

# MECHATRONICS ENGINEERING DEPARTMENT BACHELOR'S SCIENCE CURRICULUM

## FRESHMAN YEAR

### 1. Semester

<b>Course Code</b>	<b>Course Title</b>	<b>T</b>	<b>R</b>	<b>C</b>	<b>ECTS</b>
CENG 161	Introduction to Computer Science + Lab.	3	2	4	5
ENG 121	Academic English I	2	2	3	4
MCS 155	Calculus for Engineering I	3	2	4	5
PHYS 131	Physics I	3	2	4	6
TURK 101	Turkish I	2	0	2	3
ESR 101	Ethics and Social Responsibility	1	0	1	1
ME 113	Computer Aided Engineering Drawing I	2	2	3	6
Total 7 courses		16	10	21	30

### 2. Semester

<b>Course Code</b>	<b>Course Title</b>	<b>T</b>	<b>R</b>	<b>C</b>	<b>ECTS</b>
ME 114	Computer Aided Engineering Drawing II	2	2	3	4
CENG 162	Computer Programming I + Lab.	3	2	4	5
ENG 122	Academic English II	2	2	3	4
MCS 156	Calculus for Engineering II	3	2	4	5
PHYS 132	Physics II	3	2	4	6
TURK 102	Turkish II	2	0	2	3
MECE 102	Introduction to Mechatronics Engineering	0	2	1	3
Total 7 courses		15	12	21	30

## SOPHMORE YEAR

### 3. Semester

Course Code	Course Title	T	R	C	ECTS
ME 203	Statics	3	0	3	6
<b>ME 210</b>	<b>Manufacturing Processes</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>5</b>
ECE 307	Probability and Random Processes	3	0	3	4
ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
ECE 223	Digital Design I + Lab.	3	2	4	4
MCS 258	Introduction to Differential Equation	2	2	3	4
<b>ENG 221</b>	<b>Advanced Writing Skills</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>
Total 7 courses		19	8	23	30

### 4. Semester

Course Code	Course Title	T	R	C	ECTS
ME 206	Dynamics	3	0	3	<b>4</b>
ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
<b>ENG 222</b>	<b>Academic Presentation Skills</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>
ME 202	Strength of Materials	3	0	3	<b>5</b>
ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
MCS 255	Vector Calculus and Linear Algebra	2	2	3	4
ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
Total 7 courses		19	8	23	30

## JUNIOR YEAR

## 5. Semester

Course Code	Course Title	T	R	C	ECTS
ME 307	Machine Elements I	3	0	3	5
Elective	Free Elective I	3	0	3	3
MSE 235	Materials Science for Electronics	3	0	3	4
ECE 347	Electronics + Lab.	3	2	4	6
<b>ME 301</b>	<b>Kinematics of Machinery</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>4</b>
<b>Elective</b>	<b>Free Elective II</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>3</b>
MECE 200	Summer Training I	0	0	0	5
Total 7 courses		18	2	19	30

## 6. Semester

Course Code	Course Title	T	R	C	ECTS
ECE 388	Automatic Control System + Lab.	2	2	3	5
<b>ME 211</b>	<b>Thermodynamics I</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>5</b>
Elective	Technical Elective I*	3	0	3	<b>5</b>
MECE 302	Sensors and Measurement	2	2	3	6
ECE 336	Microprocessors I + Lab.	3	2	4	5
ECE 240	Electromechanical Energy Conversion	3	0	3	4
Total 6 courses		16	6	19	30

## SENIOR YEAR

## 7. Semester

Course Code	Course Title	T	R	C	ECTS
IE 345	Engineering Economy	3	0	3	4
Elective	Technical Elective II*	3	0	3	5
Elective	Technical Elective III*	3	0	3	5
MECE 401	Introduction to Robotics	3	2	4	5
MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
HIST 201	Principles of Kemal Atatürk	2	0	2	3
MECE 300	Summer Training II	0	0	0	5
Total 7 courses		15	4	17	30

## 8. Semester

Course Code	Course Title	T	R	C	ECTS
HIST 202	Principles of Kemal Atatürk II	2	0	2	3
Elective	Technical Elective IV*	3	0	3	5
Elective	Technical Elective V*	3	0	3	5
Elective	Technical Elective VI*	3	0	3	5
Elective	Technical Elective VII*	3	0	3	5
IE 446	Project Engineering Management	3	0	3	4
MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
Total 7 courses		18	2	19	30

	<b>TOTAL CREDIT</b>	<b>136</b>	<b>52</b>	<b>162</b>	<b>240</b>
--	---------------------	------------	-----------	------------	------------

\* In Technical Elective courses, in addition to Mechatronics Engineering (MECE) courses, there are also some must and elective courses of Mechanical Engineering (ME), Electronics and Communication Engineering (ECE), Computer Engineering (CENG), Electrical and Electronics Engineering (EE), Materials Science and Engineering (MSE) and Industrial Engineering (IE). But at least 4 of the 7 Technical Elective courses must be taken from Mechatronics Engineering (MECE) or Mechanical Engineering (ME) or Electronics and Communication Engineering (ECE) or Electrical and Electronics Engineering Departments subjected to approval of the department.