

GTÜ			
FACULTY OF SCIENCE			
DEPARTMENT OF MOLECULAR BIOLOGY & GENETICS			
UNDERGRADUTE CURRICULUM			
For Students Starting Classes From 2020-2021 Fall Semester			
1 <sup>st</sup> Year / Fall Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
FS 101	Occupational Health and Safety I	(0-1-0)	1
MBG 111	Biology I	(4-0-0)	5
MBG 113	Biology Laboratory I	(0-0-4)	3
TUR 101	Turkish I	(2-0-0)	2
MATH 101	Calculus I	(4-2-0)	7
HİS 101	Principles of Atatürk and the History of Turkish Revolution I	(2-0-0)	2
CHEM 101	General Chemistry I	(3-0-0)	5
CHEM 113	General Chemistry Laboratory I	(0-0-2)	1
ENG 111	English for Business Life	(2-0-0)	2
FS 103	Career Planning	(1-0-0)	2
<b>Total Credits for the 1<sup>st</sup> Semester</b>			<b>28</b>
1 <sup>st</sup> Year / Spring Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
FS 102	Occupational Health and Safety II	(0-1-0)	1
MBG 112	Biology II	(4-0-0)	5
MBG 114	Biology Laboratory II	(0-0-4)	5
TUR 102	Turkish II	(2-0-0)	2
MATH 102	Calculus II	(4-2-0)	7
SSTR 102	Principles of Atatürk and the History of Turkish Revolution II	(2-0-0)	2
CHEM 102	General Chemistry II	(3-0-0)	5
CHEM 114	General Chemistry Laboratory II	(0-0-2)	1
INF 101	Introduction to Programming	(2-0-2)	4
<b>Total Credits for the 2<sup>nd</sup> Semester</b>			<b>32</b>
2.Yıl / Güz Yarıyılı - 2 <sup>nd</sup> Year / Fall Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG XXX	Department Elective I	(3-0-0)	5
MBG 221	Genetics	(3-0-0)	6
MBG 223	Genetics Laboratory	(0-0-2)	3
INF 100	Introduction to Computer Systems	(2-0-2)	3
PHYS 113	Physics for Natural Science I	(3-0-2)	6
CHEM 116	Applied Organic Chemistry	(3-0-2)	5
XXX	Non-Technical Elective I	(2-0-0)	3
<b>Total Credits for the 3<sup>rd</sup> Semester</b>			<b>31</b>

2 <sup>nd</sup> Year / Spring Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG 222	Molecular Genetics I	(3-0-0)	6
MBG 272	Microbiology	(3-0-0)	4
MBG 274	Microbiology Laboratory	(0-0-4)	3
ENG 112	Academic English	(2-0-0)	2
PHYS 114	Physics for Natural Science II	(3-0-2)	6
MATH 216	Statistics	(3-0-0)	5
XXX	Non-Technical Elective II	(2-0-0)	3
<b>Total Credits for the 4<sup>th</sup> Semester</b>			<b>29</b>
3 <sup>rd</sup> Year / Fall Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG 305	Biochemistry I	(3-0-0)	5
MBG 307	Biochemistry Laboratory	(0-0-4)	5
MBG 331	Molecular Cell Biology I	(3-0-0)	5
MBG XXX	Department Elective II	(3-0-0)	5
MBG XXX	Department Elective III	(3-0-0)	5
MBG XXX	Department Elective IV	(3-0-0)	5
<b>Total Credits for the 5<sup>th</sup> Semester</b>			<b>30</b>
3 <sup>rd</sup> Year / Spring Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG 306	Biochemistry II	(3-0-0)	5
MBG 324	Molecular Genetics II	(3-0-0)	5
MBG 326	Molecular Genetics Laboratory	(0-0-4)	5
MBG 332	Molecular Cell Biology II	(3-0-0)	5
MBG 333	Molecular Cell Biology Laboratory	(0-0-4)	5
MBG XXX	Department Elective V	(3-0-0)	5
<b>Total Credits for the 6<sup>th</sup> Semester</b>			<b>30</b>
4 <sup>th</sup> Year / Fall Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG XXX	Department Elective VI	(3-0-0)	5
MBG XXX	Department Elective VII	(3-0-0)	5
MBG 401	Writing Rules and Ethics of Scientific Research	(2-0-0)	2
MBG 495	Graduation Project I	(0-8-0)	8
XXX	Technical Elective I	(3-0-0)	4
FEN 401	Professional Practice I	(0-6-0)	6
<b>Total Credits for the 7<sup>th</sup> Semester</b>			<b>30</b>

-4 <sup>th</sup> Year / Spring Semester			
		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG XXX	Department Elective VIII	(3-0-0)	5
MBG XXX	Department Elective IX	(3-0-0)	5
XXX	Technical Elective II	(3-0-0)	5
MBG 496	Graduation Project II	(0-8-0)	8
MBG 403	Seminar in Molecular Biology	(1-0-0)	1
FEN 402	Professional Practice II	(0-6-0)	6
<b>OR</b>			
MBG 496	Graduation Project II	(0-8-0)	8
FEN 402	Professional Practice II	(0-6-0)	6
MBG 403	Seminar in Molecular Biology	(1-0-0)	1
MBG 491	Industrial Applications		15
<b>8. Dönem Kredi Toplamı</b>		<b>Total Credits for the 8<sup>th</sup> Semester</b>	
Genel Toplam		Grand Total	
		<b>30</b>	
		<b>240</b>	

Departmental Elective Courses		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG 203	Human Physiology	(3-0-0)	5
MBG 311	Introduction to Bioinformatics	(3-4-0)	7
MBG 338	History of Science	5-0-0	5
MBG 347	Introduction to Biotechnology	(3-0-0)	5
MBG 348	Molecular Biotechnology	(3-0-0)	5
MBG 402	Virology and Viral Genetics	(3-0-0)	5
MBG 407	Glycobiology	(3-0-0)	5
MBG 410	Bacterial Ecology	(3-0-0)	5
MBG 411	Bacterial Physiology	(3-0-0)	5
MBG 413	Molecular Plant Physiology	(3-0-0)	5
MBG 415	Molecular Plant Nutrition	(3-0-0)	5
MBG 421	Functional Genomics	(3-0-0)	5
MBG 422	Molecular Evolution	(3-0-0)	5
MBG 423	Fundamentals of Epigenetics	(3-0-0)	5
MBG 424	Protein Structure-Function Relationships	(3-0-0)	5
MBG 426	Protein Targeting	(3-0-0)	5
MBG 428	Systems Biology	(3-0-0)	5
MBG 430	Introduction to Biostatistics	(3-0-0)	5
MBG 432	Molecular Immunology	(3-0-0)	5
MBG 433	Developmental Biology	(3-0-0)	5
MBG 434	Biology of Cancer	(3-0-0)	5
MBG 435	Fundamentals of Stem Cells	(3-0-0)	5
MBG 437	Biological Clocks	(3-0-0)	5
MGB438	Immunopathology	(3-0-0)	5
MBG 439	Neurobiology	(3-0-0)	5
MBG 441	Plant Biotechnology	(3-0-0)	5
MBG 443	Plant Metabolic Engineering	(3-0-0)	5
MBG 445	Introduction to Synthetic Biology	(3-0-0)	5

MBG 452	Principles of Cell Cycle	(3-0-0)	5
MBG460	Plant Molecular Genetics	(3-0-0)	5
MBG 461	Plant physiology	(3-0-0)	5
MBG463	Molecular Plant Breeding	(3-0-0)	5
MBG 473	Industrial Microbiology	(3-0-0)	5
MBG 476	Environmental Microbiology	(3-0-0)	5
BENG 361	Enzyme Engineering 5	(3-0-0)	5
BENG 455	Introduction to Systems Biology	(3-0-0)	5
ELEC 433	Numerical Computation Software	(3-0-0)	6
PHYS 330	Introduction to Light Science	(3-0-0)	5
PHYS 433	Nanotechnology	(3-0-0)	5

Service Courses		(T+U+L)	AKTS ECTS
Course Code	Course Title		
MBG101	Principles of Biology	3-0-0	5
MBG 110	Introduction to Modern Biology	3-0-0	4
MBG 222	Molecular Genetics	3-0-0	6

Course code (Ders kodu)	Course title (Ders adı)	Prerequisite (Önkoşul)	
MBG 112*	Biology II	MBG 111	Biology I
MBG 324*	Molecular Genetics II	MBG 222	Molecular Genetics I
MBG 306*	Biochemistry II	MBG 305	Biochemistry I
MBG 332*	Molecular Cell Biology II	MBG 331	Molecular Cell Biology I
MBG 495**	Graduation Project I	MATH 101 MATH 102 MBG 111 MBG 112 MBG 113 MBG 114 CHEM 101 CHEM 102 CHEM 113 CHEM 114 PHYS 113 PHYS 114	Matemematics I Matemematics II Biology I Biology II Biology Laboratory I Biology Laboratory II General Chemistry I General Chemistry II General Chemistry Lab I General Chemistry Lab II Physics for Natural Science I Physics for Natural Science II

MBG 496**	Graduation Project II	MATH 101 MATH 102 MBG 111 MBG 112 MBG 113 MBG 114 CHEM 101 CHEM 102 CHEM 113 CHEM 114 PHYS 113 PHYS 114	Matematics I Matematics II Biology I Biology II Biology Laboratory I Biology Laboratory II General Chemistry I General Chemistry II General Chemistry Lab I General Chemistry Lab II Physics for Natural Science I Physics for Natural Science II
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\* In order to take the II numbered courses, students must be enrolled in and attend courses with number I. Even if the student fails from the first course, he / she can take the second course.

\*\* Students must have passed these courses in order to take MBG 495 Graduation Project I and MBG 496 Graduation Project II.