



**Türk-Alman Üniversitesi**  
**Faculty of Science**  
**Department of Material Science and Technology**  
**Malzeme Bilimi ve Teknolojileri (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
NWI107	Introduction to Natural Sciences	2+0+0	Compulsory	2
PHY111	Physics I	2+1+2	Compulsory	6
<b>Total ECTS</b>				<b>30</b>

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
<b>Total ECTS</b>				<b>30</b>

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
MWT201	Structure of Materials	2+2+1	Compulsory	6
NWI201	Physical Chemistry I	2+1+2	Compulsory	6
TUR001	Turkish I	2+0+0	Compulsory	2
ZSDI	Elective Course I	-	Elective	12
<b>Total ECTS</b>				<b>30</b>

ETE101	Digital Design	2+1+1	Elective	6
MBT201	Cell Biology	3+1+1	Elective	6
MBT211	Biochemistry I	2+1+2	Elective	6
MEC109	Statics	3+2+0	Elective	6
MEC207	Material Technology	3+1+1	Elective	6
MWT203	Materials Chemistry	2+1+1	Elective	6
MWT205	Basics of Material Sciences	3+1+0	Elective	6
NWI203	Design Techniques I: Technical Drawing and CAD	1+2+1	Elective	6

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
MWT202	Thermodynamics of Solid-State Material	2+2+1	Compulsory	6
NWI202	Physical Chemistry II	3+1+1	Compulsory	6
NWI204	Measurement Techniques	2+1+1	Compulsory	6
TUR002	Turkish II	2+0+0	Compulsory	2
ZSDII	Compulsory Electives II	-	Elective	6
<b>Total ECTS</b>				<b>30</b>

MBT202	Biophysical Chemistry	3+1+0	Elective	6
MBT212	Biochemistry II	3+0+2	Elective	6
MBT222	Molecular Biotechnology I	2+1+2	Elective	6
NWI206	Introduction to Electrotechnics	2+1+2	Elective	6
NWI208	Heterogeneous Catalysis	2+2+0	Elective	6

5.Semester Course Plan				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
MAT201	Differential Equations	2+2+1	Compulsory	6

MWT301	Real Crystals and Their Properties	3+1+1	Compulsory	6
MWT303	Technical Mechanics	3+1+1	Compulsory	6
MWT305	Characterization Methods in Material Science	3+1+0	Compulsory	6
ZSDIII	Compulsory Electives III	-	Elective	6
<b>Total ECTS</b>				<b>30</b>
MBT323	Molecular Biotechnology II	2+1+2	Elective	6
MWT205	Basics of Material Sciences	3+1+0	Elective	6
MWT307	Polymeric Materials	2+1+1	Elective	6
MWT309	Metallic Materials	2+1+1	Elective	6
MWT311	Materials Testing	2+1+2	Elective	6
NWI301	Organic Chemistry for Biosciences	2+1+2	Elective	6
<b>6.Semester Course Plan</b>				
Course Code	Course Name	T+A+L	Compulsory/Elective	ECTS
MWT302	Materials Production and Processing Technologies	2+2+1	Compulsory	6
MWT304	Mechanical Properties of Materials	3+1+1	Compulsory	6
NWI302	Statistical and Numerical Methods	2+2+0	Compulsory	6
ZSDIV	Compulsory Electives IV	-	Elective	12
<b>Total ECTS</b>				<b>30</b>
MBT476	Active Agent Research	3+0+2	Elective	6
MBT478	Natural Substance Production	3+0+2	Elective	6
MWT306	Construction Materials	2+1+1	Elective	6
MWT308	Powder Metallurgy	2+0+2	Elective	6
MWT310	Biomaterials	3+0+2	Elective	6
MWT312	Composite Materials	2+1+1	Elective	6
MWT406	Functional Properties of Solid-State Materials	2+1+1	Elective	6
MWT408	Advanced Characterization Techniques of Materials	2+1+1	Elective	6
NWI208	Heterogeneous Catalysis	2+2+0	Elective	6
<b>7.Semester Course Plan</b>				
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
MWT401	Project I (Thesis Preparation and Seminar)	1+0+4	Compulsory	6
NWI401	Scientific Study Methods	2+0+0	Compulsory	2
ZSDV	Compulsory Electives V	-	Elective	18
<b>Total ECTS</b>				<b>30</b>
MBT323	Molecular Biotechnology II	2+1+2	Elective	6
MBT451	Bioinformatics	2+0+2	Elective	6
MBT471	Cell-Material Interactions	3+0+2	Elective	6
MBT473	Tissue Engineering	3+0+2	Elective	6
MBT477	Nanobiotechnology	3+0+2	Elective	6
MWT205	Basics of Material Sciences	3+1+0	Elective	6
MWT307	Polymeric Materials	2+1+1	Elective	6
MWT309	Metallic Materials	2+1+1	Elective	6
MWT311	Materials Testing	2+1+2	Elective	6
MWT403	Diffusion and Transport in Real Crystals	2+1+1	Elective	6
MWT405	Functional Materials	2+1+1	Elective	6
NWI301	Organic Chemistry for Biosciences	2+1+2	Elective	6
NWI405	Solid-State Physics	3+1+0	Elective	6
NWI407	Renewable Energy Technologies	2+1+1	Elective	6
<b>8.Semester Course Plan</b>				
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
MWT402	Project II (Bachelor Thesis)	1+0+7	Compulsory	12
MWT404	Seminar	2+0+0	Compulsory	4
PRK400	Internship	2+0+0	Compulsory	5
ÜSD000	University Elective Course	-	Elective	2
ZSDVI	Elective Courses (Social Field)	-	Elective	3
<b>Total ECTS</b>				<b>30</b>
BAU091	Introduction to Civil Engineering	2+0+0	Elective	2
BWL102	Organisation	2+0+0	Elective	3
BWL201	Fundamentals of Marketing	2+2+0	Elective	5

BWL212	Strategic Management	2+2+0	Elective	5
BWL309	Strategic Management	2+1+0	Elective	4
ETE091	Introduction to Electrical and Electronics Engineering	2+0+0	Elective	2
HUK175	Ethic	2+0+0	Elective	2
HUK176	Law and Woman	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	Elective	6
ING404	Entrepreneurship	2+0+0	Elective	2
KKW321	History of Philosophy	3+0+0	Elective	4
MAB091	Introduction to Mechanical Engineering	2+0+0	Elective	2
MAB210	Introduction to Manufacturing Technology	3+1+1	Elective	6
NWI300	Basic Law	3+0+0	Elective	3
POL550	Ottoman Language I	2+2+0	Elective	3
POL551	Ottoman Language II	2+2+0	Elective	3
SOZ132	Logic and Argumentation in Social Sciences	3+0+0	Elective	6
TUR009	Academic Turkish for Foreigners I	2+0+0	Elective	2
TUR010	Academic Turkish for Foreigners II	2+0+0	Elective	2
ÜSDBAU449	Natural Disasters	2+0+0	Elective	2
ÜSDENG120	Effective Communication Skills In English	0+0+0	Elective	3
ÜSDENG121	Business English	0+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
ÜSDKAR123	Career Planning	0+0+0	Elective	2
ÜSDKKW434	Management of Cultural Heritage	3+0+0	Elective	6
ÜSDMBT369	Artificial Intelligence I in Natural Sciences	3+0+0	Elective	2
ÜSDMBT371	Entrepreneurship in Natural Sciences	3+0+0	Elective	2
ÜSDMBT372	Artificial Intelligence II in Natural Sciences	3+0+0	Elective	2
ÜSDMEC018	Radiation Measurement Technique	2+0+0	Elective	3
ÜSDMEC048	Exploring the Nanoworld	2+0+0	Elective	3
ÜSDSKI202	City ??and Culture: İstanbul	2+0+0	Elective	2
ÜSDTGH111	History of Daily Life in Turkey	2+0+0	Elective	2
ÜSDVWL101	Economics Literacy	0+0+0	Elective	2
ÜSDVWL310	Turkish-German Industrial History	2+0+0	Elective	5
VWL203	Economic History	3+0+0	Elective	6
WIN091	Introduction to Industrial Engineering	2+0+0	Elective	2
WIN204	Rechnungswesen und Bilanzierung	2+2+1	Elective	6