit, justification of request and attach evidence of credentials, which would support such a request;
   b. Apply for transfer of credit, which shall be processed only after payment of the prescribed fees;

iii) Applicants will only be allowed to transfer a unit, which is equivalent and/or at the same level with what is offered by the University of Nairobi.

Course Structure and Regulations:
The Master of Science degree course in Medical Microbiology shall cover two academic years.

a) The first year shall be devoted entirely to course work in which candidates shall be required to take all courses offered in that year in form of lectures, practicals, tutorials and seminars.

b) In the second year, candidates shall do course work during the first term and undertake a research project in the second and final term.

c) The second year shall be devoted to an individual research project and submission of thesis, and during this period, the candidate shall also participate in seminars and journal clubs.

Course Outline

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### Second Year

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<td>HMM 611</td>
<td>Research Project</td>
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### Research Project

Students, under a supervisor's guidance, shall carry out a research project on a selected topic in Medical Microbiology. Research proposals shall be presented to the Departmental Postgraduate Committee and appropriate ethics committees as may be required by the Faculty.

### Examination regulations:

The University of Nairobi, Faculty of Medicine examination regulations shall apply.

### Coursework

A candidate shall be allowed to sit for examination if he/she has attended at least two thirds of the prescribed course contact hours.

Course work shall comprise assignment; end of term papers, seminar presentations and such other tests as may be given during the course.

Examination papers shall consist of 1 x 3 hours Essay paper, 1x2 hours Structured Questions, 1x3 hours Practical examination and 1x ½ hour oral examination for the prescribed courses except in Epidemiology and Biostatistics; and Research methods and Computer applications.

In Epidemiology and Biostatistics, and in Research methods and Computer applications, examination shall consist of 1x3 hours Written paper only.

The final written examination shall account for 70% of the final marks in each taught unit, while continuous assessment test shall account for 30% of the marks.

The pass mark in each course shall be 50%

A candidate who fails to obtain a pass mark in any course unit may be allowed to re-sit or re-take the failed unit up to a maximum of two times.

A pass mark obtained by re-sitting a course unit shall be recorded as 50%

A candidate who fails in the second re-sit or re-take or fails to complete the course in the prescribed time shall be discontinued.

### Research Project

The project shall be graded independently out of 100 marks, distributed as follows: 70% for the project report and 30% for the oral examination.
The pass mark shall be 50%

A candidate who fails to obtain the pass mark in the project may be allowed to resubmit the project up to a maximum of two times.

A pass obtained by resubmission of the project will be recorded as 50%.

**Degree Award**
Candidates who pass both Taught Courses and Research Project examinations shall be awarded a Master of Science degree in Medical Microbiology of the University of Nairobi.