

GTÜ Makine Mühendisliği Ders Planı

29.08.2023 tarih ve 2023/04-02 sayılı Fakülte Kurulu Kararı ve 07.09.2023 tarih 2023/26-04 sayılı Senato Kararı, 27.02.2024 tarih ve 2024/02-02,03 sayılı Fakülte Kurulu Kararları ve 29.02.2024 tarih 2024/07-03,04 sayılı Senato Kararları

1. Yıl Güz Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
MATH 101 Calculus I	5	7	4	2	0	TB
PHYS 121 Physics I	4	6	4	0	0	TB
PHYS 151 Physics Lab I	1	1	0	0	2	TB
CHEM 101 General Chemistry I	3	5	3	0	0	TB
CHEM 113 General Chemistry Lab I	1	1	0	0	2	TB
ME 101 Intro to Mechanical Engineering and Career Planning	2,5	5	2	0	1	TM
ME 104 Computer Aided Drawing	3	4	2	0	2	TM
ME 107 Computational Sys. in Mech Eng.	2,5	3	2	1	0	TM
Toplam	22	32				

1. Yıl Bahar Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
MATH 102 Calculus II	5	7	4	2	0	TB
PHYS 122 Physics II	4	6	4	0	0	TB
PHYS 152 Physics Lab II	1	1	0	0	2	TB
MATH 116 Linear Algebra	3	5	3	0	0	TB
ME 102 Mechanical Eng Freshman Project	0,5	2	0	1	0	MT
ENG 250 Economics	3	3	3	0	0	SOS
ME 108 Advanced Programming in Mech. Eng.	3	4	2	0	2	TM
Toplam	19,5	28				

2. Yıl Güz Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
MATH 215 Differential Equations	3	5	2	2	0	TB
ME 209 Engineering Statistics	2,5	4	2	1	0	TB
ME 211 Materials Science for Engineers	4	6	4	0	0	TM
ME 231 Statics	3	5	3	0	0	TM
ME 241 Principles of Thermodynamics	3,5	5	3	1	0	TM
TUR 101 Turkish I	2	2	2	0	0	GE
ENG 401 Occupational Health and Safety I	1	1	1	0	0	GE
Toplam	19	28				

2. Yıl Bahar Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
MATH 214 Numerical Methods	3	5	3	0	0	TB
ME 212 Strength of Materials	4	6	4	0	0	MT
ME 242 Applications of Thermodynamics	3	4	2	2	0	MT
ME 234 Electrical and Electronic Systems	4	6	3	0	2	TM
ME 232 Dynamics	3,5	5	3	1	0	TM
TUR 102 Turkish II	2	2	2	0	0	GE
ENG 402 Occupational Health and Safety II	1	1	1	0	0	GE
Non-Technical Elective	2	3	2	0	0	SOS
Toplam	22,5	32				

3. Yıl Güz Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
ME 321 Manufacturing Processes	3	5	3	0	0	MT
ME 323 Design of Machine Elements I	3,5	6	3	1	0	MT
ME 331 System Dynamics and Vibration	3	5	3	0	0	TM
ME 341 Fluid Mechanics	4	6	4	0	0	TM
HİS 101 Principles of Atatürk and The History of Turkish Revolution I	2	2	2	0	0	GE
ENG 300 Summer Practice I	0,5	1	0	1	0	TM
Non-Technical Elective	2	3	2	0	0	SOS
Toplam	18	28				

3. Yıl Bahar Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
ME 304 Measurement and Instrumentation	3	4	3	0	0	TM
ME 332 Control Systems Theory	3	5	3	0	0	MT
ME 342 Heat Transfer	3	5	3	0	0	TM
ENG 111 Business English	2	2	2	0	0	GE
HİS 102 Principles of Atatürk and The History of Turkish Revolution II	2	2	2	0	0	GE
ME 334 Machine Theory	3	5	3	0	0	MT
ME 324 Design of Machine Elements II	3	5	3	0	0	MT
Technical Elective	3	4	3	0	0	TB
Toplam	22	32				

4. Yıl Güz Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
ME 491 Graduation Project I	2	6	0	4	0	MT
ENG 112 Academic English	2	2	2	0	0	GE
ENG 400 Summer Practice II	0,5	1	0	1	0	TM
ME Elective (Design) II	3,5	6	3	1	0	MT
ME Elective (Computational) III	3,5	6	3	1	0	MT
ME Elective I	3	5	3	0	0	MT
ME 401 Mechanical Engineering Laboratory	1,5	4	0	0	3	MT
Toplam	16	30				

4. Yıl Bahar Dönemi

Kod Ders	Kredi	ECTS	T	U	L	Türü
ME 492 Graduation Project II	2	6	0	4	0	MT
ME Elective I	3	5	3	0	0	MT
ME Elective I	3	5	3	0	0	MT
ME Elective I	3	5	3	0	0	MT
ME Elective I	3	5	3	0	0	MT
Technical Elective	3	4	3	0	0	TM/MT/TB
Toplam	17	30				

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ME 492 Graduation Project II	6	0	4	0	0	MT
ENG 498 Industrial Applications	24	0	0	0	0	MT

ME Elective

Technical Elective

Non-Technical Elective

TOPLAM AKTS

240

Bölüm Dersleri 154

Diğer Müh. Dersleri 9

Abet Matematik ve Temel Bilim 60 >60

YÖK YÖK Dersleri 23 zorunlu

AKTS Seçmeli Dersler 51 >=60

Toplam Kredi 156

Bölüm Zorunlu

Ders Kodu	Ön Şart
ME 101	YOK
ME 102	YOK
ME 104	YOK
ME 107	YOK
ME 108	YOK
MATH 102	MATH 102 (minimum DD)
ME 209	YOK
ME 211	YOK
ME 212	YOK
ME 231	YOK
ME 232	ME231 (minimum DD)
ME 241	YOK
ME 242	ME241 (minimum DD)
ME 304	ME209 (minimum DD)
ME 321	YOK
ME 322	ME232 (minimum DD)
ME 323	ME212 (minimum DD)
ME 331	YOK
ME 332	ME331 (minimum DD)
ME 341	YOK
ME 342	ME241 (minimum DD)
ME 491	minimum 160 AKTS
ME 492	minimum 200 AKTS, ME 491 (minimum DD)

Bölüm Seçmeli I / ME Elective I

Ders Kodu	Ders Adı	Ön Şart
ME 302	Optimization in Eng. Systems	MATH214 (minimum DD)
ME 314	Introduction to Composite Materials	ME212, ME231 (minimum DD)
ME 344	Aerodynamics	MATH215, ME232, ME341 (minimum DD)
ME 402	Introduction to Finite Element Analysis	MATH116, ME212, ME342 (minimum DD)
ME 444	Refrigeration Technology	ME242 (minimum DD)
ME 412	Machining	ME 321 (minimum DD)
ME 414	Polymers and Polymer Processing Techniques	ME 211 (minimum DD) ME 321 (minimum DD)
ME418	Introduction to Fracture Mechanics	ME 212 (Minimum DD)
ME434	Introduction to Robotics	ME 232 (Minimum DD)
ME 442	Energy Storage	
ME 422	Applied Strength of Materials	ME 212 (minimum DD)
ME 445	Fundamentals of Turbomachinery Design	
ME 447	Heating, Ventilating and Air Conditioning	ME342 (minimum DD)
ME 451	Thermofluids System Design	
ME431	Control Systems Design	ME332 (Minimum DD)
ME403	Mechanical systems Design	ME323 (Minimum DD)
ME432	Mechatronic System Design	ME 234 (minimum DD)
ME 541	Heat Exchanger Design	ME342 (minimum DD)
ME 550	Design, Analysis and Optimization of Thermal Systems	ME342 (minimum DD)
ME 441	Fundamentals of Computational Fluid Dynamics	ME341 (minimum DD)
ME 449	Introduction to Turbulence	ME341 (minimum DD)
ME 443	Multiphysics Modeling	
ME405	Applications of Finite element Analysis	MATH 215 (Minimum DD)
ME 407	Computational Applications in Mechanical Engineering	MATH215 (minimum DD)
ME433	Multibody Dynamics	ME 212, MATH 214, MATH 215 (Minimum DD)
ME459	Fundamentals of Molecular Simulations	ME 241 MATH 214 MATH 215 (Minimum DD)
AERO 346	Gas Dynamics	

Bölüm Seçmeli II (Tasarım) / ME Elective (Design) II

Ders Kodu	Ders Adı	Ön Şart
ME 445	Fundamentals of Turbomachinery Design	
ME 447	Heating, Ventilating and Air Conditioning	ME342 (minimum DD)
ME 451	Thermofluids System Design	
ME431	Control Systems Design	ME332 (Minimum DD)
ME403	Mechanical systems Design	ME323 (Minimum DD)
ME432	Mechatronic System Design	ME 234 (minimum DD)
ME 541	Heat Exchanger Design	ME342 (minimum DD)
ME 550	Design, Analysis and Optimization of Thermal Systems	ME342 (minimum DD)

Bölüm Seçmeli (Hesaplamalı) III / ME Elective (Computational) III

Ders Kodu	Ders Adı	Ön Şart
ME 441	Fundamentals of Computational Fluid Dynamics	ME341 (minimum DD)
ME 449	Introduction to Turbulence	ME341 (minimum DD)
ME 443	Multiphysics Modeling	
ME405	Applications of Finite element Analysis	MATH 215 (Minimum DD)
ME 407	Computational Applications in Mechanical Engineering	MATH215 (minimum DD)
ME433	Multibody Dynamics	ME 212, MATH 214, MATH 215 (Minimum DD)
ME459	Fundamentals of Molecular Simulations	ME 241 MATH 214 MATH 215 (Minimum DD)