

MECHATRONICS ENGINEERING UNDERGRADUATE PROGRAM CURRICULUM (%100 ENGLISH)

1st Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MAT1071	Calculus 1	3	2	0	4,0	6	Z	EN	
MAT1320	Linear Algebra	2	0	0	2,0	3	Z	EN	
FIZ1001	Physics 1	3	0	2	4,0	5	Z	EN	
MDB1031	Advanced English 1	3	0	0	3,0	3	Z	EN	
MKT1111	Computer Aided Design	3	2	0	4,0	5	Z	TR/EN	
MKT1821	Introduction to Mechatronics Engineering	2	0	0	2,0	3	Z	TR/EN	
MKT1831	Lab - Machine Shop and Manufacturing	0	0	2	1,0	2	Z	TR/EN	
MKT1801	Workplace Health and Safety - 1	2	0	0	2,0	3	Z	TR/EN	
TOTAL	8 courses	18	4	4	22	30	26		

2nd Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MAT1072	Calculus 2	3	2	0	4,0	6	Z	EN	
FIZ1002	Physics 2	3	0	2	4,0	5	Z	EN	
MDB1032	Advanced English 2	3	0	0	3,0	3	Z	EN	
MKT1142	Computer Programming and Algorithms	2	2	0	3,0	5	Z	EN	
MKT1122	Materials Science	3	0	0	3,0	4	Z	EN	
MKT1132	Introduction to Electric Circuits	3	0	0	3,0	5	Z	EN	
MKT1802	Workplace Health and Safety - 2	2	0	0	2,0	2	Z	EN	MKT1801
TOTAL	7 courses	19	4	2	22,0	30	25		

3rd Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MAT2411	Differential Equations	4	0	0	4,0	5	Z	EN	MAT1072
MKT2151	Object Oriented Programming	2	2	0	3,0	5	Z	EN	MKT1142
MKT2161	Engineering Mechanics 1	3	0	0	3,0	5	Z	EN	
MKT2831	Lab - Electric ve Electronics	0	0	2	1,0	3	Z	EN	MKT1132
MKT2141	Analog Elecktronics	3	0	0	3,0	5	Z	EN	MKT1132
MKT2001	Machine Shop Training	0	0	0	0,0	2	Z	EN	MKT1801, MKT1111
	Social Elective 1	3	0	0	3,0	3	S	EN	
TDB1031	Turkish 1	2	0	0	0,0	2	Z	TR	
TOTAL	8 courses	17	2	2	17	30	21		

4th Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MKT2112	Engineering Mechanics 2	3	0	0	3,0	5	Z	TR/EN	MKT2161
MKT2802	Logical Circuits	3	0	0	3,0	5	Z	TR/EN	
MKT2812	Signals and Systems	3	0	0	3,0	5	Z	TR/EN	
MKT2142	Strength of Materials	3	0	0	3,0	5	Z	TR/EN	MKT2161
MKT2822	Electronic and Cummunication Circuits	2	1	1	3,0	4	Z	TR/EN	MKT2141
MKT2832	Thermodynamics	2	1	1	3,0	4	Z	TR/EN	FIZ1001
TDB1032	Turkish 2	2	0	0	0,0	2	Z	TR	
TOTAL	7 courses	18	2	2	18,0	30	22		

5th Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MKT3801	System Dynamics	3	0	0	3,0	4	Z	TR/EN	MAT2411
MKT3811	Microprocessors and Programming	2	0	2	3,0	4	Z	TR/EN	MKT1142
MKT3821	Machine Elements	4	0	0	4,0	5	Z	TR/EN	MKT2142, MKT1811
MKT3831	Fluid Mechanics and Heat Transfer	2	2	0	3,0	5	Z	TR/EN	
MKT3841	Numerical Methods	3	0	0	3,0	4	Z	TR/EN	MAT1072
	Technical Elective 1-Processes	3	0	0	3,0	4	S	TR/EN	
MKT3001	Occupational Training-1	0	0	0	0,0	2	Z	TR/EN	MKT2001
ATA1031	Principles of Ataturk and History of Modern Turkey 1	2	0	0	0,0	2	Z	TR	
TOTAL	7 courses	19	2	2	19,0	30	23		

6th Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MKT3802	Engineering Statistics and Experimental Methods	3	0	0	3,0	4	Z	TR/EN	
MKT3122	Automatic Control	3	0	0	3,0	5	Z	TR/EN	MKT3801
MKT3812	Industrial Automation	2	0	2	3,0	5	Z	TR/EN	MKT3811
MKT3822	Lab 3- System Dynamics and Control	0	0	2	1,0	2	Z	TR/EN	MKT3801
MKT3832	Electronmechanic Energy Conversion Systems	3	0	0	3,0	4	Z	TR/EN	MKT1132
MKT3842	Hydraulic-Pneumatic Systems	2	1	1	3,0	5	Z	TR/EN	MKT2161
	Social Elective 2	3	0	0	3	3	S	TR/EN	
ATA1032	Principles of Ataturk and History of Modern Turkey 1	2	0	0	0,0	2	Z	TR	
TOTAL	8 courses	18	1	5	19,0	30	24		

7th Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MKT4111	Machatronic System Design	1	2	0	2,0	3	Z	TR/EN	MKT2001, MKT1142, MKT2142 MKT3801
MKT4801	Electrical Drive Systems	3	0	0	3,0	4	Z	TR/EN	MKT3832
	Technical Elective 2-Computer Programming	2	0	2	3,0	5	S	TR/EN	MKT2151
	Technical Elective 3	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 4	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 5	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 6	3	0	0	3,0	4	S	TR/EN	
MKT4001	Occupational Training-2	0	0	0	0,0	2	Z	TR/EN	MKT2001
TOTAL	7 courses	18	2	2	20,0	30	22		

8th Semester									
Code	Course Name	T	R	L	C	ECTS	Comp./Elect.	Lang.	PreReq.
MKT4000	Graduation Project	0	8	0	4,0	8	Z	TR/EN	MKT4111
	Lab - Motors and Drives	0	0	2	1,0	2	Z	TR/EN	MKT3832
	Technical Elective 7	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 8	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 9	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 10	3	0	0	3,0	4	S	TR/EN	
	Technical Elective 11-Management Skills	3	0	0	3,0	4	S	TR/EN	
TOTAL	6 courses	15	8	2	20,0	30	25		

TOTAL Lectures 188

TOTAL Credits 149,0

TOTAL Theoretical Course hours 142,0

TOTAL Applied Course Hours 46,0

TOTAL ECTS 240

ELECTIVE COURSES

Technical Elective 1-Processes								
Code	Course Name	T	R	L	C	ECTS	PreRequisite	Language
MKT3861	Manufacturing Techniques	3	0	0	3,0	5	MKT1122	EN
MKT3871	Process Technology	3	0	0	3,0	5	MKT3151	EN

Technical Elective 2-Computer Programming							PreRequisite	Language
MKT4811	Introduction to Artificial Intelligence	2	0	2	3,0	5	MKT2151	EN
MKT4813	System Analysis And Design	2	0	2	3,0	5	MKT2151	EN
MKT4815	Advanced Programming	2	0	2	3,0	5	MKT2151	EN

Technical Electives 3							PreRequisite	Language
MKT4818	Digital System Design	3	0	0	3,0	4	MKT2802	EN
MKT4820	Digital Signal Processing	3	0	0	3,0	4	MKT2812	EN
MKT4821	Machine Kinematics and Dynamics	3	0	0	3,0	4	MKT2112	EN
MKT4822	Special Topics in Mechatronics Engineering	3	0	0	3,0	4	MKT3801	EN
MKT4823	Precision Device Design	3	0	0	3,0	4	MKT3821	EN
MKT4824	Communication Systems	3	0	0	3,0	4	MKT2151	EN
MKT4825	Introduction to Thermal System Design	3	0	0	3,0	4	MKT2832	EN
MKT4826	Sensor Fusion	3	0	0	3,0	4	MKT3802	EN
MKT4827	Power Electronics	3	0	0	3,0	4	MKT2822	EN
MKT4828	Prosess Control	3	0	0	3,0	4	MKT3122	EN
MKT4829	Fundamentals of Aviation	3	0	0	3,0	4	MKT3801	EN
MKT4830	Fundamentals of Image Processing	3	0	0	3,0	4	MKT2151, MAT1320	EN
MKT4831	Robot Engineering	3	0	0	3,0	4	MKT2112	EN
MKT4832	Medical Mechatronics	3	0	0	3,0	4	MKT2822	EN
MKT4833	Mechanical Vibrations	3	0	0	3,0	4	MKT3801	EN
MKT4834	Fundamentals of Vehicle Dynamics	3	0	0	3,0	4	MKT3801	EN

Technical Electives 3								
Code	Course Name	T	R	L	C	ECTS	PreRequisite	Language
MKT4835	Industrial Measurement Systems	3	0	0	3,0	4	MKT2822	EN
MKT4836	Computer Aided Manufacturing	3	0	0	3,0	4	MKT1811	EN
MKT4838	Industrial Design	3	0	0	3,0	4	MKT1811	EN
MKT4840	Avionic Systems	3	0	0	3	4	MKT2822	EN
MKT4842	Experimental Methods in Engineering	3	0	0	3,0	4	MKT3802	EN
MKT4844	Heat Transfer	3	0	0	3,0	4	MKT2832	EN

Technical Elective 11-Management Skills								
Code	Course Name	T	R	L	C	ECTS	PreRequisite	Language
MKT4845	Communication Skills	3	0	0	3,0	4	ISG 1002	EN
MKT4814	Project Management	3	0	0	3,0	4	ISG 1002	EN
MKT4816	Engineering Economics	3	0	0	3,0	4	ISG 1002	EN

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MEKATRONİK MÜHENDİSLİĞİ LİSANS PROGRAMI ÖĞRETİM PLANI (%30 İngilizce)

1. YI									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MAT1071	Matematik 1	3	2	0	4,0	6	Z	TR/EN	
MAT1320	Lineer Cebir	2	0	0	2,0	3	Z	TR/EN	
FIZ1001	Fizik 1	3	0	2	4,0	5	Z	TR/EN	
MDB1031	İleri İngilizce I	3	0	0	3,0	3	Z	TR/EN	
MKT1111	Bilgisayar Destekli Tasarım	3	2	0	4,0	5	Z	TR/EN	
MKT1821	Mekatronik Mühendisliğine Giriş	2	0	0	2,0	3	Z	TR/EN	
MKT1831	Lab 1 - Atölye ve İmalat	0	0	2	1,0	2	Z	TR/EN	
MKT1801	İş Sağlığı ve Güvenliği - 1	2	0	0	2,0	3	Z	TR/EN	
TOPLAM	8 Ders	18	4	4	22	30	26		

2. YI									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MAT1072	Matematik 2	3	2	0	4,0	6	Z	TR/EN	
FIZ1002	Fizik 2	3	0	2	4,0	5	Z	TR/EN	
MDB1032	İleri İngilizce II	3	0	0	3,0	3	Z	TR/EN	
MKT1142	Bilgisayar Prog. ve Algoritmalar	2	2	0	3,0	5	Z	TR/EN	
MKT1122	Malzeme Bilimi	3	0	0	3,0	4	Z	TR/EN	
MKT1132	Elektrik Devre Temelleri	3	0	0	3,0	5	Z	TR/EN	
MKT1802	İş Sağlığı ve Güvenliği - 2	2	0	0	2,0	2	Z	TR/EN	MKT1801
TOPLAM	7 Ders	19	4	2	22,0	30	25		

3. YI									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MAT2411	Diferansiyel Denklemler	4	0	0	4,0	5	Z	TR/EN	MAT1072
MKT2151	Nesneye Yönelik Programlama	2	2	0	3,0	5	Z	TR/EN	MKT1142
MKT2161	Mühendislik Mekaniği I	3	0	0	3,0	5	Z	TR/EN	
MKT2831	Lab 2 - Elektrik ve Elektronik	0	0	2	1,0	3	Z	TR/EN	MKT1132
MKT2141	Analog Elektronik	3	0	0	3,0	5	Z	TR/EN	MKT1132
MKT2001	Atölye Stajı	0	0	0	0,0	2	Z	TR/EN	MKT1801, MKT1111
	Sosyal Seçmeli 1	3	0	0	3,0	3	S	TR/EN	
TDB1031	Türkçe 1	2	0	0	0,0	2	Z	TR	
TOPLAM	8 Ders	17	2	2	17	30	21		

4. YI									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MKT2112	Mühendislik Mekaniği II	3	0	0	3,0	5	Z	TR/EN	MKT2161
MKT2802	Lojik Devreler	3	0	0	3,0	5	Z	TR/EN	
MKT2812	İşaretler ve Sistemler	3	0	0	3,0	5	Z	TR/EN	
MKT2142	Mukavemet	3	0	0	3,0	5	Z	TR/EN	MKT2161
MKT2822	Elektronik ve Haberleşme Devreleri	2	1	1	3,0	4	Z	TR/EN	MKT2141
MKT2832	Termodinamik	2	1	1	3,0	4	Z	TR/EN	FIZ1001
TDB1032	Türkçe 2	2	0	0	0,0	2	Z	TR	
TOPLAM	7 Ders	18	2	2	18,0	30	22		

5. YI									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MKT3801	Sistem Dinamiği	3	0	0	3,0	4	Z	TR/EN	MAT2411
MKT3811	Mikroişlemciler ve Programlanması	2	0	2	3,0	4	Z	TR/EN	MKT1142
MKT3821	Makine Elemanları	4	0	0	4,0	5	Z	TR/EN	MKT2142, MKT1811
MKT3831	Akışkanlar Mekaniği ve Isı Geçişi	2	2	0	3,0	5	Z	TR/EN	
MKT3841	Sayısal Yöntemler	3	0	0	3,0	4	Z	TR/EN	MAT1072
	Teknik Seçmeli 1	3	0	0	3,0	4	S	TR/EN	
MKT3001	Meslekî Alan Stajı-1	0	0	0	0,0	2	Z	TR/EN	MKT2001
ATA1031	Atatürk İlkeleri ve İnkılap Tarihi I	2	0	0	0,0	2	Z	TR	
TOPLAM	7 Ders	19	2	2	19,0	30	23		

6. YI									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MKT3802	Mühendisler için İstatistik ve Deneysel Yöntemler	3	0	0	3,0	4	Z	TR/EN	
MKT3122	Otomatik Kontrol	3	0	0	3,0	5	Z	TR/EN	MKT3801
MKT3812	Endüstriyel Otomasyon	2	0	2	3,0	5	Z	TR/EN	MKT3811
MKT3822	Lab 3 - Sistem Dinamiği ve Kontrol	0	0	2	1,0	2	Z	TR/EN	MKT3801
MKT3832	Elektromekanik Enerji Dönüşüm Sist.	3	0	0	3,0	4	Z	TR/EN	MKT1132
MKT3842	Hidrolik - Pnömatik Sistemler	2	1	1	3,0	5	Z	TR/EN	MKT2161
	Sosyal Seçmeli 2	3	0	0	3	3	S	TR/EN	
ATA1032	Atatürk İlkeleri ve İnkılap Tarihi II	2	0	0	0,0	2	Z	TR	
TOPLAM	8 Ders	18	1	5	19,0	30	24		

7.YY									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MKT4111	Mekatronik Sistem Tasarımı	1	2	0	2,0	3	Z	TR/EN	MKT2001, MKT1142, MKT2142 MKT3801
MKT4801	Elektriksel Tahrik Sistemleri	3	0	0	3,0	4	Z	TR/EN	MKT3832
	Teknik Seçmeli 2 - Bilgisayar Programlama	2	0	2	3,0	5	S	TR/EN	MKT2151
	Teknik Seçmeli 3 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli 4 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli 5 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli 6 - Genel	3	0	0	3,0	4	S	TR/EN	
MKT4001	Meslekî Alan Stajı-2	0	0	0	0,0	2	Z	TR/EN	MKT2001
TOPLAM	7 Ders	18	2	2	20,0	30	22		

8.YY									
Kodu	Ders Adı	T	U	L	K	AKTS	Z/S	DİL	ÖNK
MKT4000	Bitirme Çalışması	0	8	0	4,0	8	Z	TR/EN	MKT4111
MKT4802	Lab 4 - Motorlar ve Sürücüler	0	0	2	1,0	2	Z	TR/EN	MKT3832
	Teknik Seçmeli 7 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli 8 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli 9 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli 10 - Genel	3	0	0	3,0	4	S	TR/EN	
	Teknik Seçmeli -Yönetim Becerileri	3	0	0	3,0	4	S	TR/EN	
TOPLAM	6 Ders	15	8	2	20,0	30	25		

Toplam Yüz Yüze Ders 188
Toplam Kredi 157,0 (Türkçe ve Tarih hariç)
Toplam Teorik Ders 142,0
Toplam Uygulama ve Lab 46,0
Toplam AKTS 240

SEÇMELİ DERSLER

Teknik Seçmeli 1 - Proses									
Kodu	Ders Adı	T	U	L	K	AKTS	ÖK	DİL	DÖNEM
MKT3861	İmalat Yöntemleri	3	0	0	3,0	4	MKT1122	TR/EN	Güz
MKT3871	Proses Tekniği	3	0	0	3,0	4	MKT2832	TR/EN	Güz
Teknik Seçmeli 2 - Bilgisayar Programlama									
Kodu	Ders Adı	T	U	L	K	AKTS	ÖK	DİL	DÖNEM
MKT4811	Yapay Zekaya Giriş	2	0	2	3,0	5	MKT2151	TR/EN	Güz
MKT4813	Sistem Analizi ve Tasarımı	2	0	2	3,0	5	MKT2151	TR/EN	Güz
MKT4815	İleri Programlama	2	0	2	3,0	5	MKT2151	TR/EN	Güz
Teknik Seçmeli 3									
Kodu	Ders Adı	T	U	L	K	AKTS	ÖK	DİL	DÖNEM
MKT4818	Sayısal Sistem Tasarımı	3	0	0	3,0	4	MKT2802	TR/EN	Bahar
MKT4820	Sayısal İşaret İşleme	3	0	0	3,0	4	MKT2812	TR/EN	Bahar
MKT4821	Makine Kinematik ve Dinamiği	3	0	0	3,0	4	MKT2112	TR/EN	Güz
MKT4822	Mekatronik Mühendisliğinde Özel Konular	3	0	0	3,0	4	MKT3801	TR/EN	Bahar
MKT4823	Hassas Cihaz Tasarımı	3	0	0	3,0	4	MKT3821	TR/EN	Bahar
MKT4824	Haberleşme Sistemleri	3	0	0	3,0	4	MKT2151	TR/EN	Bahar
MKT4825	Isıl Sistem Tasarımına Giriş	3	0	0	3,0	4	MKT2832	TR/EN	Güz
MKT4826	Sensör Füzyonu	3	0	0	3,0	4	MKT3802	TR/EN	Bahar
MKT4827	Güç Elektronikleri	3	0	0	3,0	4	MKT2822	TR/EN	Güz

Teknik Seçmeli 3									
Kodu	Ders Adı	T	U	L	K	AKTS	ÖK	DİL	DÖNEM
MKT4828	Proses Kontrol	3	0	0	3,0	4	MKT3122	TR/EN	Bahar
MKT4829	Havacılığın Temelleri	3	0	0	3,0	4	MKT2822	TR/EN	Güz
MKT4830	Görüntü İşleme Temelleri	3	0	0	3,0	4	MKT2151, MAT1320	TR/EN	Bahar
MKT4831	Robot Mühendisliği	3	0	0	3,0	4	MKT2112	TR/EN	Güz
MKT4832	Medikal Mekatronik	3	0	0	3,0	4	MKT2822	TR/EN	Bahar
MKT4833	Mekanik Titreşimler	3	0	0	3,0	4	MKT3801	TR/EN	Güz
MKT4834	Taşıt Dinamiği Temelleri	3	0	0	3,0	4	MKT3801	TR/EN	Bahar
MKT4835	Endüstriyel Ölçme Sistemleri	3	0	0	3,0	4	MKT2822	TR/EN	Güz
MKT4836	Bilgisayar Destekli İmalat	3	0	0	3,0	4	MKT1811	TR/EN	Bahar
MKT4838	Endüstriyel Tasarım	3	0	0	3,0	4	MKT1811	TR/EN	Bahar
MKT4840	Aviyonik Sistemler	3	0	0	3	4	MKT2822	TR/EN	Bahar
MKT4842	Mühendisler İçin Deneysel Yöntem.	3	0	0	3,0	4	MKT3802	TR/EN	Bahar
MKT4844	Isı Geçişi	3	0	0	3,0	4	MKT2832	TR/EN	Bahar

Teknik Seçmeli - 4 Yönetim becerileri									
Kodu	Ders Adı	T	U	L	K	AKTS	ÖK	DİL	DÖNEM
MKT4845	İletişim Teknikleri	3	0	0	3,0	4	MKT1802	TR/EN	Bahar
MKT4814	Proje Yönetimi	3	0	0	3,0	4	MKT1802	TR/EN	Bahar
MKT4816	Mühendislik Ekonomisi	3	0	0	3,0	4	MKT1802	TR/EN	Bahar