

BURSA ULUDAG UNIVERSITY
2021/2022 ACADEMIC YEAR
CURRICULUM

FACULTY : FACULTY OF ENGINEERING
DEPARTMENT/ PROGRAM : DEPARTMENT OF INDUSTRIAL ENGINEERING

I.TERM/FALL SEMESTER					II.TERM/SPRING SEMESTER						
		COURSE HOUR PER WEEK					COURSE HOUR PER WEEK				
CODE	COURSE	T	A	L	ECTS	CODE	COURSE	T	A	L	ECTS
ATA101	ATATURK'S PRINCIPALS and HISTORY of REVOLUTIONS I	2			2	ATA102	ATATURK'S PRINCIPALS and HISTORY of REVOLUTIONS II	2			2
TUD101	TURKISH LANGUAGE I	2			2	TUD102	TURKISH LANGUAGE II	2			2
YAD101	FOREIGN LANGUAGE I (ENGLISH I)	2			2	YAD102	FOREIGN LANGUAGE II (ENGLISH II)	2			2
YAD111	FOREIGN LANGUAGE I (GERMAN I)	2			2	YAD112	FOREIGN LANGUAGE II (GERMAN II)	2			2
YAD121	FOREIGN LANGUAGE I (FRENCH I)	2			2	YAD122	FOREIGN LANGUAGE II (FRENCH II)	2			2
MAT1071	MATHEMATICS I	3	2	0	6	MAT1072	MATHEMATICS II	3	2	0	6
FZK1071	FUNDAMENTALS OF PHYSICS I	3	0	2	6	FZK1072	FUNDAMENTALS OF PHYSICS II	3	0	2	6
KİM1077	GENERAL CHEMISTRY	3	0	0	3	MAK1004	COMPUTER AIDED TECHNICAL DRAWING	2	2	0	4
MAK1003	TECHNICAL DRAWING	2	2	0	4	END1030	FUNDAMENTALS OF COMPUTER PROGRAMMING	2	0	2	4
END1061	INTRODUCTION TO INDUSTRIAL ENGINEERING	2	0	0	3	İKT1003	INTRODUCTION TO ECONOMICS	2	0	0	3
END1215	ACADEMIC ENGLISH	2	1	0	3	END1216	COMMUNICATION SKILLS	2	1	0	3
END1001	CAREER PLANNING*	1	0	0	1						
TERM CREDITS					31	TERM CREDITS					32

III.TERM/FALL SEMESTER					IV.TERM/SPRING SEMESTER						
		COURSE HOUR PER WEEK					COURSE HOUR PER WEEK				
CODE	COURSE	T	A	L	ECTS	CODE	COURSE	T	A	L	ECTS
MAT2098	ENGINEERING MATHEMATICS	4	0	0	6	MAT2083	DIFFERENTIAL EQUATIONS	3	2	0	6
MAK2003	STRENGTH OF MATERIALS I	3	0	0	4	END2030	INTRODUCTION TO MATHEMATICAL PROGRAMMING	3	0	0	4
MAK2005	MATERIAL SCIENCE	3	0	0	4	END2012	MANUFACTURING METHODS	2	0	0	2
ELN2060	FUNDAMENTALS OF ELECTRICAL ENGINEERING	2	0	0	3	END2024	MACHINE TOOLS	2	0	0	2
İSL1203	PRINCIPLES OF ACCOUNTING AND COST MANAGEMENT	3	0	0	3	END2028	BASIC STATISTICAL METHODS	2	0	1	3
END2027	PROBABILITY WITH APPLICATIONS	3	0	0	4	İSG202	OCCUPATIONAL HEALTH AND SAFETY II	2	0	0	2
İSG201	OCCUPATIONAL HEALTH AND SAFETY I	2	0	0	2						
END2031	VISUAL PROGRAMMING FOR INDUSTRIAL ENG. APP.	2	0	2	3						
ELECTIVE COURSES						ELECTIVE COURSES					
NON-FIELD COURSE GROUP 3 (SOCIAL ELECTIVE)		2	0	0	3	FIELD COURSE GROUP 1 (BASIC ENGINEERING ELECTIVE)		2	0	0	3
						FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3
						FIELD COURSE GROUP 7 (INFORMATICS ELECTIVE)		2	0	1	3
						FIELD COURSE GROUP 8 (SUMMER INTERNSHIP I ELECTIVE)		0	0	0	3
TERM CREDITS					32	TERM CREDITS					31

V.TERM/FALL SEMESTER					VI.TERM/SPRING SEMESTER						
		COURSE HOUR PER WEEK					COURSE HOUR PER WEEK				
CODE	COURSE	T	A	L	ECTS	CODE	COURSE	T	A	L	ECTS
END3031	NUMERICAL ANALYSIS	2	0	1	4	END3032	SYSTEMS SIMULATION	3	0	1	5
END3033	OPERATIONS RESEARCH I	3	0	1	5	END3034	OPERATIONS RESEARCH II	3	0	1	5
END3061	SYSTEMS ANALYSIS AND ENGINEERING	2	0	0	3	END3068	ENGINEERING ECONOMY	3	0	0	5
END3065	ERGONOMICS	2	1	0	3	END3070	WORK STUDY	2	0	1	4
END3069	COMPUTER INTEGRATED MANUFACTURING	2	0	2	5						
ELECTIVE COURSES						ELECTIVE COURSES					
FIELD COURSE GROUP 1 (BASIC ENGINEERING ELECTIVE)		2	0	0	3	FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3
FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3	FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)		2	0	0	3
FIELD COURSE GROUP 7 (INFORMATICS ELECTIVE)		2	0	1	3	FIELD COURSE GROUP 7 (INFORMATICS ELECTIVE)		2	0	1	3
						FIELD COURSE GROUP 9 (SUMMER INTERNSHIP II ELECTIVE)		0	0	0	3
TERM CREDITS					29	TERM CREDITS					31

VII.TERM/FALL SEMESTER					VIII.TERM/SPRING SEMESTER						
		COURSE HOUR PER WEEK					COURSE HOUR PER WEEK				
CODE	COURSE	T	A	L	ECTS	CODE	COURSE	T	A	L	ECTS
END4033	FACILITIES PLANNING	3	0	0	5	END4010	INDUSTRIAL ENGINEERING LABORATORY	0	0	3	4
END4071	PRODUCTION PLANNING AND CONTROL I	3	0	1	5	END4072	PRODUCTION PLANNING AND CONTROL II	3	0	1	5
END4073	QUALITY CONTROL	3	0	0	5	END4092	SENIOR PROJECT	0	4	0	5
END4091	INDUSTRIAL ENGINEERING PROJECT	0	3	0	3						
END4093	INDUSTRIAL ENGINEERING SEMINAR	0	1	0	2						
END4001	PROJECT INTERNSHIP	0	0	0	2						
ELECTIVE COURSES						ELECTIVE COURSES					
FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3	FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3
FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)		2	0	0	3	FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3
FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)		2	0	0	3	FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3
						FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)		2	0	0	3
						FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)		2	0	0	3
						NON-FIELD COURSE GROUP 3 (SOCIAL ELECTIVE)		2	0	0	3
TERM CREDITS					31	TERM CREDITS					32

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	ECTS
ECTS Total of Required Courses (excluding 5/1) :	174
ECTS Total of Elective Courses :	63
ECTS Total (excl. 5/1) :	237
Total ECTS Required for Graduation (incl. 5/1) :	249
ECTS Ratio of Electives/Total	%26.6

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ULUDAĞ UNIVERSITY
2021-2022 ACADEMIC YEAR
ELECTIVE COURSES LIST

FACULTY : FACULTY OF ENGINEERING

DEPARTMENT/PROGRAM : DEPARTMENT OF INDUSTRIAL ENGINEERING

I.TERM/FALL SEMESTER					II.TERM/SPRING SEMESTER						
CODE	COURSE	COURSE HOUR PER WEEK				CODE	COURSE	COURSE HOUR PER WEEK			
		T	A	L	ECTS			T	A	L	ECTS
FIELD COURSES					FIELD COURSES						
NON-FIELD COURSES					NON-FIELD COURSES						
TOTAL CREDITS					TOTAL CREDITS						

III.TERM/FALL SEMESTER					IV.TERM/SPRING SEMESTER						
CODE	COURSE	COURSE HOUR PER WEEK				CODE	COURSE	COURSE HOUR PER WEEK			
		T	A	L	ECTS			T	A	L	ECTS
FIELD COURSES					FIELD COURSES						
					FIELD COURSE GROUP 1 (BASIC ENGINEERING ELECTIVE)						
					MAK2090 INTRODUCTION TO THERMAL ENERGY SYSTEMS						
					MAK2092 INTRODUCTION TO MACHINE ELEMENTS						
					FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)						
					ISL1004 INTRODUCTION TO MANAGEMENT						
					END2018 CUSTOMER RELATIONS MANAGEMENT						
					FIELD COURSE GROUP 7 (INFORMATICS ELECTIVE)						
					END2238 OBJECT ORIENTED PROGRAMMING						
					END2040 COMPUTER PROGRAMMING III						
					FIELD COURSE GROUP 8 (SUMMER INTERNSHIP I ELECTIVE)						
					END2004 SUMMER INTERNSHIP I - PRODUCTION						
					END2006 SUMMER INTERNSHIP I - SERVICE						
NON-FIELD COURSES					NON-FIELD COURSES						
NON-FIELD COURSE GROUP 3 (SOCIAL ELECTIVE)											
END2061 INNOVATION MANAGEMENT											
To be announced by the Dean's Office											

V.TERM/FALL SEMESTER					VI.TERM/SPRING SEMESTER						
CODE	COURSE	COURSE HOUR PER WEEK				CODE	DERSİN ADI	COURSE HOUR PER WEEK			
		T	A	L	ECTS			T	A	L	ECTS
FIELD COURSES					FIELD COURSES						
FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)					FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)						
END3041 PRODUCTIVITY AND VALUE ANALYSIS					END3036 TOTAL QUALITY MANAGEMENT						
END3043 MANAGEMENT AND ORGANIZATION					END3142 INDUSTRIAL PROCESS DESIGN						
END3071 SUSTAINABILITY AND RESOURCE EFFICIENCY					END3066 ERGONOMICS II						
					END3068 INDUSTRY 4.0 TECHNOLOGIES						
FIELD COURSE GROUP 1 (BASIC ENGINEERING ELECTIVE)					FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)						
MAK4412 METROLOGY					END3236 INTRODUCTION TO DECISION ANALYSIS						
END3039 SYSTEMS DYNAMICS AND CONTROL					END3244 INTRODUCTION TO ROBOTICS						
FIELD COURSE GROUP 7 (INFORMATICS ELECTIVE)					FIELD COURSE GROUP 7 (INFORMATICS ELECTIVE)						
END3263 DATA PROCESSING IN INDUSTRIAL SYSTEMS					END3038 INTRODUCTION TO HEURISTIC ALGORITHMS						
END3239 DATABASE MANAGEMENT SYSTEMS					END3276 DYNAMIC DATABASES						
					FIELD COURSE GROUP 9 (SUMMER INTERNSHIP II ELECTIVE)						
					END3004 SUMMER INTERNSHIP II - PRODUCTION						
					END3006 SUMMER INTERNSHIP II - SERVICE						
NON-FIELD COURSES					NON-FIELD COURSES						

VII.TERM/FALL SEMESTER					VIII.TERM/SPRING SEMESTER						
CODE	COURSE	COURSE HOUR PER WEEK				CODE	COURSE	COURSE HOUR PER WEEK			
		T	A	L	ECTS			T	A	L	ECTS
FIELD COURSES					FIELD COURSES						
FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)					FIELD COURSE GROUP 5 (INDUSTRIAL ENGINEERING ELECTIVE-TR)						
END4049 SERVICE SYSTEMS DESIGN AND MANAGEMENT					END4058 PROJECT MANAGEMENT						
END4075 LEAN PRODUCTION					END4060 INVESTMENT PLANNING						
END4069 FINANCIAL ENGINEERING					END4062 HUMAN RESOURCES MANAGEMENT						
END4283 SPECIAL TOPICS IN VEHICLE ROUTING					END4074 MANUFACTURING RESOURCE PLANNING						
					END4066 APPLIED OCCUPATIONAL HEALTH AND SAFETY						
FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)					FIELD COURSE GROUP 6 (INDUSTRIAL ENGINEERING ELECTIVE-EN)						
END4267 LOGISTICS MANAGEMENT					END4236 MAINTENANCE MANAGEMENT						
END4277 FORECASTING METHODS					END4276 PRODUCTION SCHEDULING						
END4279 APPLIED MATHEMATICAL MODELLING					END4278 SUPPLY CHAIN DESIGN						
END4201 INDUSTRIAL PRODUCT DESIGN											
END4281 APPLIED DATA MINING											
NON-FIELD COURSES					NON-FIELD COURSES						
NON-FIELD COURSE GROUP 3 (SOCIAL ELECTIVE)											
To be announced by the Dean's Office											
TOTAL CREDITS					TOTAL CREDITS						

BURSA ULUDAĞ ÜNİVERSİTESİ
2021/2022 EĞİTİM-ÖĞRETİM YILI
DERS PLANLARI

FAKÜLTE/KONSERVATUAR/YÜKSEKOKUL : MÜHENDİSLİK FAKÜLTESİ
BÖLÜM/ PROGRAM : ENDÜSTRİ MÜHENDİSLİĞİ BÖLÜMÜ

ÖN KOŞULLU DERSLER LİSTESİ										Uygulama Esasları (*)	Gerekeç (**)		
Kodu	Alınacak Ders	Haftalık Ders Saati				Kodu	Ön Koşullu Ders	Haftalık Ders Saati					
		T	U	L	AKTS			T	U	L	AKTS		
END3033	OPERATIONS RESEARCH I	3	0	1	5	END2030	INTRODUCTION TO MATHEMATICAL PROGRAMMING	3	0	0	4		1
END3034	OPERATIONS RESEARCH II	3	0	1	5	END3033	OPERATIONS RESEARCH I	3	0	1	5		2
END3032	SYSTEMS SIMULATION	3	0	1	5	END2031	VISUAL PROGRAMMING FOR INDUSTRIAL ENG. APP.	2	0	2	3		3
						END2028	BASIC STATISTICAL METHODS	2	0	1	3		4
END4093	ENDÜSTRİ MÜHENDİSLİĞİ SEMİNERİ	0	1	0	2	END2031	VISUAL PROGRAMMING FOR INDUSTRIAL ENG. APP.	2	0	2	3		5
						END2030	INTRODUCTION TO MATHEMATICAL PROGRAMMING	3	0	0	4		
						END2028	BASIC STATISTICAL METHODS	2	0	1	3		
						END3061	SİSTEM ANALİZİ VE MÜHENDİSLİĞİ	2	0	0	3		
END2237	OBJECT ORIENTED PROGRAMMING	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END3201	INDUSTRIAL PRODUCT DESIGN	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END3244	INTRODUCTION TO ROBOTICS	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END3239	DATABASE MANAGEMENT SYSTEMS	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END3263	DATA PROCESSING IN INDUSTRIAL SYSTEMS	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4267	LOGISTICS MANAGEMENT	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END3276	DYNAMIC DATABASES	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4236	MAINTENANCE MANAGEMENT	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4276	PRODUCTION SCHEDULING	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4277	FORECASTING METHODS	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4278	SUPPLY CHAIN DESIGN	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4279	APPLIED MATHEMATICAL MODELLING	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END4281	APPLIED DATA MINING	1	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						6
END1215	ACADEMIC ENGLISH	2	1	0	3		İngilizce Zorunlu Hazırlık Sınıfı						7
END1216	COMMUNICATION SKILLS	2	0	0	3		İngilizce Zorunlu Hazırlık Sınıfı						7
END1030	FUNDAMENTALS OF COMPUTER PROGRAMMING	2	0	2	4		İngilizce Zorunlu Hazırlık Sınıfı						7
END1016	VISUAL PROGRAMMING FOR INDUSTRIAL ENG. APP.	2	0	2	3		İngilizce Zorunlu Hazırlık Sınıfı						7
END2027	PROBABILITY WITH APPLICATIONS	3	0	0	4		İngilizce Zorunlu Hazırlık Sınıfı						7
END2028	BASIC STATISTICAL METHODS	2	0	1	3		İngilizce Zorunlu Hazırlık Sınıfı						7
END2030	INTRODUCTION TO MATHEMATICAL PROGRAMMING	3	0	0	4		İngilizce Zorunlu Hazırlık Sınıfı						7
END3032	SYSTEMS SIMULATION	3	0	1	5		İngilizce Zorunlu Hazırlık Sınıfı						7
END3069	COMPUTER INTEGRATED MANUFACTURING	2	0	2	5		İngilizce Zorunlu Hazırlık Sınıfı						7
END4071	PRODUCTION PLANNING AND CONTROL I	3	0	1	5		İngilizce Zorunlu Hazırlık Sınıfı						7
END4072	PRODUCTION PLANNING AND CONTROL II	3	0	1	5		İngilizce Zorunlu Hazırlık Sınıfı						7
END4073	QUALITY CONTROL	3	0	0	5		İngilizce Zorunlu Hazırlık Sınıfı						7

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AÇIKLAMA: (*) Her değişiklikle giriş yılı farklı olan öğrenciler için uygulama esaslarının açıkça belirtilmesi.
()** Form 4'ün gerekçelerinin tablo ekinde metin olarak belirtilmesi.

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ÖN KOŞULLU DERS GEREKÇELERİ	
Gerekeç	Açıklama
** (1)	OPERATIONS RESEARCH I dersinde anlatılan çözüm teknikleri INTRODUCTION TO MATHEMATICAL PROGRAMMING dersi bilgisini gerektirmektedir.
** (2)	OPERATIONS RESEARCH II dersinde anlatılan çözüm teknikleri OPERATIONS RESEARCH I dersinde anlatılan yöntemlere dayalıdır.
** (3)	SYSTEMS SIMULATION dersinde yapılan uygulamalar bilgisayar programlama bilgisini gerektirmektedir.
** (4)	SYSTEMS SIMULATION dersinde kullanılan istatistiksel yöntemler BASIC STATISTICAL METHODS dersinde öğrenilen bilgilere dayalıdır.
** (5)	ENDÜSTRİ MÜHENDİSLİĞİ SEMİNERİ dersinde gerçek endüstriyel bir problemin incelenmesi, tanımlanması, çözüm yönteminin belirlenmesi ve geliştirilmesi için sistem analizi, bilgisayar programlama, matematiksel modelleme veya istatistiksel yöntemler konularında öğrencilerin bilgi sahibi olmaları gerekmektedir. Bu nedenle, Bahar döneminde BİTİRME PROJESİ dersine kayıt yaptırabilmek için Güz döneminde alınması gereken ENDÜSTRİ MÜHENDİSLİĞİ SEMİNERİ dersine kayıt önkoşulu olarak VISUAL PROGRAMMING FOR INDUSTRIAL ENG. APP., INTRODUCTION TO MATHEMATICAL PROGRAMMING, BASIC STATISTICAL METHODS ve SİSTEM ANALİZİ VE MÜHENDİSLİĞİ derslerinin başarılı olarak tamamlanmış olması gerekmektedir.
** (6)	İngilizce Zorunlu Hazırlık Sınıfından muaf olunması halinde alınabilecek ve İngilizce olarak okutulan seçmeli dersler
** (7)	İngilizce Zorunlu Hazırlık Sınıfından muaf olunması halinde alınabilecek ve İngilizce olarak okutulan zorunlu dersler

BURSA ULUDAĞ ÜNİVERSİTESİ
2021/2022 EĞİTİM-ÖĞRETİM YILI
ALAN DIŐI SEÇMELİ DERSLER

FAKÜLTE/KONSERVATUAR/YÜKSEKOKUL : MÜHENDİSLİK FAKÜLTESİ
 BÖLÜM/ PROGRAM : ENDÜSTRİ MÜHENDİSLİĞİ BÖLÜMÜ

Kod	Dersin Adı	Haftalık Ders Saati			AKTS
		T	U	L	
IIB1003	TÜRKİYE EKONOMİSİ	2	0	0	3
IIB2001	KAMU MALİYESİ	2	0	0	3
IIB4006	HALKLA İLİŐKİLER	2	0	0	3
IIB4009	GENEL MUHASEBE	2	0	0	3
IIB5004	KAMU YÖNETİMİ	2	0	0	3
IIB6002	ULUSLARARASI İLİŐKİLER	2	0	0	3
IIB7003	ALTI SİGMA	2	0	0	3
TEK4301	BRİÇ	2	0	0	3
IIB6001	AVRUPA BİRLİĞİ MEVZUATI	2	0	0	3
MAK2027	MÜHENDİSLİK ETİĞİ	2	0	0	3
MAK3028	PATENT ve ENDÜSTRİYEL TASARIM	2	0	0	3
MAK3023NÖ	BİLİM ve TEKNOLOJİ TARİHİ	2	0	0	3

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AÇIKLAMA: Programa kayıtlı öğrencilere diđer bölümler tarafından verilecek alandıő dersler yazılacaktır.

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