Major Program Metallurgical and Materials Engineering Minor Program Bioengineering

Major Program: Faculty of Engineering / Metallurgical and Materials Engineering

Double Major Program: Faculty of Engineering / Bioengineering

MATCHED COURSES

Metallurgical and Materials Engineering Dep. Courses (Major)						Bioengineering Dep. Matching Courses (Double Major)					
No	Sem	Code	Course	Credit	ECTS	No	Sem	Code	Course	Credit	ECTS
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
				64	**111**					**64**	**108**

*The company/organization where the DMP student will do his/her Vocational Training in Workplacee (IME) must be approved by the Coordinators of the Major Program and Double Major Program (Coordinators of both departments).

UNMATCHED COURSES

Metallurgical and Materials Engineering Dep. Courses (Major)						Bioengineering Dep. Courses (Minor) Given Courses					
No	Sem	Code	Course	Credit	ECTS	No	Sem	Code	Course	Credit	ECTS
1	1	MLZ 1109	Metalurji ve Malzeme Mühendisliğine Giriş	2	4	1	1	BIE 1111	Introduction To Bioengineering	2	2
2	3	MLZ 2111	Malzeme Bilimi I	3	4	2	1	BIE 1121	General Biology	3	4
3	3	MSE 2115	Technical English	2	4	3	2	BIE 1114	Organic Chemistry	2	3
4	3	MLZ 2113	Üretim Metalurjisi	4	5	4	3	BIE 2127	General Microbiology	3	5
5	4	MLZ 2112	Malzeme Bilimi II	3	5	5	3	BIE 2115	Stochiometry	3	4
6	4	MLZ 2116	Malzemelerin Mekanik Davranışları	3	5	6	3	BIE 2113	Biomaterials	3	3
7	4	MSE 2118	Solutions Thermodynamic	3	5	7	3	BIE 2123	Biochemistry	3	4
8	4	MLZ 2124	Faz Diyagramları	3	5	8	3	BIE 2125	Basic Computer Programming	3	4
9	4	SSD 3500	Teknik Olmayan Seçmeli Dersler	2	2	9	4	MTH 2302	Numerical Methods in Engineering	4	6
10	4	MLZ 2152	Polimer Malzemeler	3	5	10	4	ENG 2166	Fluid Mechanics	3	5
11	5	MLZ 3105	Taşınma Mekanizmaları	3	4	11	4	BIE 2118	Molecular Biology	3	4
12	5	MSE 3143	Ceramic Materials	3	5	12	4	BIE 2122	Biopolymers	3	3
13	5	MLZ 3117	Malzeme Karakterizasyonu	3	5	13	5	BIE 3113	Bioprocess Engineering	3	5
14	5	MLZ 3143	Döküm Prensipleri ve Teknolojisi	3	5	14	5	BIE 3117	Bioengineering Lab. I	2	4
15	5	MLZ 3109	Disiplinler Arası Mühendislik Çalışmaları	2	2	15	5	ENG 3133	Heat Transfer	3,5	5
16	5	MLZ 3149	Fiziksel Metalurji	3	5	16	5	BIE 3001	Technical Elective Courses - I	6	8
17	5	MLZ 3113	Plastik Şekil Verme	3	4	17	5	BIE 3003	Summer Practice I	0	5
18	7	MLZ 4003	Staj	0	5	18	6	BIE 3118	Bioengineering Lab. II	2	5
19	6	MSE 4400	Technical Elective Courses	3	4	19	6	BIE 3122	Bioreaction Engineering	3	5
20	6	MSE 3200	Basic Science Electives	3	4	20	6	BIE 3126	Biomedical Engineering and Instruments	4	6
21	6	MSE 3160	Composite Materials	3	5	21	6	BIE 3134	Biomechanics	3	5
22	6	MLZ 3142	Malzeme Laboratuvarı	3	5	22	6	ENG 3136	Mass Transfer	2	3
23	6	MLZ 3132	Isıl İşlemler ve Yüzey Sertleştirme	3	5	23	6	BIE 3002	Technical Elective Courses - II	3	4
24	6	MLZ 3136	Demir Çelik Üretimi	3	5	24	7	BIE 4101	Biotechnology and Genetic Engineering	3	5
25	7	MSE 4500	Technical Elective Courses	3	4	25	7	BIE 4119	Bioengineering Design	3	4
26	7	MLZ 4500	Teknik Seçmeli Dersler	3	4	26	7	BIE 4117	Bioprocess Dynamics and Control	3	5
27	7	MLZ 4141	Metalurji ve Malzeme Mühendisliği Tasarımı I	3	4	27	7	BIE 4123	Physiology	3	4
28	7	MLZ 4107	Malzeme Biliminde Analiz, Modelleme ve Simülasyon	3	4	28	7	BIE 4111	Graduation Project I	3	4
29	7	MLZ 4131	Malzeme Seçimi	3	4	29	7	BIE 4001	Technical Elective Courses - III	3	4
30	8	MLZ 4142	Metalurji ve Malzeme Mühendisliği Tasarımı II	3	10	30	8	BIE 4122	Graduation Project II	3	10
				84	**137**					**87,5**	**138**

Major	**ECTS**	**Double Major**	**ECTS**
Matched Course	111	Matched Course	108
Unmatched Course	137	Unmatched Course	138
Tota	248	Tota	246

Note: In DMP, the sum of ECTS of Courses Matching the Major + Courses Not Matching the Major cannot be less than 120 for associate degree programs and 240 for undergraduate programs.