



Türk-Alman Üniversitesi
Faculty of Science
Molecular Biotechnology
Moleküler Biyoteknoloji (Almanca)

1.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
BIO111	Biology	2+1+2	Compulsory	6
CHE111	Chemistry I	2+1+2	Compulsory	6
DEU121	Technical German I	2+0+0	Compulsory	2
ENG101	English I	3+0+0	Compulsory	2
MAT103	Analysis I	3+2+0	Compulsory	6
MBT101	Introduction to Molecular Biotechnology	2+0+0	Compulsory	2
PHY111	Physics I	2+1+2	Compulsory	6
Total ECTS				30

2.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
CHE112	Chemistry II	2+1+2	Compulsory	6
DEU122	Technical German II	2+0+0	Compulsory	2
ENG102	English II	3+0+0	Compulsory	2
MAT112	Analysis II and Linear Algebra	3+2+0	Compulsory	6
NWI102	Introduction to Programming	2+0+2	Compulsory	6
NWI106	Project Management	2+0+0	Compulsory	2
PHY112	Physics II	2+1+2	Compulsory	6
Total ECTS				30

3.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
AIT001	Atatürk's Principles and History of Turkish Revolution I	2+0+0	Compulsory	2
ENG201	English III	3+0+0	Compulsory	2
MAT201	Differential Equations	2+2+1	Compulsory	6
MBT201	Cell Biology	3+1+1	Compulsory	6
MBT211	Biochemistry I	2+1+2	Compulsory	6
NWI201	Physical Chemistry I	3+1+1	Compulsory	6
TUR001	Turkish I	2+0+0	Compulsory	2
Total ECTS				30

4.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
AIT002	Atatürk's Principles and History of Turkish Revolution II	2+0+0	Compulsory	2
ENG202	English IV	3+0+0	Compulsory	2
MBT204	Microbiology I	2+1+2	Compulsory	6
MBT206	Bioinformatics	2+0+2	Compulsory	6
MBT212	Biochemistry II	3+0+2	Compulsory	6
MBT222	Molecular Biotechnology I	2+1+2	Compulsory	6
TUR002	Turkish II	2+0+0	Compulsory	2
Total ECTS				30

5.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
ENG301	Advanced English I	3+0+0	Compulsory	2
ISG001	Occupational Safety and Health I	2+0+0	Compulsory	2
MBT323	Molecular Biotechnology II	2+1+2	Compulsory	6
SDBIOI	Compulsory Electives Bio I	-	Elective	54
ÜSD000	University Delective Course	-	Elective	2
Total ECTS				66

Course Groups				
BAU091	Introduction to Civil Engineering	2+0+0	Compulsory	2
BWL034	International Business	1+1+0	Elective	6
BWL102	Organisation	2+0+0	Elective	3
BWL201	Fundamentals of Marketing	2+2+0	Compulsory	5
BWL212	Strategic Management	2+2+0	Compulsory	5
BWL309	Strategic Management	2+1+0	Elective	4
EBT309	Introduction to Quantum Energy Systems	3+1+0	Elective	6
ETE091	Introduction to Electrical and Electronics Engineering	2+1+0	Compulsory	2

ETE101	Digital Design	2+1+1	Compulsory	6
HUK175	Ethic	2+0+0	Elective	2
HUK176	Woman in Law	2+0+0	Elective	2
HUK177	Consumer Law	2+0+0	Elective	2
HUK184	Law of Medical Malpractice	2+0+0	Elective	2
HUK477	Intellectual Property Law	2+0+0	Elective	2
INF102	Object Oriented Programming	2+0+2	Compulsory	6
ING404	Entrepreneurship	2+0+0	Elective	2
KKW321	History of Philosophy	3+0+0	Elective	4
KKW415	Space and Culture	3+0+0	Elective	6
KKW441	Museums and Collections	3+0+0	Elective	5
MAB091	Introduction to Mechanical Engineering	2+0+0	Compulsory	2
MAB109	Statics	3+2+0	Compulsory	6
MAB207	Material Technology I	3+2+0	Compulsory	6
MAB210	Fundamentals Manufacturing Technology	3+1+1	Elective	6
MBT361	Microbiology II	3+0+2	Elective	6
MBT363	Immunology	3+0+2	Elective	6
MBT365	Ecology	3+0+2	Elective	6
MBT367	Evolution	3+0+2	Elective	6
MWT101	Materials Science: Introduction to the Career and Ethics	2+0+0	Elective	2
NWI301	Organic Chemistry for Biosciences	2+1+2	Elective	6
POL507	Russian Politics	3+0+0	Elective	5
POL552	Ottoman Political History I	3+0+0	Elective	5
SOZ027	Sociology and Artificial Intelligence	3+0+0	Elective	6
SOZ132	Logic and Argumentation in Social Sciences	3+0+0	Elective	6
ÜSDAFY101	Disaster Management	1+1+0	Elective	3
ÜSDBAU449	Natural Disasters	2+0+0	Elective	2
ÜSDBAU462	Engineering Economics	2+1+0	Elective	2
ÜSDBAU464	Tunneling	2+1+0	Elective	2
ÜSDBAU468	Mega Structures	2+0+0	Elective	2
ÜSDCVA120	Child and Family	2+0+0	Elective	3
ÜSDENG111	Academic English	3+0+0	Elective	4
ÜSDENG120	Effective Communication Skills In English	3+0+0	Elective	3
ÜSDENG121	Business English	3+0+0	Elective	3
ÜSDENG122	Grammatical Structures In English Academic Writings	2+0+0	Elective	3
ÜSDENG123	Reading and Speaking in English	2+0+0	Elective	3
ÜSDENG124	The Reflections of Literary Movements on Cinema	3+0+0	Elective	3
ÜSDGNÇ202	Voluntary Works	1+2+0	Elective	4
ÜSDINF404	Next Generation Entrepreneurship	2+2+0	Elective	6
ÜSDINF406	Digital Innovation Management	2+2+0	Elective	6
ÜSDINF408	Introduction to Biomedical Sciences	2+0+2	Elective	6
ÜSDING045	Medical Device Regulations and Processes	2+0+0	Elective	2
ÜSDKAR123	Career Planning	2+0+0	Elective	2
ÜDKKW434	Management of Cultural Heritage	3+0+0	Elective	6
ÜSDBMT369	Artificial Intelligence I in Natural Sciences	3+0+0	Elective	2
ÜSDBMT371	Entrepreneurship in Natural Sciences	3+0+0	Elective	2
ÜSDBMT392	Quantum Computing	2+0+2	Elective	2
ÜSDMEC018	Radiation Measurement Technique	2+0+0	Elective	3
ÜSDMEC028	Introduction to Quantum Computing	2+0+0	Elective	2
ÜSDMEC048	Exploring the Nanoworld	2+0+0	Elective	3
ÜSDOSM121	Ottoman Turkish I	3+0+0	Elective	3
ÜSDOSM122	Ottoman Turkish II	3+0+0	Elective	3
ÜSDSKI202	City ??and Culture: İstanbul	2+0+0	Elective	2
ÜSDTGHI11	History of Daily Life in Turkey	2+0+0	Elective	2
ÜSDTUR009	Elective Academic Turkish	2+0+0	Elective	2
ÜSDTUR010	Academic Turkish for Foreigners II	2+0+0	Elective	2
ÜSDTUR111	Türkisch for Foreigners I	2+0+0	Elective	2
ÜSDTUR112	Türkisch for Foreigners II	2+0+0	Elective	2
ÜSDVWL101	Economics Literacy	2+0+0	Elective	2
VWL203	Economic History	3+0+0	Compulsory	6
VWL303	Public Finance and Public Economics	3+0+0	Elective	5
VWL304	History of Economic Thoughts	3+0+0	Elective	5
WIN091	Introduction to Industrial Engineering	2+0+0	Compulsory	2
WIN204	Rechnungswesen und Bilanzierung	2+2+1	Compulsory	6

6.Semester Course Plan

Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
ENG302	Advanced English II	3+0+0	Compulsory	2
ISG002	Occupational Safety and Health II	2+0+0	Compulsory	2

MBT324	Molecular Biotechnology III	2+0+2	Compulsory	5
MBT332	Process Engineering for Biotechnology I	2+1+0	Compulsory	6
MBT364	Bioanalytics	3+0+2	Compulsory	6
NWI300	Law	3+0+0	Compulsory	3
SDBIOII	Compulsory Electives - Bio II	-	Elective	6
			Total ECTS	30
Course Groups				
MBT202	Biophysical Chemistry	3+1+0	Elective	6
MBT326	Bioelectrochemistry	2+0+2	Elective	6
MBT336	Biocatalysis	2+2+0	Elective	6
NWI202	Physical Chemistry II	3+1+1	Elective	6
7.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
MBT441	Project I	0+0+4	Compulsory	6
PRK401	Internship	0+0+0	Compulsory	6
SDBIOIII	Compulsory Electives - Bio III	-	Elective	12
SDMATI	Compulsory Electives - Mat I	-	Elective	6
			Total ECTS	30
Course Groups				
MBT433	Process Engineering for Biotechnology II	3+0+2	Elective	6
MBT453	Biomathematics	2+2+0	Elective	6
MBT455	Biophysics	2+2+0	Elective	6
MBT471	Cell-Material Interactions	3+0+2	Elective	6
MBT473	Tissue Engineering	3+0+2	Elective	6
MBT475	Biosensors	3+0+2	Elective	6
MBT477	Nanobiotechnology	3+0+2	Elective	6
MBT479	Targeted Drug Delivery	3+0+2	Elective	6
8.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
MBT442	Project II (Graduation Project)	0+0+6	Compulsory	12
SDBIOIV	Compulsory Electives - Bio IV	-	Elective	24
SDMATII	Compulsory Electives - Mat II	-	Elective	6
			Total ECTS	42
Course Groups				
MBT456	Quantitative Biology	2+2+0	Elective	6
MBT458	Biostatistics	2+2+0	Elective	6
MBT460	Biophysics of Sensory Organs	2+2+0	Elective	6
MBT474	Population Genetics	3+2+0	Elective	6
MBT476	Active Agent Research	3+0+2	Elective	6
MBT478	Natural Substance Production	3+0+2	Elective	6
MBT488	Biomedical Signal Processing and Artificial Intelligence Applications	2+2+0	Elective	6
MWT310	Biomaterials	3+0+2	Elective	6
NWI302	Statistics and Numerical Methods	2+2+0	Elective	6
NWI402	MATLAB for Biosciences	2+0+2	Elective	6