| CURRICULUM |

Core Courses | 19 units

Biostat 201	Fundamentals of Biostatistics I	3
Epi 201	Principles of Epidemiology	3
Biochem 205	Special Laboratory Techniques	3
Biochem 221	Nucleotides and Nucleic Acids	3
Biochem 222	Proteins, Lipids and Biochemistry	3
Biochem 297	Seminars in Biochemical Literature	1
Bioethics 201	Foundations and Approaches to Bioethics	3

Major and Elective Courses
Depending on the specialty/tracking of the student, 12 units of major courses (at least 10 units in 300 series) and 4 units of cognate/elective courses in the 300 series of courses may be chosen from those listed under the Departments of Biochemistry and Molecular Biology of the College of Medicine, and the Departments of Medical Microbiology and Parasitology of the College of Public Health.
Dissertation 12 units

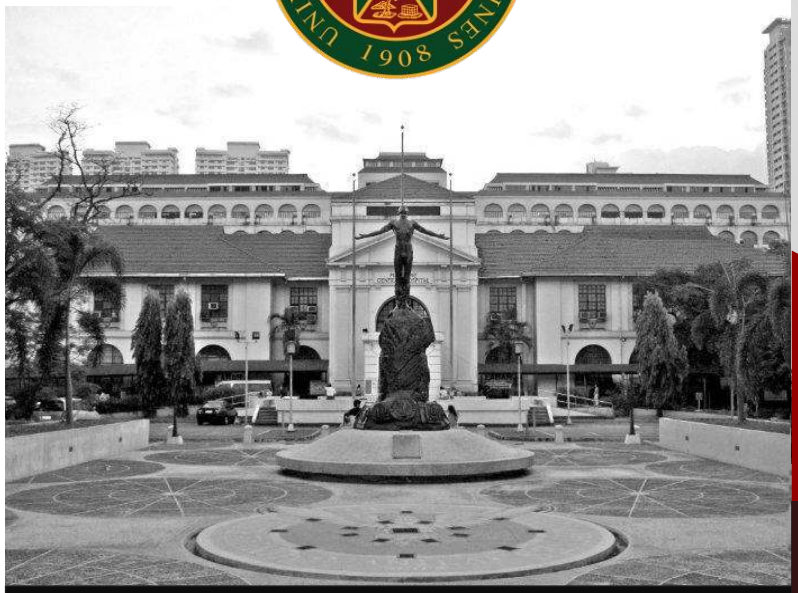
DESCRIPTION OF COURSES

Biochem 205 **Special Laboratory Techniques**
Techniques employed in ezymology, structural elucidation of biomolecules and in the study of certain biochemical aspects of signal transduction, genetics, experimental nutrition and clinical medicine.
Biochem 221 **Nucleotides and Nucleic Acids**
Electronic concepts in biochemistry; structure and biochemical functions of simple nucleotides and nucleic acids
Biochem 222 **Proteins, Lipids and Carbohydrates**
The relation of structures to biochemical functions of amino acids, lipids and carbohydrates.
Biochem 297 **Seminars in Biochemical Literature**
Critical evaluation of scientific literature. Presentation of a public seminar or research proposal.
Bioethics 201 **Foundation and Approaches to Bioethics**
Approaches to moral problem in health care and biomedical research.
Biostat 201 Fundamentals of Biostatistics I
Collection, presentation and elementary analysis of data
Epi 201 **Principles of Epidemiology**
Ecology of human diseases and epidemiologic methods.

List of Major Courses

Biochemistry & Molecular Biology	
Biochem 224	3 units
Biochem 240	4 units
Biochem 310	3 units
Biochem 315	2 units
Biochem 320	2 units
Biochem 325	2 units
Biochem 330	2 units
Biochem 350	3 units
Medical Parasitology	
Para 301	2 units
Para 302	2 units
Para 303	2 units
Para 305	2 units
Para 306	2 units
Para 307	2 units
Para 309	3 units
Para 399	3 units
Medical Microbiology	
Micro 310	3 units
Micro 311	3 units
Micro 312	3 units
Micro 313	3 units
Micro 397.1	1 unit
Micro 397.2	1 unit
Micro 314	3 units
Micro 315	3 units
Micro 316	3 units
Micro 399	3 units
Physiology	
Physio 206	2 units
Physio 297	2 units
Physio 299	2 units
Pharmacology	
Pharma 210	1 unit
Pharma 220	3 units
Pharma 234	3 units

Further inquiries may be sent to:
THE CHAIR, Interdisciplinary Graduate Committee
Telefax: 528-4041
THE DEAN/COLLEGE SECRETARY
College of Medicine
Tel no: 526-4170, 526-0371 / 522-0173
E-mail: deanupcm@epic.net
ADMISSIONS OFFICE, College of Medicine
Tel no: 526-4196



CONTACT US

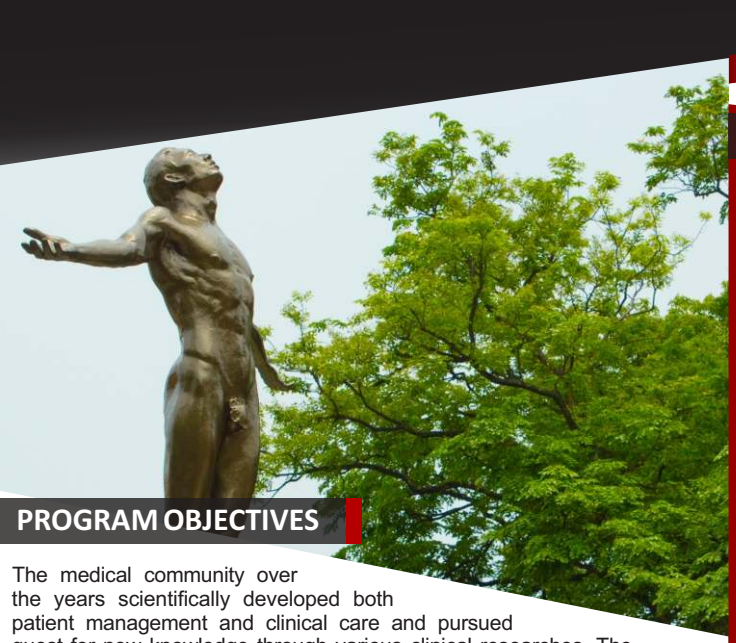
Application forms may be obtained from and returned to:
THE DIRECTOR
NATIONAL GRADUATE OFFICE FOR THE HEALTH SCIENCES

(632) 526-5870, 523-1495
(632) 523-1498
ngohs.upm.edu.ph
ngohs@post.upm.edu.ph
ngohs@post.upm.edu.ph

NATIONAL GRADUATE OFFICE FOR THE HEALTH SCIENCES

MD-PHD MOLECULAR MEDICINE

A PROGRAM OFFERING OF THE COLLEGE OF MEDICINE UNIVERSITY OF THE PHILIPPINES MANILA



PROGRAM OBJECTIVES

The medical community over the years scientifically developed both patient management and clinical care and pursued quest for new knowledge through various clinical researches. The medical researches included basic science research that delved into pathogenic mechanisms, development of newer, safer and more effective drugs, therapeutic and diagnostic agents, as well as vaccines and other preventive modalities. All of these endeavor evolved from a direct understanding of the patient and their illness, how the body naturally reacts and responds to the invading pathogens, and how intervention measures work towards recovery. It has become a global trend to train medical doctor-scientists with strong background in medical research applications. It is in this context that a medical doctor should be given a strong background in basic and clinical research for a more effective professional in the pursuit of a research career, as a medical doctor or molecular biologist or biotechnologist. As part of its mission/ objectives on human resource development, the UP College of Medicine offers a postgraduate degree training course which will produce scientists, trainors/educators and practitioners in molecular medicine. Graduates of the course will have the necessary expertise in conducting biomedical researches envisioned to upgrade the delivery of health services in the Philippines.

Specifically, at the end of the MD-PhD program, the graduate should be able to:

1. Conduct independent basic science and biomedical researches which will generate new knowledge in a particular specialty or discipline
2. Contribute to scientific research with impact on national development

PROGRAM OBJECTIVES

- Biochemistry and Molecular Biology
- Medical Genetics
- Pharmacology
- Medical Microbiology
- Medical Parasitology

ACADEMIC INFORMATION

The academic year is divided into 2 semesters of 16 weeks each, excluding registration and final examination periods. The 1st semester starts in August and ends in December, while the 2nd semester covers the period from January to May, with a two-week Christmas vacation in December. The summer session of 6 weeks following the 2nd semester is usually in June and July. English is generally used as the medium of instruction. A full time student's normal load is 12-15 units per semester and 6 units during summer; a part-time student enrolls in half of these. At present, the tuition fee is P990.00 per unit and the miscellaneous fee is around P1,050.00 per semester. A student with a load of 15 in a semester matriculates P16,250.00 on the average while a foreign student pays an additional Educational Development Fund of US $ 500.00 (US $100.00 for residency only) for every semester.

There is a processing fee of P300.00 for Filipino applicants while interested foreigners are charged US$ 30.00. Deadline for submission of application is 1 week before the last day for late registration for the 1st semester of the academic year.

The following are the grade requirements for each student to be of good standing in the program: 1) general weighted average of 1.75 or better, 2) weighted average of 1.75 or better for the major/required courses, and 3) no grade of 5.00 in any academic course. A maximum of 7 years is given to a student whose entry is year level 4 or MRR of 9 years if entry level is baccalaureate degree.

Living accommodations for students may be provided in privately-owned housing units/dorms/apartment hotels. Dorms offer lodging and/or board. There are privately-owned eateries around the school.

ADMISSION REQUIREMENTS

The following are the minimum NGOHS requirements:

1. Outstanding scholastic record (GWA of 1.75 or higher) from any recognized institution of higher learning
2. A bachelor's or master's degree in the biomedical field, preferably in Biochemistry, Molecular Biology or Biotechnology
3. A high aptitude for advanced study and research potential in molecular biology and biotechnology and their applications in medicine
4. Passed the entrance interview
5. Duly accomplished Application Form (available at the Graduate Office of through ngohs.upm.edu.ph) together with the following documents:
   * original copy of the official Transcript of Records
   * 2 recommendations from former professors, supervisors or employers (forms included in the application packet)
   * receipt of processing fee paid at the UPM Cashier's Office
   * certified true copy of college diploma with the seal of the university and the signature of the registrar in ink
   * 4 passport-size photos resume or curriculum vitae
   * photocopy of birth certificate and marriage certificate for married female applicants
   * essay on an 8-1/2" x 11" sheet of paper describing your motivation for pursuing graduate study and your view of self-directed learning as a method of instruction, and a description of your research interest
6. For foreign applicants, additional requirements include:
   * original Transcript of Records in English. If written in another language, must be translated to English and authenticated by the Philippine consulate/embassy from country of origin
   * certified true copy of diploma with the seal of the university and the signature of the registrar in ink. If written in another language, must be translated to English and authenticated by the Philippine consulate/embassy from country of origin
   * TOEFL (or its equivalent) score of at least 500 (written test) or 173 (computerized test) if English is not the medium of instruction in the country of origin
   * affidavit of support or certification of financial capability
   * photocopy of passport (present original for verification)

GRADUATION REQUIREMENTS

1. Completion of 2569 hours medicine proper subjects and 142 weeks of clinical rotation
2. Completion of at least 32 units PhD coursework with an overall weighted average of 1.75 or better and weighted average of 1.75 or better in required courses in the field of specialization and no grade of 5.00
3. Pass a comprehensive examination aimed to test the student's ability to integrate and apply knowledge
4. Completion and passing of oral and written original dissertation that constitutes a substantial contribution to knowledge in medicine and submission of 6 bound copies of the dissertation
5. Residency of at least 2 years immediately prior to the awarding of the degree.