Major Program Metallurgical and Materials Engineering Minor Program Bioengineering

Major Program: Faculty of Engineering / Metallurgical and Materials Engineering

Minor Program: Faculty of Engineering / Bioengineering

MATCHED COURSES

Metallurgical and Materials Engineering Dep. Courses (Major)						Bioengineering Dep. Matching Courses (Minor)					
No	Sem	Code	Course	Credit	ECTS	No	Sem	Code	Course	Credit	AKTS
1	1	KIM 1313	Genel Kimya	3	6	1	1	CHE 1313	General Chemistry	3	6
2	1	TDL 1111	Türk Dili I	2	2	2	1	TUR 1111	Turkish-I	2	2
3	3	AIT 1101	Atatürk İlkeleri ve İnkılap Tarihi I	2	2	3	1	HIS 1101	Atatürk's Principles and History of Revolution-I	2	2
4	1	MTH 1305	Mathematics I	4	7	4	1	MTH 1305	Mathematics I	4	7
5	1	PHY 1305	Physics I	3	6	5	1	PHY 1305	Physics I	3	6
6	1	ENG 1135	Professional English I	2	4	6	1	ENG 1135	Professional English I	2	4
7	2	TDL 1112	Türk Dili II	2	2	7	2	TUR 1112	Turkish II	2	2
8	4	AIT 1102	Atatürk İlkeleri ve İnkılap Tarihi II	2	2	8	2	HIS 1102	Atatürk's Principles and History of Revolution-II	2	2
9	2	MTH 1306	Mathematics II	4	7	9	2	MTH 1306	Mathematics II	4	7
10	2	ENG 1136	Professional English II	2	4	10	2	ENG 1136	Professional English II	2	4
11	1	MHN 1100	Bilgisayar Destekli Teknik Resim	3	4	11	2	ENG 1100	Computer Aided Technical Drawing	3	4
12	2	MHN 2101	Mühendislik Mekaniği	3	4	12	2	ENG 1138	Engineering Mechanics	3	4
13	2	PHY 1306	Physics II	3	6	13	2	PHY 1306	Physics II	3	6
14	2	MLZ 1108	Fizikokimya	3	6	14	3	BIE 2129	Physical Chemistry	3	3
15	3	MAT 2303	Diferansiyel Denklemler	4	7	15	3	MTH 2303	Differential Equations	4	7
16	4	MLZ 2144	Sosyal Sorumluluk Projesi	1	1	16	3	ENG 2115	Social Responsibility Project	1	1
17	3	ENG 3120	Statistics	3	4	17	4	ENG 3120	Statistics	3	4
18	2	MHN 3140	Mühendislik Ekonomisi	2	3	18	4	ENG 3140	Engineering Economy	2	3
19	3	MSE 2105	Thermodynamics of Materials	3	5	19	4	ENG 2164	Thermodynamics	3	5
20	7	MHN 3100	Mühendislik Yönetimi ve Etik	2	3	20	5	ENG 3100	Engineering Management and Ethics	2	3
21	6	CBU 4403	İş Sağlığı ve Güvenliği I	2	2	21	6	CBU 4405	Job Safety and Workers' Health-I	2	2
22	7	CBU 4404	İş Sağlığı ve Güvenliği II	2	2	22	7	CBU 4406	Job Safety and Workers' Health-II	2	2
23	5	SEC 1000	Non - Technical Elective Courses	2	2	23	7	SEC 1000	Non-Technical Elective	2	2
24	8	MLZ 4104	İşletmede Mesleki Eğitim*	5	20	24	8	BIE4110	Vocational Training in Workplace*	5	20
25	6	MSE 3200	Basic Science Electives	3	3	25	1	BIE 1121	General Biology	3	4
						26	2	BIE 1114	Organic Chemistry	2	3
26	3	MLZ 2111	Malzeme Bilimi I	3	3	27	3	BIE 2113	Biomaterials	3	3
27	1	MHN 1100	Bilgisayar Destekli Teknik Resim	3	4	28	3	BIE 2125	Basic Computer Programming	3	4
28	7	MLZ 4107	Malzeme Biliminde Analiz, Modelleme ve Simülasyon	3	3	29	4	MTH 2302	Numerical Methods in Engineering	4	6
29	5	MLZ 3105	Taşınma Mekanizmaları	3	3	30	4	ENG 2166	Fluid Mechanics	3	5
30	4	MLZ 2152	Polimer Malzemeler	3	3	31	4	BIE 2122	Biopolymers	3	3
31	6	MLZ 3132	Isıl İşlemler ve Yüzey Sertleştirme	3	3	32	5	ENG 3133	Heat Transfer	3,5	5
32	6	MSE 4400	Technical Elective Courses	3	3	33	5	BIE 3001	Technical Elective Courses - I	6	8
33	7	MLZ 4003	Staj	0	0	34	5	BIE 3003	Summer Practice I	0	5
34	6	MLZ 3136	Demir Çelik Üretimi	3	3	35	6	BIE 3122	Bioreaction Engineering	3	5
35	4	MLZ 2116	Malzemelerin Mekanik Davranışları	3	3	36	6	BIE 3134	Biomechanics	3	5
36	4	MLZ 2124	Faz Diyagramları	3	3	37	6	ENG 3136	Mass Transfer	2	3
37	7	MSE 4500	Technical Elective Courses	3	3	38	6	BIE 3002	Technical Elective Courses - II	3	4
						39	7	BIE 4001	Technical Elective Courses - III	3	4
38	7	MLZ 4141	Metalurji ve Malzeme Mühendisliği Tasarımı I	3	3	40	7	BIE 4119	Bioengineering Design	3	4
39	3	MLZ 2113	Üretim Metalurjisi	4	4	41	7	BIE 4117	Bioprocess Dynamics and Control	3	5
40	8	MLZ 4142	Metalurji ve Malzeme Mühendisliği Tasarımı II	3	3	42	7	BIE 4111	Graduation Project I	3	4
						43	8	BIE 4122	Graduation Project II	3	10
				110	**158**					**120,5**	**198**

UNMATCHED COURSES

Metallurgical and Materials Engineering Dep. Courses (Major)

No	Sem	Code	Course	Credit	ECTS
1	1	MLZ 1109	Metalurji ve Malzeme Mühendisliğine Giriş	2	2
2	3	MSE 2115	Technical English	2	2
3	4	MLZ 2112	Malzeme Bilimi II	3	3
4	4	MSE 2118	Solutions Thermodynamic	3	3
5	4	SSD 3500	Teknik Olmayan Seçmeli Dersler	2	2
6	5	MSE 3143	Ceramic Materials	3	3
7	5	MLZ 3117	Malzeme Karakterizasyonu	3	3
8	5	MLZ 3143	Döküm Prensipleri ve Teknolojisi	3	3
9	5	MLZ 3149	Fiziksel Metalurji	3	3
10	5	MLZ 3113	Plastik Şekil Verme	3	3
11	6	MSE 3160	Composite Materials	3	3
12	6	MLZ 3142	Malzeme Laboratuvarı	3	3
13	7	MLZ 4500	Teknik Seçmeli Dersler	3	3
14	7	MLZ 4131	Malzeme Seçimi	3	3
				39	**39**

Bioengineering Dep. Courses (Minor) **Given Courses**

No	Sem	Code	Course	Credit	ECTS
1	1	BIE 1111	Introduction To Bioengineering	2	2
2	3	BIE 2127	General Microbiology	3	5
3	3	BIE 2115	Stochiometry	3	4
4	3	BIE 2123	Biochemistry	3	4
5	5	BIE 3113	Bioprocess Engineering	3	5
6	5	BIE 3117	Bioengineering Lab. I	2	4
7	6	BIE 3118	Bioengineering Lab. II	2	5
8	7	BIE 4101	Biotechnology and Genetic Engineering	3	5
9	7	BIE 4123	Physiology	3	4
10	4	BIE 2118	Molecular Biology	3	4
11	6	BIE 3126	Biomedical Engineering and Instruments	4	6
				31	**48**

Major	**ECTS**
Matched Course	158
Unmatched Course	39
Total	197

Minor	**ECTS**
Matched Course	198
Unmatched Course	48
Total	246