

MECHATRONICS ENGINEERING DOUBLE MAJOR AND MINOR PROGRAM

A) DOUBLE MAJOR PROGRAMS:

Department of Mechanical Engineering

(13 compulsory courses and 2 elective courses non-coded ME, a total of 15 courses)

	Course Code	Course Title	T	R	C	ECTS
1	ECE 307	Probability and Random Processes	3	0	3	4
2	ECE 223	Digital Design I + Lab.	3	2	4	4
3	ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
4	ECE 240	Electromechanical Energy Conversion	3	0	3	4
5	ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
6	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
7	ECE 336	Microprocessors I + Lab.	3	2	4	5
8	ECE 347	Electronics + Lab.	3	2	4	6
9	MECE 302	Sensors and Measurement	2	2	3	4
10	MECE 401	Introduction to Robotics	3	2	4	5
11	MECE 200	Summer Training I	0	0	0	5
12	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
13	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
14		Engineering Elective (MECE, IE, ECE, CENG, MSE)	3	0	3	
15		Engineering Elective (MECE, IE, ECE, CENG, MSE)	3	0	3	
		TOPLAM KREDİ			47	

- Mechanical Engineering students must do MECE 200 summer training in a corporation related to Electronic Engineering.

Department of Electronics and Communication Engineering

(16 compulsory courses, 2 elective courses non-ECE coded, a total of 18 courses)

	Course Code	Course Title	T	R	C	ECTS
1	ME 113	Computer Aided Engineering Drawing I	2	2	3	6
2	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
3	ME 211	Thermodynamics I	3	0	3	5
4	ME 203	Statics	3	0	3	6
5	ME 206	Dynamics	3	0	3	4
6	ME 202	Strength of Materials	3	0	3	5
7	ME 307	Machine Elements I	3	0	3	5
8	ME 210	Manufacturing Technologies	3	2	4	5
9	ME 301	Kinematics of Machinery	3	0	3	4
10	MECE 302	Sensors and Measurement	2	2	3	4
11	MECE 401	Introduction to Robotics	3	2	4	5
12	IE 345	Engineering Economy	3	0	3	4
13	MECE 200	Summer Training I	0	0	0	5
14	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
15	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
16	IE 446	Project Engineering Management	3	0	3	4
17		Engineering Elective (MECE, IE, ME, CENG, MSE)	3	0	3	
18		Engineering Elective (MECE, IE, ME, CENG, MSE)	3	0	3	
		TOPLAM KREDİ			51	

- Electronics and Communication Engineering students must do MECE 200 summer training in a corporation related to Mechanical Engineering.

Department of Computer Engineering

(22 compulsory courses, 2 technical elective courses non-CENG coded, a total of 24)

	Course Code	Course Title	T	R	C	ECTS
1	ME 113	Computer Aided Engineering Drawing I	2	2	3	6
2	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
3	ME 211	Thermodynamics I	3	0	3	5
4	ME 210	Manufacturing Technologies	3	2	4	5
5	ME 203	Statics	3	0	3	6
6	ME 206	Dynamics	3	0	3	4
7	ME 202	Strength of Materials	3	0	3	5
8	ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
9	ECE 240	Electromechanical Energy Conversion	3	0	3	4
10	ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
11	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
12	ECE 347	Electronics + Lab.	3	2	4	6
13	MECE 200	Summer Training I	0	0	0	5
14	MECE 302	Sensors and Measurement	2	2	3	4
15	MECE 401	Introduction to Robotics	3	2	4	5
16	ME 307	Machine Elements I	3	0	3	5
17	ME 301	Kinematics of Machinery	3	0	3	4
18	ECE 388	Automatic Control + Lab.	2	2	3	5
19	IE 345	Engineering Economy	3	0	3	4
20	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
21	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
22	IE 446	Project Engineering Management	3	0	3	4
23		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
24		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
		TOPLAM KREDİ			73	

- Computer Engineering students must do MECE 200 summer training in a corporation related to Mechatronics Engineering.

Department of Industrial Engineering

(20 compulsory courses, 2 technical electives courses non-IE coded, a total of 22 courses)

	Course Code	Course Title	T	R	C	ECTS
1	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
2	ME 203	Statics	3	0	3	6
3	ME 206	Dynamics	3	0	3	4
4	ME 202	Strength of Materials	3	0	3	5
5	ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
6	ECE 223	Digital Design I + Lab.	3	2	4	4
7	ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
8	ECE 240	Electromechanical Energy Conversion	3	0	3	4
9	ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
10	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
11	ECE 347	Electronics + Lab.	3	2	4	6
12	ECE 336	Microprocessors I + Lab.	3	2	4	5
13	MECE 200	Summer Training I	0	0	0	5
14	MECE 302	Sensors and Measurement	2	2	3	4
15	MECE 401	Introduction to Robotics	3	2	4	5
16	ME 307	Machine Elements I	3	0	3	5
17	ME 301	Kinematics of Machinery	3	0	3	4
18	ECE 388	Automatic Control + Lab.	2	2	3	5
19	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
20	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
21		Engineering Elective (MECE, ECE, ME, CENG, MSE)	3	0	3	
22		Engineering Elective (MECE, ECE, ME, CENG, MSE)	3	0	3	
		TOPLAM KREDİ			69	

- Industrial Engineering students must do MECE 200 summer training in a corporation related to Mechatronics Engineering.

Materials Science and Engineering Department

(19 compulsory courses, 2 technical electives courses non-MSE coded, a total of 21 courses)

	Course Code	Course Title	T	R	C	ECTS
1	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
2	ME 203	Statics	3	0	3	6
3	ME 206	Dynamics	3	0	3	4
4	ME 202	Strength of Materials	3	0	3	5
5	ECE 223	Digital Design I + Lab.	3	2	4	4
6	ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
7	ECE 240	Electromechanical Energy Conversion	3	0	3	4
8	ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
9	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
10	ECE 347	Electronics + Lab.	3	2	4	6
11	ECE 336	Microprocessors I + Lab.	3	2	4	5
12	MECE 200	Summer Training I	0	0	0	5
13	MECE 302	Sensors and Measurement	2	2	3	4
14	MECE 401	Introduction to Robotics	3	2	4	5
15	ME 307	Machine Elements I	3	0	3	5
16	ME 301	Kinematics of Machinery	3	0	3	4
17	ECE 388	Automatic Control + Lab.	2	2	3	5
18	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
19	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
20		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
21		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
		TOPLAM KREDİ			65	

- Material Science and Engineering students must do MECE 200 summer training in a corporation related to Mechatronics Engineering.

Department of Civil Engineering

(21 compulsory courses, 2 technical elective courses, a total of 23 courses)

	Course Code	Course Title	T	R	C	ECTS
1	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
2	ME 210	Manufacturing Technologies	3	2	4	5
3	ME 211	Thermodynamics I	3	0	3	5
4	ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
5	ECE 223	Digital Design I + Lab.	3	2	4	4
6	ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
7	ECE 240	Electromechanical Energy Conversion	3	0	3	4
8	ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
9	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
10	ECE 347	Electronics + Lab.	3	2	4	6
11	ECE 336	Microprocessors I + Lab.	3	2	4	5
12	MECE 200	Summer Training I	0	0	0	5
13	MECE 302	Sensors and Measurement	2	2	3	4
14	MECE 401	Introduction to Robotics	3	2	4	5
15	ME 307	Machine Elements I	3	0	3	5
16	ME 301	Kinematics of Machinery	3	0	3	4
17	ECE 388	Automatic Control + Lab.	2	2	3	5
18	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
19	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
20	IE 446	Project Engineering Management	3	0	3	4
21	ECE 307	Probability and Random Processes	3	0	3	4
22		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
23		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
		TOPLAM KREDİ			73	

- Civil Engineering students must do MECE 200 summer training in a corporation related to Mechatronics Engineering.

Mathematics and Computer Science

(26 compulsory courses, 2 technical elective courses, a total of 28 courses)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 102	Mechatronics Engineering Orientation	0	2	1	3
2	ME 113	Computer Aided Engineering Drawing I	2	2	3	6
3	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
4	ME 203	Statics	3	0	3	6
5	ME 206	Dynamics	3	0	3	4
6	ME 202	Strength of Materials	3	0	3	5
7	ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
8	ECE 223	Digital Design I + Lab.	3	2	4	4
9	ECE 336	Microprocessors I + Lab.	3	2	4	5
10	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
11	ECE 388	Automatic Control + Lab.	2	2	3	5
12	MECE 200	Summer Training I	0	0	0	5
13	MECE 302	Sensors and Measurement	2	2	3	4
14	MECE 401	Introduction to Robotics	3	2	4	5
15	MECE 407	Innovative Engineering Analysis and Design	1	2	2	3
16	MECE 408	Innovative Engineering Design and Implementation	1	2	2	3
17	ECE 240	Electromechanical Energy Conversion	3	0	3	4
18	ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
19	ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
20	ECE 347	Electronics + Lab.	3	2	4	6
21	ME 210	Manufacturing Technologies	3	2	4	5

22	ME 211	Thermodynamics I	3	0	3	5
23	ME 307	Machine Elements I	3	0	3	5
24	ME 301	Kinematics of Machinery	3	0	3	4
25	MSE 235	Materials Science for Electronic Engineers	3	0	3	4
26	IE 446	Project Engineering Management	3	0	3	4
27	MECE 300	Summer Training II	0	0	0	5
28		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
29		Engineering Elective (MECE, IE, ME, ECE, MSE)	3	0	3	
		TOPLAM KREDİ			86	

- Mathematics and Computer Department students must do MECE 200 summer training in a corporation related to Mechatronics Engineering.

B) MINOR PROGRAM:

Department of Computer Engineering

(8 main courses + 2 elective courses)

	Course Code	Course Title	T	R	C	ECTS
1	ME 113	Computer Aided Engineering Drawing I	2	2	3	6
2	ME 203	Statics	3	0	3	6
3	ME 202	Strength of Materials	3	0	3	5
4	ME 204	Dynamics	3	0	3	4
5	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
6	ECE 388	Automatic Control + Lab.	2	2	3	5
7	MECE 302	Sensors and Measurement	2	2	3	4
8	MECE 401	Introduction to Robotics	3	2	4	5
9	*ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
10	*ECE 240	Electromechanical Energy Conversion	3	0	3	4
11	*ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
12	*ECE 347	Electronics + Lab.	3	2	4	6
13	*ME 114	Computer Aided Engineering Drawing II	2	2	3	4
14	*ME 210	Manufacturing Technologies	3	2	4	5
15	*ME 211	Thermodynamics I	3	0	3	5
16	*ME 307	Machine Elements I	3	0	3	5
17	*ME 301	Kinematics of Machinery	3	0	3	4

- In the table, '*' illustrated the lectures are elective courses. Students must take at least 2 elective courses of them to finish the program.

Department of Industrial Engineering
(9 compulsory courses + 2 elective courses)

	Course Code	Course Title	T	R	C	ECTS
1	ME 203	Statics	3	0	3	6
2	ME 202	Strength of Materials	3	0	3	5
3	ME 206	Dynamics	3	0	3	4
4	ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
5	ECE 223	Digital Design I + Lab.	3	2	4	4
6	ECE 336	Microprocessors I + Lab.	3	2	4	5
7	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
8	MECE 302	Sensors and Measurement	2	2	3	4
9	MECE 401	Introduction to Robotics	3	2	4	5
10	*ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
11	*ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
12	*ECE 240	Electromechanical Energy Conversion	3	0	3	4
13	*ECE 388	Automatic Control + Lab.	2	2	3	5
14	*ECE 347	Electronics + Lab.	3	2	4	6
15	*ME 114	Computer Aided Engineering Drawing II	2	2	3	4
16	*ME 307	Machine Elements I	3	0	3	5
17	*ME 301	Kinematics of Machinery	3	0	3	4

- In the table, '*' illustrated the lectures are elective courses. Students must take at least 2 elective courses of them to finish the program.

Materials Science and Engineering Department

(8 compulsory courses + 2 electives)

	Course Code	Course Title	T	R	C	ECTS
1	ME 206	Dynamics	3	0	3	4
2	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
3	ECE 223	Digital Design I + Lab.	3	2	4	4
4	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
5	ECE 336	Microprocessors I + Lab.	3	2	4	5
6	ECE 388	Automatic Control + Lab.	2	2	3	5
7	MECE 302	Sensors and Measurement	2	2	3	4
8	MECE 401	Introduction to Robotics	3	2	4	5
9	*ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
10	*ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
11	*ECE 240	Electromechanical Energy Conversion	3	0	3	4
12	*ECE 347	Electronics + Lab.	3	2	4	6
13	*ME 307	Machine Elements I	3	0	3	5
14	*ME 301	Kinematics of Machinery	3	0	3	4

- In the table, '*' illustrated the lectures are elective courses. Students must take at least 2 elective courses of them to finish the program.

Department of Civil Engineering

(8 compulsory courses + 2 electives)

	Course Code	Course Title	T	R	C	ECTS
1	ME 210	Manufacturing Technologies	3	2	4	5
2	ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
3	ECE 223	Digital Design I + Lab.	3	2	4	4
4	ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
5	ECE 336	Microprocessors I + Lab.	3	2	4	5
6	ECE 388	Automatic Control + Lab.	2	2	3	5
7	MECE 302	Sensors and Measurement	2	2	3	4
8	MECE 401	Introduction to Robotics	3	2	4	5
9	*ECE 240	Electromechanical Energy Conversion	3	0	3	4
10	*ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
11	*ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
12	*ECE 347	Electronics + Lab.	3	2	4	6
13	*ME 114	Computer Aided Engineering Drawing II	2	2	3	4
14	*ME 307	Machine Elements I	3	0	3	5
15	*ME 301	Kinematics of Machinery	3	0	3	4

- In the table, '*' illustrated the lectures are elective courses. Students must take at least 2 elective courses of them to finish the program.

Mathematics and Computer Science

(10 compulsory courses + 5 elective course)

	se Code	Course Title	T	R	C	ECTS
1	ME 113	Computer Aided Engineering Drawing I	2	2	3	6
2	ME 203	Statics	3	0	3	6
3	ME 202	Strength of Materials	3	0	3	5
4	ME 206	Dynamics	3	0	3	4
5	ECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
6	ECE 223	Digital Design I + Lab.	3	2	4	4
7	ECE 336	Microprocessors I + Lab.	3	2	4	5
8	MECE 200	Summer Training I	0	0	0	5
9	MECE 302	Sensors and Measurement	2	2	3	4
10	MECE 401	Introduction to Robotics	3	2	4	5
11	*ECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
12	*ECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
13	*ECE 240	Electromechanical Energy Conversion	3	0	3	4
14	*ECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
15	*ECE 347	Electronics + Lab.	3	2	4	6
16	*ECE 388	Automatic Control + Lab.	2	2	3	5
17	*ME 114	Computer Aided Engineering Drawing II	2	2	3	4
18	*ME 211	Thermodynamics I	3	0	3	5
19	*ME 210	Manufacturing Technologies	3	2	4	5
20	*ME 307	Machine Elements I	3	0	3	5
21	*ME 301	Kinematics of Machinery	3	0	3	4

- In the table, '*' illustrated the lectures are elective courses. Students must take at least 5 elective courses of them to finish the program.