Msc. in Personalized Medicine

Program Outline

The Master of Science Program

The Master of Science Program is a Two-Year Program organized as follows:

The curriculum is organized in 2 semesters, each of 16 weeks duration spread over the first academic year. The first semester consists of core courses, while the second semester is devoted to specific courses. The student is required to take all courses of the first semesters and optional courses in the second semester. At the end of the second semester, students must achieve a GPA of 3.0 or higher to proceed to the thesis.

The third and fourth semesters in the second academic year are dedicated to research and writing of thesis. The student is required to submit a thesis and defend it in front of an examining committee. Topics for the thesis will be decided in consultation with the thesis Supervisor, taking into consideration the students' interests and ongoing research activities. Thesis work can be partly performed by the student in his/her institution provided that a qualified supervisor is identified and technical facilities are available to carry out the planned experiments. Internal and external examiners evaluate the written dissertation and examine the student orally. The Master of Science degree requirements include 28 credit hours of courses and a thesis of 8 credit hours to be completed within two academic years (total 36 credit hours).

The Diploma Program

The Diploma Program is a one-year Program, organized as follows:

The curriculum is organized in 2 semesters, each of 16 weeks duration spread over the first academic year. After completion of courses, the student prepares a diploma project. The program is implemented by the Program Director and decisions are

made by an Academic Committee consisting of members representing the major specialties in the program.

Outline of Courses

The students study 36 credit hours inclusive of a Master thesis, which is equivalent to 8 credit hours. The courses cover 28 credit hours as in the list below.

A. Core Courses

The requirement of these Core Courses is 14 credit hours (1st semester).

Course Code	Course Name	Credit Hours
CMMSPMC 500	Genomic Biomarkers	1 Credit Hour
CMMSPMC 501	Statistical Analysis of Genomic Information	1 Credit Hour
CMMSPMC 502	Ethical, Legal and Social Issues of Genomic Testing	2 Credit Hours
CMMSPMC 503	Genetic Studies of Human Populations and Diseases	2 Credit Hours
CMMSPMC 504	Gene-drug Interactions	2 Credit Hours
CMMSPMC 505	Applications of Next-generation Sequencing (NGS) and Molecular Microarrays in Diagnosis of Genetic Disorders	2 Credit Hours
CMMS 604	Research Methodology	2 Credit Hours
CMMS 621	Inferential Statistics and its Applications	2 Credit Hours

B. Specialized Courses

The requirement of these Courses is 14 credit hours (2nd semester).

Course Code	Course Name	Credit Hours
CMMSPMS 600	Translational Genomics	2 Credit Hours
CMMSPMS 601	Identifying Genetic Variants Involved in Diagnosing Disease and Predicting Treatment Response	2 Credit Hours
CMMSPMS 602 *	Personal Pharmacogenetics	2 Credit Hours

CMMSPMS 603 *	Genetic Cancer Risk Assessment	2 Credit Hours
CMMSPMS 604 *	Genetic Counselling and Integration of Genetic Information	2 Credit Hours
CMMSPMS 605 *	Genetic Testing in Genomic Era	2 Credit Hours
CMMSPMS 606	Genomics, Proteomics and Metabolomics	2 Credit Hours
CMMSPMS 607	Genomic Disorders: Phenotype- Genotype Correlation	2 Credit Hours
CMMSPMS 608	Genome Wide Association Study (GWAS)	2 Credit Hours

C. Diploma Project

Course Code	Course Name	Credit Hours
CMMSPMD 608	Diploma Project	4 Credit Hours

D. Master Research Project

Course Code	Course Name	Credit Hours
CMMSPMT 609	Thesis	8 Credit Hours