

Graduate Institute of Biomedical Sciences, Chang Gung University

Graduate Program Ph.D Curriculum (2023~2024)

- Students pursuing a PhD degree must fulfill a minimum 18 course credits and 6 credits for PhD dissertation. Students may choose any courses listed below. With the approval of the advisor, students may also take courses offered by other doctoral programs in CGU to meet the credit requirement for graduation; only the total credits earned from other PhD programs cannot exceed 50% of the total elective credits for graduation. For students without a MS degree, 30 credits are required for graduation (plus 6 credits for PhD dissertation).
- The 6 credits for PhD Dissertation are given after passing the final defense and submitting the approved dissertation.
- See PhD student manual for graduation requirements.

Divisions		Course Code	Course Title	Credit	Year	Semester		Note
						Fall	Spring	
General Required Courses		BMD009	Seminar	8	1	1	1	Students must take all 8 semesters.
					2	1	1	
					3	1	1	
					4	1	1	
		BMD402	Scientific Integrity and Scientific Writing	2	2		2	
Recommended Courses	Biochemistry and Cellular Molecular Biology	EMM002	Biochemistry and Molecular Biology	2	1	2		
		EMM103	Advanced Cell Biology	2	1		2	
	Microbiology and Immunology	BMD601	Microbiology-Bacteriology	2	1	2		
		BMD602	Microbiology-Virology	2	1	2		
		BMD652	Advanced Immunology	3	1	3		For students with basic knowledge in Immunology.
	Physiology and Pharmacology	BMD704	Human Physiology	4	1	4		
		BMD705	Medical Pharmacology	4	1		4	
	Biotechnology	BMD401	Advanced Technologies in Systems Biology	3	1	3		
Elective Courses	Biochemistry and Cellular Molecular Biology	BMD355	Special Topics in Biochemistry, Cell & Molecular biology (1)	2	1	2		
		BMD254	Biological and Biomedical English Paper Writing Style	2	1	2		
		BMD522	Molecular virology laboratory	2	1	2		summer course, class limit: up to 20 students
		BMD344	Special Topics in Membrane Trafficking and Exocytosis	2	1		2	
		EMM107	Cell Growth and Apoptosis	2	1		2	
		BMD356	Special Topics in Biochemistry, Cell & Molecular biology (2)	2	1		2	
	Microbiology and Immunology	BMD664	Writing theses and research proposals	2	1	2		
		EMM003	Bioinformatics & Biostatistics	2	1	2		
		EMM106	Advances in Immunology	2	1		2	
		BMD660	Bacterial pathogenesis	2	1		2	
	Physiology and Pharmacology	BMD241	Signal Transduction	2	1	2		
		BMD243	Special topics in circulation	3	1	3		
		BMD248	Special topics in pharmacology	2	1		2	offered bi-annually, starting in 2023
	Biotechnology	BMD453	Molecular Imaging	3	1	3		Offered bi-annually, starting in 2007
		BMD460	Vaccine Development	3	1	3		Offered bi-annually, starting in 2009
		BMD454	Special Topics in Emerging Viruses	2	1	2		
		BMD665	Special Topics in RNA Viruses	2	1	2		
		BMD466	Free Radical Biology and Medicine	2	1	2		

		BMD464	Translational Cancer Medicine	2	1	2		Prerequisite: Cell Biology or Molecular Biology
		BMD461	Advanced Bacteriology	2	1		2	
	Others	EMM110	Animal Model for Studying Emerging Infectious Diseases	2	1	2		Offered by the International Master Program for Molecular Medicine in Emerging Viral Infections (MMEVI)
		EMM111	Genomic Data Science	2	1	2		
		EMM112	Deep Learning with Python	2	1	2		
		BMD403	Molecular & Cellular Biology	2	1	2		
		BMD404	Technologies and Advances in Emerging Viral Infections	2	1		2	
		EMM114	Methodology of Molecular Virology	2	1		2	
		EMM115	Anti-virus Drug Development	2	1		2	
		Emm116	Advanced Clinical Virology	2	1		2	
		Emm117	Test Reagent Kit Development	2	1		2	

Note:

Subjects chosen by students must be approved and signed by the Dissertation supervisor.

Director of GIBMS: _____

Head of the Course Committee: _____