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Multi Disciplinary Study Courses and the Postgraduate
Institute of Medicine, University of Colombo, Sri Lanka

UNIVERSITY OF COLOMBO

POSTGRADUATE INSTITUTE OF MEDICINE OF SRI LANKA

Regulations and Guidelines & Prospectus for

MSc. / Diploma in Molecular Medicine

2009

12(04)

MASTER OF SCIENCE / DIPLOMA IN MOLECULAR MEDICINE

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

PROSPECTUS

2009

Contents

In accordance with the decision of the Board of Study in Multi Disciplinary Study Courses and the approval of the Board of Management of the PGIM, this Prospectus, curriculum in Molecular Medicine became effective from 01st November 2008.

1. Background

Biotechnology is the future wave and the 21st century is already considered as the "Biological age/Post genomic era" in which the efforts of the gene revolution is expected to blossom and bear fruit. This rapid advancement in all disciplines of Biological Sciences is due to the tremendous progress achieved in Genetics and Molecular Biology, especially owing to the number of genome projects unveiling the biological alphabet of cellular and biochemical processes. Today, Genetic engineering and other related techniques have become standard and indispensable tools in almost all disciplines of the life sciences. As a result, the Board of Management of the PGIM decided to conduct an /Postgraduate Diploma/M.Sc. in Molecular Medicine to fulfill the growing need for post graduate trainees in Sri Lanka to get acquainted with the recent advances in Molecular Medicine.

2. Objectives

The aim of the Postgraduate Diploma/M.Sc. Course is to enable the trainees to gain knowledge and skills in Molecular Medicine relevant to research and services in a variety of settings in the field of Medicine in Sri Lanka.

3. Course Administration

The delivery of the course and evaluation shall be organized by the PGIM through its Board of Study in Multidisciplinary Study Courses (MDSC). MDSC is meant for initiation of courses that need multidisciplinary inputs – thus, its board members originate from many disciplines. The curricular development for Molecular Medicine shall be under one sub-committee of this Board of Study.

4. Eligibility Criteria

Applicant should process,

a) *Medical / *Dental or Veterinary Science Degree from a recognized University

b) B.Sc. degree in Biological science/ Physical science (with Chemistry/Biochemistry as a subject) or a degree in health related field from a recognized University

c) Graduateship in Chemistry, College of Chemical Sciences, Institute of Chemistry, Sri Lanka or any other qualification in Chemistry Biochemistry acceptable to the Board of Study in MDSC/BOM.

* should have a Medical Degree registered with the Sri Lanka Medical Council and completed one year of medical experience after internship as at the date of closure of applications. Foreign nationals with a medical degree, who seek registration in respect of the selection process should possess a degree registrable with Sri Lanka Medical Council. The registration will be determined on a case by case basis

5. Duration

Duration of the Postgraduate Diploma program is 12 months and the M.Sc.programme is 24 months. Course work will be conducted over 2 semesters during the first year. Academic activites will be conducted on Saturdays and Sundays. The period assigned for carrying out of the research component is 12 months and the trainees are required to carry out research continuously on a full-time basis. Continuous attendance is required when work pertaining to research is carried out and the trainees should ensure marking of their attendance regularly during working hours during the period assigned for research work.

Maximum periods allowed for completion of the Postgraduate Diploma / M.Sc. courses

The maximum period allowed for completion of the Postgraduate Diploma is 03 years while the M.Sc. degree is 05 years respectively from the date of first registration.

A maximum period of one year may be granted for commencement of the M.Sc course from the point of completion of the Postgraduate Diploma.

6. Programme and the Course structure

The Postgraduate Diploma consists of only a course work component while the M.Sc., will have a research project in addition to the course work component.

6.1 Medium of Instruction

The medium of instruction is English.

6.2 The Programme

The M.Sc programme shall have 40 credits comprising of 30 credit hours for the coursework component and 10 credit hours for the research component.
The Postgraduate Diploma shall consist of only the coursework component (30 credits).

6.3 Coursework Component (Part I)

The coursework component (30 credits) is based on a modular structure consisting of 06 modules. The course will be conducted during weekends and the teaching-learning exercises will be in the form of lectures, small group discussions, seminars, laboratory classes, demonstrations etc. The practical sessions of the course will be scheduled as en-bloc practical classes of 1-2 weeks duration.

Trainees are required to secure a minimum of 80% overall attendance at both teaching-learning and laboratory sessions as a prerequisite to qualify for the final assessment.

In the M.Sc. programme, trainees may be required to follow preliminary courses which will not carry credit hours. Trainees may take additional non credit courses to advance their knowledge with the consent of the relevant Department.

6.4 Research Component (Part II)

The trainees should achieve the specified minimum requirement of 2.00 GPA in the coursework component in order to proceed to the research component leading to the M.Sc.

The title of the research project, place where the research work will be carried out and the supervisor/s should be approved by the Board of Management-PGIM prior to commencement of research. Research work has to be carried out in an academic/research/ industrial institution where the necessary facilities are available.

The research component which is full-time and will carry 10 credits.

7. Curriculum

7.1 Module 01 – Foundation

Human Biology
General Microbiology
Concepts of Cellular Metabolism and Bioenergetics

7.2 Module 02 – Molecular Cell Biology and Cytogenetics

Introduction to molecular Biology
Basic techniques in cellular & Molecular Biology
Cytogenetics

7.3 Module 03 – Molecular Immunology

Immunity and infection
Molecular Oncology

7.4 Module 04 – Genetics and Human Diseases

Clinical features, patterns of inheritance and prevalence of common genetic diseases Mechanisms involved in the causation of human genetic disease.
Introduction to diagnostic methods for human genetic diseases. Genetic counseling and ethical issues.

7.5 Module 05 – Bioinformatics and Molecular Therapeutics

Bioinformatics
Molecular Therapeutics

7.6 Module 06 – Special Topics

Unit 01 – Molecular diagnosis of Infectious Diseases
Unit 02 – Research Methods in Molecular Medicine
Unit 03 – Laboratory Management
Unit 04 – Medical Biotech Industry
Unit 05 – Biosafety, Bioethics and Medicolegal aspects

8. Scheme of Evaluation

The students performance will be assessed by two end of semester examinations to be conducted at the end of each semester comprising of three papers (SEQ paper per module) of 3 hr duration and at the end of the second semester, in addition to the module paper, there will be an essay paper of 3hr duration. Practical work will be assessed by lab report and quiz.
The Grade Point Average (GPA) will be computed using grades assigned for all papers including the research project of the M.Sc. The minimum grade a trainee should achieve to pass a written paper is C and for the M.Sc. research project is C+. The grades shall be assigned as shown in 8.1

8. 1 Grade Points and GPA

The Grade Points will be assigned using the following table.

Marks Range	Grade	Grade Point
80 100	A	4.0
75 79	A	3.75
70 74	B+	3.25
65 69	B	3.0
60 64	B	2.75
55 59	C+	2.25
50 54	C	2.0
45 49	C	1.75
40 44	D+	1.25
30 39	D	1.00
20 29	D	0.75
00 19	F	0.0

The GPA will computed using the following formula,
GPA = $\sum$ wigi / $\sum$ wi
Where,
wi = number of credit units for the ith course
gi = grade points for the course
The GPA will be rounded to the second decimal place.

8.2 Repeat Examinations

If a trainee fails the examination he/she shall repeat the entire examination or the required part, at the next first available opportunity. The maximum grade a trainee can obtain at a repeat attempt is a B. Candidates are allowed to repeat an examination only once.

8.3 The M.Sc. Dissertation

8.3.1 Initial Submission

Two copies of the dissertation based on the research project, in temporary bound form should be submitted initially to the examination branch of the PGIM. The dissertation should be certified by the supervisors by signing the form given in annexure 1.

8.3.2 Evaluation

A copy of the dissertation shall be sent to the examiner/s appointed by the Director, PGIM on the recommendation of the Board of Study Multidisciplinary Study Courses as per advice of the Curriculum Development Subcommittee on Molecular Medicine. At least one of the examiners should be external to the place where the research was carried out. The examiner/s shall send the evaluation report to the Director, PGIM.

8.3.3 Viva-Voce Examination

If the examiner/s recommend/s the acceptance of the dissertation, the PGIM will make arrangements to hold the viva-voce examination. In cases where major revisions are required, the viva-voce examination will be held only after the dissertation has been re-examined and recommended for acceptance by the examiner/s.

8.3.4 Final Submission

Three copies of the dissertation, permanently bound with revisions, if any, together with an electronic copy should be submitted to the Director/PGIM. The supervisor/s is/are required to certify that corrections, revisions etc. have been duly effected by the candidate by signing the certificate in annexure 2.

9. Eligibility for the Postgraduate Diploma

Candidates are required to obtain, at least a C in each paper taken for credit and obtain a GPA of 2.00 or above and complete any other requirements as specified, to be eligible for the award of the Postgraduate Diploma in Molecular Medicine. Candidates who reach a GPA of 2.00 (specified minimum requirement in the coursework component to proceed to M.Sc.) or above and opt to do the M.Sc. will not be eligible for the award of the Postgraduate Diploma.

10. Eligibility for the M.Sc. Degree

Candidates are required to obtain, at least a C+ for the research project and obtain a GPA of 2.25 or above and complete any other requirement as specified, to be eligible for the award of the M.Sc. degree.

Candidates who fail the research component will only be eligible for the award of the Diploma where applicable.

11. Award of the Postgraduate Diploma

Postgraduate Diploma may be awarded to a candidate who has,

(a) fulfilled the admission requirements as given in Section 04
and
(b) been accepted by the PGIM as a trainee for the Postgraduate Diploma programme
and
(c) been duly registered and paid the fees for the prescribed duration of the programme
and
(d) successfully completed the requirements given in Section 09

12. Award of the M.Sc. degree

The M.Sc. degree may be awarded to a candidate who has,

(a) fulfilled the admission requirements as given in Section 04
and
(b) been accepted by the PGIM as a trainee for the MSc programme
and
(c) been duly registered and paid the fees for the prescribed duration of the programme
and
(d) successfully completed the requirements given in Section 10

13. Effective Date of the Postgraduate Diploma

The effective date of the Postgraduate Diploma (which should not precede the last date of the minimum duration of the programme) shall be the date of the official release of the results by the Director PGIM.

14. Effective Date of the M.Sc. Degree

The effective date of the degree (which should not precede the last date of the minimum duration of the programme) shall be as follows,

(a) The date of the viva voce examination if the project report is accepted without any corrections or with minor corrections and if the corrections recommended are completed during the time period specified by the examiners

(b) The date of submission of the final bound copy of the dissertation if major corrections are required or if the minor corrections are not completed during the time period specified by the examiners.

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