

İZMİR INSTITUTE OF TECHNOLOGY
GRADUATE SCHOOL OF ENGINEERING AND SCIENCES
DEPARTMENT of MOLECULAR BIOLOGY AND GENETICS
GRADUATE (PhD) CURRICULUM

For graduation:

All PhD students must take **all core courses**.

All PhD students must take **at least 3 core elective courses (MSc courses will be counted)**.

PhD students with an MSc degree must take **at least 7 credit courses**, that is, they **must collect 21 credits**.

PhD students with a BSc degree must take **at least 14 credit courses**, that is, they **must collect 42 credits**.

All PhD students **must successfully pass Seminar in Molecular Biology course by the end of their sixth semester**.

TOTAL CREDITS TO GRADUATE **21 (MSc) or 42 (BSc)**

CORE COURSES

Course	Hours	Credit	Prereq / Coreq
MBG 600 Ph.D. Thesis	(0+1)	NC	
MBG 513 Seminar in Molecular Biology	(0+2)	NC	
MBG 8## Special Studies	(4+0)	NC	
MBG 9## Special Topics	(4+0)	NC	

CORE ELECTIVE COURSES

Course	Hours	Credit	Prereq / Coreq
MBG 501 Microbial Genetics	(3+0)	3	
MBG 507 Advanced Cell Biology	(3+0)	3	
MBG 516 Eukaryotic Gene Regulation	(3+0)	3	
MBG 537 Genome Organization and Structure	(3+0)	3	
MBG 550 Advanced Biochemistry	(3+0)	3	

ELECTIVE COURSES

Course	Hours	Credit	Prereq / Coreq
MBG 502 Molecular and Cellular Biophysics	(3+0)	3	
MBG 503 Microbial Physiology	(3+0)	3	
MBG 504 Microbial Pathogenesis	(3+0)	3	
MBG 505 Cell Physiology	(3+0)	3	
MBG 508 Molecular Phylogenetics	(3+2)	4	
MBG 514 Plant Cell Culture	(3+0)	3	
MBG 515 Advanced Immunology	(3+0)	3	
MBG 517 Algorithms in Bioinformatics	(3+0)	3	
MBG 519 Biological Macromolecules	(3+0)	3	
MBG 520 Biophysical Methods	(3+0)	3	
MBG 525 Proteins and Enzymes	(3+0)	3	
MBG 533 Current Topics in Molecular Biology	(3+0)	3	
MBG 545 Molecular Biology of Cancer	(3+0)	3	

MBG	546	Biology of Metastasis	(3+0)	3
MBG	547	Plant Biotechnology	(3+0)	3
MBG	555	Cell Cycle and Apoptosis	(3+0)	3
MBG	556	Molecular Genetics of Plant Development	(3+0)	3
MBG	557	Applied Microbiology	(3+0)	3
MBG	560	DNA Mutagenesis and Repair	(3+0)	3
MBG	565	Advanced Virology	(3+0)	3
MBG	566	Gene Therapy	(3+0)	3
MBG	567	Genome Analysis in Plants	(3+0)	3
MBG	568	Current Topics in Plant Molecular Genetics	(3+0)	3
MBG	570	Advanced Genetics	(3+0)	3
MBG	572	Yeast Genetics	(3+0)	3
MBG	573	Mouse Genetics and Laboratory Applications	(2+2)	3
MBG	575	Redox Biology	(3+0)	3
MBG	580	Genomics	(3+0)	3
MBG	581	Proteomics Data Analysis	(2+2)	3
MBG	583	Animal Models in Medical Research	(3+0)	3
MBG	584	Current Topics in Medical Genetics	(3+0)	3
MBG	585	Immunogenomics	(3+0)	3