



Kütahya Dumlupınar Üniversitesi

Faculty of Engineering

Materials Science and Engineering

Malzeme Bilimi ve Mühendisliği

1.Semester Course Plan				
Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131911001	History of Atatürk's Principles and Revolutions I	2+0	Compulsory	2
131911003	Turkish Language I	2+0	Compulsory	2
131911007	Basic Information Technologies	3+0	Compulsory	3
131911102	Introduction to Material and Ceramic Engineering	2+0	Compulsory	2
131911103	Physics I	3+2	Compulsory	6
131911104	General Chemistry	2+2	Compulsory	5
131911105	Mathematics I	3+2	Compulsory	6
YDS1	Yabancı Dil Seçmeli Ders Grubu I	2+2	Elective	4
			Total ECTS	30
Elective Courses				
131911009	English Language I	2+2	Elective	4
131911997	German I	2+2	Elective	4
131911998	French I	2+2	Elective	4
131911999	Russian I	2+2	Elective	4
2.Semester Course Plan				
Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131912002	History of Atatürk's Principles and Revolutions II	2+0	Compulsory	2
131912004	Turkish Language II	2+0	Compulsory	2
131912106	Physics II	3+2	Compulsory	6
131912107	Geology	2+0	Compulsory	3
131912108	Mathematics II	3+2	Compulsory	6
131912109	Technical Drawing	2+2	Compulsory	4
131912110	Organic Chemistry	3+0	Compulsory	3
YDS2	Yabancı Dil Seçmeli Ders Grubu II	2+2	Elective	4
			Total ECTS	30
Elective Courses				
131912010	English Language II	2+2	Elective	4
131912997	German II	2+2	Elective	4
131912998	French II	2+2	Elective	4
131912999	Russian II	2+2	Elective	4
3.Semester Course Plan				
Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131913111	Mathematics III	3+2	Compulsory	6
131913112	Basics of Materials Science	2+2	Compulsory	5
131913113	Physical Chemistry	3+0	Compulsory	4
131913114	Material Laboratories	2+2	Compulsory	4
131913115	Transport Phenomena	3+0	Compulsory	4
131913116	Polymer Science and Technology	3+0	Compulsory	4
G211	Class 2 Fall Group of Elective Courses1	3+0	Elective	3
			Total ECTS	30
Elective Courses				
131913501	World and Turkish Ceramic Industry	3+0	Elective	3
131913502	Analytical Thought (Soc. Elec. I)	3+0	Elective	3
131913503	Communication (Soc. Elec. I)	3+0	Elective	3
4.Semester Course Plan				
Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131914117	Physical Properties of Materials	3+0	Compulsory	5
131914118	Thermodynamic	2+2	Compulsory	5
131914119	Glass Science and Technology	3+0	Compulsory	4
131914120	Metallic Materials	3+0	Compulsory	4
131914121	Construction Materials	3+0	Compulsory	4
131914122	Production Methods	3+0	Compulsory	5
G212	Class 2 Spring Group of Elective Courses1	3+0	Elective	3
			Total ECTS	30
Elective Courses				
131914501	Environmental Issues in Ceramic Industries (Soc. Elec. II)	3+0	Elective	3

131914502	Motivation and Productivity (Soc. Elec. II)	3+0	Elective	3
131914505	Entrepreneurship(Soc. Elec. II)	3+0	Elective	3

5.Semester Course Plan

Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131915123	Phase Diagrams	3+0	Compulsory	4
131915124	Raw materials and Basic Operations	2+2	Compulsory	4
131915125	Crystallography and X-Ray	2+2	Compulsory	5
131915126	Traditional Ceramics	3+0	Compulsory	4
131915127	Electronic Materials	3+0	Compulsory	4
131915996	Practice I	0+0	Compulsory	4
G311	Class 3 Fall Group of Elective Courses1	3+0	Elective	5
Total ECTS				30
Elective Courses				
131915500	Ceramic Machines (Tech. Elec. I)	2+2	Elective	5
131915501	Technical English I (Tech. Elec. I)	3+0	Elective	5
131915502	Tile Manufacturing and Tile Industry (Tech. Elec. I)	3+0	Elective	5
131915503	Electron Microscopy in Materials Science	3+0	Elective	5
131915504	Surface and Colloid Chemistry	3+0	Elective	5
131915505	Demir Dışı Alaşımlar (Tek. Seç. I)	3+0	Elective	5

6.Semester Course Plan

Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131916128	Technical Ceramics	3+0	Compulsory	5
131916129	Ceramic Processes	2+2	Compulsory	5
131916130	Mechanical Properties of Materials	2+2	Compulsory	5
131916131	Refractor Materials	3+0	Compulsory	5
131916132	Solidification and Casting	3+0	Compulsory	5
G312	Class 3 Spring Group of Elective Courses1	3+0	Elective	5
Total ECTS				30
Elective Courses				
131916502	Technical English II (Tech. Elec. II)	3+0	Elective	5
131916503	Magnetic Materials (Tech. Elec. II)	3+0	Elective	5
131916506	Seramik Süreçlerde Organik Katkıları (Tek.Seç.Ders II)	3+0	Elective	5
131916507	Antik Yapı Malzemeleri (Tek.Seç.Ders II)	3+0	Elective	5
131916508	Materials for Sustainable Energy	3+0	Elective	5

7.Semester Course Plan

Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131917133	Nanomaterials	3+0	Compulsory	3
131917134	Plastic Forming	3+0	Compulsory	3
131917998	Practice II	0+0	Compulsory	4
G411	Class 4 Fall Group of Elective Courses1	3+0	Elective	5
G421	Class 4 Fall Group of Elective Courses2	3+0	Elective	5
G431	Class 4 Fall Group of Elective Courses3	3+0	Elective	5
G441	Class 4 Fall Group of Elective Courses4	5+0	Elective	5
Total ECTS				30
Elective Courses				
131917001	Mühendislik Araştırmaları	5+0	Elective	5
131917002	Endüstriyel Araştırmalar	5+0	Elective	5
131917501	Research Techniques I (Tech. Elec. III)	3+0	Elective	5
131917503	Economic Metallurgy (Tech. Elec. III)	3+0	Elective	5
131917505	Sensors (Tech. Elec. III)	3+0	Elective	5
131917506	Introduction to Archeometry	3+0	Elective	5
131917600	Drying and Firing Technologies (Tech. Elec. V)	3+0	Elective	5
131917601	Physicochemistry of Silicates (Tech. Elec. V)	3+0	Elective	5
131917603	Termoelektrik Malzemeler(Tek. Seç. Ders V)	3+0	Elective	5
131917604	Art Ceramics(Tec. Elec. Course V)	3+0	Elective	5
131917605	Nanoscopic Analysis of Materials	3+0	Elective	5
131917606	Corrosion	3+0	Elective	5
131917703	Materials Selection and Performance (Tech. Elec. VII)	3+0	Elective	5
131917704	Design Theory and Methods (Tech. Elec. VII)	3+0	Elective	5
131917705	Ceramic Pigments (Tech. Elec. VII)	3+0	Elective	5
131917706	Photovoltaic Materials (Teknik Seç. VII)	3+0	Elective	5
131917707	Metalik Kompozitler(Tek. Seç. Ders VII)	3+0	Elective	5
131917708	Teknik İngilizce III (Tek. Seç. Ders VII)	3+0	Elective	5
131917709	Powder Material Technology(Tech. Elec.VII)	3+0	Elective	5
131917900	Engineering Analysis	5+0	Elective	5
131917901	Engineering Analysis in Ceramics Forming	5+0	Elective	5

131917903	Engineering Analysis in Material Production	5+0	Elective	5
131917905	Engineering Analysis in Terracotta Production	5+0	Elective	5
131917906	Engineering Analysis in Ceramic Processes I	5+0	Elective	5
131917907	Engineering Analysis in Cement Production	5+0	Elective	5
131917908	Engineering Analysis in Drying and Firing Processing	5+0	Elective	5
131917910	Engineering Analysis in Biomaterials	5+0	Elective	5
131917911	Engineering Analysis in Porous Materials	5+0	Elective	5
131917912	Engineering Analysis in Refractory Materials	5+0	Elective	5
131917913	Engineering Analysis in Pigment Production	5+0	Elective	5
131917915	Engineering Analysis in Powder Synthesis	5+0	Elective	5
131917916	Engineering Analysis in Electronic Materials	5+0	Elective	5
131917917	Engineering Analysis in Archaeoceramics Evaluation	5+0	Elective	5
131917918	Oksinitrür Malzemelerde Müh. Çözümlemeleri	5+0	Elective	5
131917919	Engineering solutions for composite materials production	5+0	Elective	5
131917920	Çini Üretimi Mühendislik Çözümlemeleri	5+0	Elective	5

8.Semester Course Plan

Course Code	Course Name	T+A	Compulsory/Elective	ECTS
131918135	Material Characterization	3+0	Compulsory	5
131918136	Management and Organization	3+0	Compulsory	5
G412	Class 4 Spring Group of Elective Courses1	4+0	Elective	5
G422	Class 4 Spring Group of Elective Courses 2	4+0	Elective	5
G432	Class 4 Spring Group of Elective Courses3	0+2	Elective	5
G442	Class 4 Spring Group of Elective Courses4	3+0	Elective	5
			Total ECTS	30
Elective Courses				
131918001	Engineering Design	5+0	Elective	5
131918501	Research Techniques II (Tech. Elec. IV)	3+0	Elective	5
131918502	Engineering Materials (Tech. Elec. IV)	3+0	Elective	5
131918503	Coating of Steel Surfaces (Tech. Elec. IV)	3+0	Elective	5
131918504	Composite Materials (Tech. Elec. VI)	3+0	Elective	5
131918505	Porous Materials (Tech. Elec. IV)	3+0	Elective	5
131918602	Materials Selection and Performance (Tech. Elec. VI)	3+0	Elective	5
131918605	Industrial Furnaces (Tech. Elec. VI)	3+0	Elective	5
131918607	Archaeoceramics (Tech. Elec. VI)	3+0	Elective	5
131918608	2D Nano-Sheets(Tech.Elec. VI)	3+0	Elective	5
131918609	Teknik İngilizce IV	3+0	Elective	5
131918901	Engineering Design in Terracotta Production	4+0	Elective	5
131918902	Engineering Design in Material Production	4+0	Elective	5
131918903	Engineering Design in Ceramics Processing	4+0	Elective	5
131918906	Engineering Design in Drying and Firing Processing	4+0	Elective	5
131918908	Engineering Design in Ceramics Forming	4+0	Elective	5
131918909	Engineering Design In Biomaterials Production	4+0	Elective	5
131918911	Engineering Design in Refractory Production	4+0	Elective	5
131918912	Engineering Design in Porous Materials Production	4+0	Elective	5
131918913	Engineering Design in Archaeoceramics Characterization	4+0	Elective	5
131918914	Engineering Design in Ceramic Pigment Production	4+0	Elective	5
131918915	Engineering Design in Electronic Materials Production	4+0	Elective	5
131918916	Engineering Design in Powder Synthesis	4+0	Elective	5
131918917	Engineering Design in Tile and Seramic Production	4+0	Elective	5
131918918	Engineering Design in Oxynitride Materials Production	4+0	Elective	5
131918919	Engineering Design of Composite Materials	4+0	Elective	5
131918920	Design in Materials Forming	4+0	Elective	5
131918950	Industrial Waste Treatment Project	0+2	Elective	5
131918951	Terracotta Production Project	0+2	Elective	5
131918952	Materials Production Project	0+2	Elective	5
131918953	Ceramic Processes Project	0+2	Elective	5
131918956	Drying and Firing Processing Project	0+2	Elective	5
131918958	Ceramic Forming Project	0+2	Elective	5
131918959	Biomaterials Production Project	0+2	Elective	5
131918960	Tile and Ceramic Production Project	0+2	Elective	5
131918961	Porous Materials Production Project	0+2	Elective	5
131918962	Archaeoceramics Evaluation Project	0+2	Elective	5
131918963	Ceramic Pigment Production Project	0+2	Elective	5
131918964	Refractory Production Project	0+2	Elective	5
131918965	Electronic Materials Production Project	0+2	Elective	5
131918966	Powder Synthesis Production Project	0+2	Elective	5
131918967	Oxynitride Materials Production Project	0+2	Elective	5
131918968	Kompozit Malzeme Üretim Projesi	0+2	Elective	5

