

**Çankaya University Mechanical Engineering Department Bachelor's Science Curriculum**

**FRESHMAN YEAR (FIRST YEAR)**

Semester 1					Semester 2				
Code	Course Title	(T R) C	ECTS	Preq	Code	Course Title	(T R) C	ECTS	Preq
ME113	Computer Aided Engineering Drawing I	(2 2) 3	6	-	ME102	Mechanical Engineering Orientation	(2 0) 2	3	-
ME198	Computational Tools for Mechanical Engineers	(2 2) 3	5	-	ME114	Computer Aided Engineering Drawing II	(2 2) 3	4	ME113
MATH 155	Calculus for Engineering I	(3 2) 4	5	-	MATH 156	Calculus for Engineering II	(3 2) 4	5	MATH 155
PHYS131	Physics I	(3 2) 4	6	-	CHEM103	Chemistry for Engineering	(3 2) 4	5	-
ENG121	Academic English I	(2 2) 3	4	-	ENG122	Academic English II	(2 2) 3	4	-
ESR101	Ethics and Social Responsibility	(1 0) 1	1	-	PHYS132	Physics II	(3 2) 4	6	-
TURK101	Turkish I	(2 0) 2	3	-	TURK102	Turkish I	(2 0) 2	3	-
<b>Total</b>	<b>7 course</b>	<b>(15 10) 20</b>	<b>30</b>		<b>Total</b>	<b>7 course</b>	<b>(17 10) 22</b>	<b>30</b>	

**SOPHOMORE YEAR (SECOND YEAR)**

Semester 3					Semester 4				
Code	Course Title	(T R) C	ECTS	Preq	Code	Course Title	(T R) C	ECTS	Preq
ME 203	Statics	(3 0) 3	6	PHYS131	ME 202	Strength of Materials	(3 0) 3	5	ME203
ME 211	Thermodynamics I	(3 0) 3	5	PHYS131 MATH155	ME 206	Dynamics	(3 0) 3	4	ME203
MSE 225	Introduction to Materials Science	(3 2) 4	6	PHYS131	ME 210	Manufacturing Processes	(3 2) 4	5	ME114
MATH 258	Introduction to Differential Equations	(2 2) 3	4	MATH 155	ME 212	Thermodynamics II	(3 0) 3	7	ME211
ECE 281	Electrical Circuits and Instrumentation + Laboratory	(2 2) 3	6	PHYS132	MSE 226	Engineering Materials	(3 0) 3	5	MSE 225
ENG 221	Advanced Writing Skills	(2 0) 2	3	-	MATH 255	Vector Calculus and Linear Algebra	(2 2) 3	4	MATH156
<b>Total</b>	<b>6 course</b>	<b>(15 6) 18</b>	<b>30</b>		<b>Total</b>	<b>6 course</b>	<b>(17 4) 19</b>	<b>30</b>	

**JUNIOR YEAR (THIRD YEAR)**

Semester 5					Semester 6				
Code	Course Title	(T R) C	ECTS	Preq	Code	Course Title	(T R) C	ECTS	Preq
ME 301	Theory of Machines I	(3 0) 3	4	ME206	ME 302	Theory of Machines II	(3 0) 3	5	ME301
ME 303	Fluid Mechanics I	(3 0) 3	4	-	ME 304	Fluid Mechanics II	(3 0) 3	5	ME303
ME 307	Machine Elements I	(3 0) 3	5	ME202	ME 308	Machine Elements II	(3 0) 3	5	ME307
ME 313	Heat Transfer	(4 0) 4	4	ME211	ECE 386	Introduction to Automatic Control	(3 0) 3	5	MATH258
ME 331	Numerical Methods for Mechanical Engineers	(3 0) 3	5	MATH258	ME312	Experimentation and Measurement	(3 2) 4	5	ECE281
	Social Elective <sup>1</sup>	(3 0) 2	3	-		Restricted Elective <sup>2</sup>	(3 0) 3	5	ME331 + other prq
ME 200	Summer Training I	(0 0) 0	5	ME210					
<b>Total</b>	<b>6 course</b>	<b>(19 0) 19</b>	<b>30</b>		<b>Total</b>	<b>6 course</b>	<b>(18 2) 19</b>	<b>30</b>	

**SENIOR YEAR (FOURTH YEAR)**

Semester 7					Semester 8				
Code	Course Title	(T R) C	ECTS	Preq	Code	Course Title	(T R) C	ECTS	Preq
ME 407	Innovative Engineering Analysis and Design	(1 4) 3	4	***	ME 408	Innovative Eng Design and Imp	(2 4) 4	8	ME407
ME 413	Mechanical Engineering Laboratory I	(1 4) 3	5	ME202 ME312	ME 414	Mechanical Engineering Laboratory II	(1 4) 3	5	ME303 ME312 ME313
	Technical Elective I <sup>3</sup>	(3 0) 3	5		IE345	Engineering Economy	(3 0) 3	4	
	Technical Elective II <sup>3</sup>	(3 0) 3	5			Technical Elective III <sup>3</sup>	(3 0) 3	5	
ME431	System Dynamics	(3 0) 3	3	MATH258 ME206		Technical Elective IV <sup>3</sup>	(3 0) 3	5	
ME 300	Summer Training II	(0 0) 0	5	ME200	HIST 202	Principles of Atatürk and Hist of Turk Rev II	(2 0) 2	3	-
HIST 201	Principles of Atatürk and Hist of Turk Rev I	(2 0) 2	3	-	<b>Total</b>	<b>6 course</b>	<b>(14 8) 18</b>	<b>30</b>	
<b>Total</b>	<b>6 course</b>	<b>(13 8) 17</b>	<b>30</b>		<b>Total Number of Courses: 50</b>	<b>Total Credit: 152</b>	<b>Total Class Hour: 176</b>	<b>Total ECTS: 240</b>	

<sup>1</sup>: One course should be taken from ME department Social Elective Courses.

Students should take at least one course among ME 402 "Introduction to Finite Element Analysis" and ME 463 "Computational Fluid Dynamics".

<sup>3</sup>: Students must take at least one course from Thermal System Design Group Courses and at least one course from Mechanical System Design Group Courses to fulfill the thermal and mechanical systems design criteria. (Student who started to take the First Year courses before 2017-2018 Academic Year should take one course from Thermal System Design Courses if his/her ME407 design project is about a mechanical system; should take one course from Mechanical System Design Courses if his/her ME407 design project is about a thermal system.) One course can be taken from another engineering department subject to approval of the department.

\*\*\*: For mechanical projects ME301, ME307, ME402. For thermo-fluid projects ME304, ME313, ME463.

**Note:** Construction Machinery Option students must take ME402 "Introduction to Finite Element Analysis", ME423 "Industrial Fluid Power" and ME424 "Introduction to Construction Machinery" courses as Technical Electives.