Üsküdar University Faculty of Engineering and Natural Sciences Department of Molecular Biology and Genetics (English) 2024-2025 Academic Year

EAR ONE

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	1st Term								2nd Term						
Code	Course Name	Т	Р	_	С	ECTS	Prerequisite	Code	Course Name	Т	Р	L	С	ECTS	Prerequisite
MBG101	General Biology I*	3	0	2	4	7		MBG102	General Biology II*	3	0	2	4	7	
MATH101	Calculus I*	3	2	0	4	6		MBG108	Introduction to Programming*	1	0	2	2	3	
PHYS101	Physics I*	3	0	2	4	6		MATH102	Calculus II*	3	2	0	4	6	
CHEM101	General Chemistry I*	3	0	2	4	6		PHYS102	Physics II*	3	0	2	4	6	
RCUL103	University Culture I*	0	2	0	1	4		CHEM102	General Chemistry II*	3	0	2	4	6	
RPSC109	Positive Psychology and Communcation Skills	3	0	0	3	5		RCUL104	University Culture II*	0	2	0	1	4	
Total Credit	s	15	4	6	20	34		Total Credits		13	4	8	19	32	

								YEAR TWO							
	3rd Term								4th Term						
Code	Course Name	Т	Р	L	С	ECTS	Prerequisite	MBG204	Introduction to Bioinformatics*	2	2	0	3	5	Prerequisite
MBG209	Microbiology*	3	0	2	4	6		MBG210	Physiology*	3	0	2	4	6	
MBG211	Genetics*	3	0	2	4	7		MBG212	Molecular Genetics	3	0	0	3	4	
MBGXXX	Departmental Elective I	3	0	0	3	5		CHEM104	Organic Chemistry*	3	0	2	4	6	MBG 211
TURK103	Turkish Language I	2	0	0	2	2		TURK104	Turkish Language II	2	0	0	2	2	
ATA103	Principles of Atatürk and History of Turkish Revolution I	2	0	0	2	2		ATA104	Principles of Atatürk and History of Turkish Revolution II	2	0	0	2	2	
ENG103	English I	2	0	0	2	2		ENG104	English II	2	0	0	2	2	
RPRE104	Entrepreneurship and Project Culture	2	0	0	2	3		Total Credits		17	2	4	20	27	
Total Credits	;	17	0	4	19	27									

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	5th Term							6th Term								
Code	Course Name	Т	Р	L	С	ECTS	Prerequisite	Code	Course Name	т	P	L	С	ECTS	Prerequisite	
MBG309	Biochemistry I*	3	0	2	4	7	CHEM 104	MBG304	Recombinant DNA Technology*	3	2	0	4	7	MBG 212	
MBG325	Biotechnology	3	0	0	3	4	MBG 212	MBG310	Biochemistry II*	3	0	2	4	7	CHEM 104	
MBG331	Current Developments in Molecular Biology*	0	2	0	1	1		MBG314	Molecular Cell Biology*	3	0	2	4	7		
MBGXXX	Departmental Elective II	3	0	0	3	5		MBG384	Summer Practice**	0	0	0	0	5		
XXXXXX	Departmental Elective III	3	0	0	3	5		MBGXXX	Departmental Elective IV	3	0	0	3	5		
XXXXXX	Social Elective I	3	0	0	3	5		Total Credits		12	2	4	15	31		
XXXXXX	Social Elective II	3	0	0	3	5										
Total Credits	s	18	2	2	20	32										

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	7th Term							_
Code	Course Name	Т	P	L	С	ECTS	Prerequisite	Cc
MBG405	Immunology	2	0	0	2	3		М
MBG493	Graduation Project*	0	0	6	3	5		М
MBGXXX	Departmental Elective V	3	0	0	3	5		М
XXXXXX	Departmental Elective VI	3	0	0	3	5		М
XXXXXX	Field Elective I	3	0	0	3	5		XX
XXXXXX	Social Elective III	3	0	0	3	5		OI
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Total Cred	lits	14	0	6	17	28		

ı	Code	Course Name	Т	Р	L	С	ECTS	Prerequisite
l	MBG408	Bioethics	2	0	0	2	3	
l	MBG496	Graduation Thesis*	0	0	6	3	10	MBG 493
l	MBGXXX	Departmental Elective VII	3	0	0	3	5	
l	MBGXXX	Departmental Elective VIII	3	0	0	3	5	
l	XXXXXX	Field Elective II	3	0	0	3	5	
	OHS404	Occupational Health and Safety	4	0	0	4	4	
	Total Credi	ts	15	0	6	18	32	
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8th Term

	Total Course Credits for Graduation	148
2024-2025	Total Course ECTS for Graduation	243
2024-2023	Total Elective Courses ECTS	65
	Elective Course Ratio	27%

I	* These courses are under the Applied Course status.
I	** These courses are under the Internship Course status.

	DEPARTMENTAL ELECTIVES					
Code	Course Name	Т	Р	L	С	ECTS
	Field : Biotechnology					
	Departmental Electives With Project (3rd Year & 4t	h Year)			
MBG318	Microbial Metabolism	3	0	0	3	5
MBG321	Plant Genetics and Biotechnology	3	0	0	3	5
MBG441	Advanced Methods in Molecular Biology	3	0	0	3	5
MBG427	Biochemical Ecology	3	0	0	3	5
1400440	Departmental Electives (4th Year)	3	_	_	3	5
MBG440 MBG422	Forensic Biology	3	0	0	3	5
MBG424	Protein Design Applied Microbiology	3	0	0	3	5
MBG445	Environmental Sustainability	3	0	0	3	5
WIDOTTO	Field : Cell Biology	3	U	U	3	,
	Departmental Electives With Project (3rd Year & 4t	h Year)			
MBG313	Cancer Molecular Biology	3	0	0	3	5
MBG341	Introduction to Toxicology	3	0	0	3	5
MBG343	Genetic Disorders	3	0	0	3	5
MBG342	Stem Cell Technologies	3	0	0	3	5
	Departmental Electives (4th Year)					
MBG442	Nutritional Biochemistry	3	0	0	3	5
	Field : Genetics					
	Departmental Electives With Project (3rd Year & 4t	h Year	١			
	Genes, Environment and Behavior	3	0	0	3	5
MBG316	<u> </u>	_		Ė	H-	5
MBG319	Functional Genomics and Transciptomics	3	0	0	3	,
MBG330	Epigenetics	3	0	0	3	5
MBG333	Molecular Evolution	3	0	0	3	5
MBG343	Genetic Disorders	3	0	0	3	5
	Departmental Electives (4th Year)					
MBG418	Pharmacogenetics	3	0	0	3	5
MBG419	Sports and Performance Genetics	3	0	0	3	5
	Field : Neurobiology					
	Departmental Electives With Project (3rd Year & 4t	h Year)			
MBG307	Neurobiology	3	0	0	3	5
MBG317	Memory	3	0	0	3	5
MBG323	Special Topics in Neuroscience	3	0	0	3	5
MBG326	Neurodevelopment	3	0	0	3	5
WIDOSEO	Departmental Electives (4th Year)		Ŭ	Ŭ		
MBG411	Animal Behavior	3	0	0	3	5
MBG417		3	Ŭ	0	3	5
	Neurophysics	_	0	·	_	_
MBG435	Neurochemistry	3	0	0	3	5
	Departmental Elective Courses (2nd Year)					
Code	Course Name	Т	Р	L	С	ECTS
MBG205	Plant Biology	3	0	0	3	5
MBG340	Human Anatomy	3	0	0	3	5
MBG203	Biostatistics	3	0	0	3	5
MBG213	Histology and Embryology	3	0	0	3	5

	Social Elective (ourses (Foreign Languages)					
Code	Course Name	Т	Р	L	С	ECTS	Prerequisite
ESP123	Spanish I	3	0	0	3	5	
ESP124	Spanish II	3	0	0	3	5	ESP123
CHN123	Chinese I	3	0	0	3	5	
CHN124	Chinese II	3	0	0	3	5	CHN123
ARB123	Arabic I	3	0	0	3	5	
ARB124	Arabic II	3	0	0	3	5	ARB123
RSN123	Russian I	3	0	0	3	5	
RSN124	Russian II	3	0	0	3	5	RSN123
FRN123	French I	3	0	0	3	5	
FRN124	French II	3	0	0	3	5	FRN123
GER123	German I	3	0	0	3	5	
GER124	German II	3	0	0	3	5	GER123
JAP123	Japanese I	3	0	0	3	5	
JAP124	Japanese II	3	0	0	3	5	JAP123
ITA123	Italian I	3	0	0	3	5	
ITA124	Italian II	3	0	0	3	5	ITA123

	Field Elective Courses						
Code	Course Name	Т	Р	L	С	ECTS	Prerequisite
MDB402	Industrial Microbiology	3	0	0	3	5	
MDB403	Problems and Progress in Biomedical Science	3	0	0	3	5	

Field Elective Courses

For Field Elective courses, any departmental elective course (in English) having appropriate credits from other departments of Faculty of Engineering and Natural Sciences can be elected.

Social Elective Courses

For Social Elective courses, any course (in English) having appropriate credits from other faculties can be elected.