

The Course Map for the Department of Molecular Biology and Human Genetics (Master Program)

Educational Aim	Required/Elective	1 st semester	2 nd semester	3 rd semester	4 th semester	Core Competency	Prospect
To train the students to have the knowledge and research ability in molecular biology and human genetics	Required course (Course title/Credits)	Human Molecular Genetics (I) 2	Human Molecular Genetics (II) 2			Capable of acquiring professional knowledge in molecular biology and human genetics	<ul style="list-style-type: none"> • Continue to advanced graduated study either here or abroad. <p style="color: red; margin-top: 10px;"><u>Job market prospects :</u></p> <ul style="list-style-type: none"> • Biotech R&D • Biotech management • Biotech QC • Clinical research staff • Academic research staff • Working in health related profession (Genetic counselor) • High school biology teacher • Civil servant
		Molecular and Cellular Biology 2					
		Seminar (I) 1	Seminar (II) 1	Seminar (III) 1	Seminar (IV) 1	Ability to analyze, to evaluate information, to write and to orally present a research paper	
		Research Ethics Education Online Program 0		Thesis Writing 1			
	Program in biotechnology and precision medicine (elective) (Course title/Credits)	Epigenetics 2	Stem Cell Biology 2			Able to design research project of molecular biology and human genetics	
		Principles and practices for optics and microscopy 2	Special topics in cell apoptosis 2				
		Model Animals used in Biomedical Research 2					
		Next-generation Sequencing technologies in Biomedical Sciences: From Principles to Applications 2					
	Program in genetic counseling (elective) (Course title/Credits)	Biochemical Genetics 2	General Psychology 2	Clinical Internship of Genetic Counselor 4			
		Precision Medicine 2	Practical Genotyping and mutational analysis 2				
		Human Embryology 2	Molecular Oncology 2				
		Essential Counseling Skills and Practice 2	Clinical molecular biology and genetics 2				
		Genetic Counseling Laboratory Internship 2	Genetic Counseling 2				
			Genetic Counseling Seminar 1				
		Statistical Genetics and Bioinformatics 2					
Elective course (Course title/Credits)		Cytogenetics (with Lab) 3					

Graduation Requirements:

- Has completed a thesis draft.
- MS candidate of the Department of Molecular Biology and Human Genetics who is submitting thesis draft should compare the thesis draft to the software "iThenticate" , to be sure that the similarity will be less than 30%. This will exclude the reference section.
- Has presented at least one research paper as the first author at in-campus or off-campus symposium, before participating in final oral examination. The student must provide the symposium information to the department.