MECHATRONICS ENGINEERING DOUBLE MAJOR AND MINOR PROGRAMS

A) DOUBLE MAJOR PROGRAMS:

MECHANICAL ENGINEERING DEPARTMENT
(Total of 15 courses, where 13 are compulsory courses and 2 are technical elective courses without ME code)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 311	Probability and Random Processes	3	0	3	4
2	MECE 223	Digital Design I + Lab.	3	2	4	4
3	MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
4	MECE 240	Electromechanical Energy Conversion	3	0	3	4
5	MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
6	MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
7	MECE 336	Microprocessors I + Lab.	3	2	4	5
8	MECE 347	Electronics + Lab.	3	2	4	6
9	MECE 302	Sensors and Measurement	3	2	4	7
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	
		TOTAL CREDIT			**48**	

Mechanical Engineering students should take MECE 200 summer internship course in an institution related to Electronic Engineering.

Electronics and Communication Engineering Department
**(Total of 18 courses, where 16 are compulsory courses and
2 are technical elective courses without ECE code)**

	Course Code	Course Title	T	R	C	ECTS
1	MECE 113	Computer Aided Engineering Drawing I	2	2	3	6
2	MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
3	MECE 215	Fundamentals of Thermal Systems	3	0	3	4
4	MECE 203	Statics	3	0	3	6
5	MECE 206	Dynamics	3	0	3	4
6	MECE 202	Strength of Materials	3	0	3	5
7	MECE 307	Machine Elements I	3	0	3	5
8	MECE 210	Manufacturing Processes	3	2	4	5
9	MECE 301	Theory of Machines I	3	0	3	4
10	MECE 302	Sensors and Measurement	3	2	4	7
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	
		TOTAL CREDIT			**52**	

Electronics and Communication Engineering students should take MECE 200 summer internship course in a department or business related to Mechanical Engineering

Electric-Electronics Engineering Department
(Total of 18 courses, where 16 are compulsory courses and 2 are technical elective courses without ME code)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 113	Computer Aided Engineering Drawing I	2	2	3	6
2	MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
3	MECE 215	Fundamentals of Thermal Systems	3	0	3	4
4	MECE 203	Statics	3	0	3	6
5	MECE 206	Dynamics	3	0	3	4
6	MECE 202	Strength of Materials	3	0	3	5
7	MECE 307	Machine Elements I	3	0	3	5
8	MECE 210	Manufacturing Processes	3	2	4	5
9	MECE 301	Theory of Machines I	3	0	3	4
10	MECE 302	Sensors and Measurement	3	2	4	7
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	Senior Project I	1	2	2	3
15	MECE 408	Senior Project II	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	
		TOTAL CREDIT			**52**	

Electrical and Electronics Engineering students should take MECE 200 summer internship course in a department or enterprise related to Mechanical Engineering.

Computer Engineering Department
(Total of 24 courses, where 22 are compulsory courses and 2 are elective technical courses without CENG code)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 113	Computer Aided Engineering Drawing I	2	2	3	6
2	MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
3	MECE 215	Fundamentals of Thermal Systems	3	0	3	4
4	MECE 210	Manufacturing Processes	3	2	4	5
5	MECE 203	Statics	3	0	3	6
6	MECE 206	Dynamics	3	0	3	4
7	MECE 202	Strength of Materials	3	0	3	5
8	MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
9	MECE 240	Electromechanical Energy Conversion	3	0	3	4
10	MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
11	MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
12	MECE 347	Electronics + Lab.	3	2	4	6
13	MECE 200	Summer Training I	0	0	0	5
14	MECE 302	Sensors and Measurement	3	2	4	7
15	MECE 401	Introduction to Robotics	3	2	4	5
16	MECE 307	Machine Elements I	3	0	3	5
17	MECE 301	Theory of Machines I	3	0	3	4
18	MECE 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,	3	0	3	

		ECE, MSE)				
		TOTAL CREDIT			**74**	

Computer Engineering students should take MECE 200 summer internship course in a department or business related to Mechatronics Engineering.

Industrial Engineering Department
(Total of 22 courses, where 20 are compulsory courses and 2 are technical elective courses without IE code)

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

	Course Code	Course Title	T	R	C	ECTS
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	
		TOTAL CREDIT			**70**	

Industrial Engineering students should take MECE 200 summer internship course in a unit or business related to Mechatronics engineering.

Materials Science and Engineering Department
(Total of 21 courses, where 19 are compulsory courses and 2 are technical elective courses without MCE code)

	Course Code	Course Title	T	R	C	ECTS
1	ME 114	Computer Aided Engineering Drawing II	2	2	3	4
2	MECE 203	Statics	3	0	3	6
3	MECE 206	Dynamics	3	0	3	4
4	MECE 202	Strength of Materials	3	0	3	5
5	MECE 223	Digital Design I + Lab.	3	2	4	4
6	MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
7	MECE 240	Electromechanical Energy Conversion	3	0	3	4
8	MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
9	MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
10	MECE 347	Electronics + Lab.	3	2	4	6
11	MECE 336	Microprocessors I + Lab.	3	2	4	5
12	MECE 200	Summer Training I	0	0	0	5
13	MECE 302	Sensors and Measurement	3	2	4	7
14	MECE 401	Introduction to Robotics	3	2	4	5
15	MECE 307	Machine Elements I	3	0	3	5
16	MECE 301	Theory of Machines I	3	0	3	4

			T	R	C	ECTS
17	MECE 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	
		TOTAL CREDIT			**66**	

Materials Science and Engineering students should take MECE 200 summer internship course in a unit or business related to Mechatronics engineering.

Civil engineering Department
(Total of 21 courses, where 19 are compulsory courses and 2 are technical elective courses without CE code)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
2	MECE 210	Manufacturing Processes	3	2	4	5
3	MECE 215	Fundamentals of Thermal Systems	3	0	3	4
4	MECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
5	MECE 223	Digital Design I + Lab.	3	2	4	4
6	MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
7	MECE 240	Electromechanical Energy Conversion	3	0	3	4
8	MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
9	MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
10	MECE 347	Electronics + Lab.	3	2	4	6
11	MECE 336	Microprocessors I + Lab.	3	2	4	5
12	MECE 200	Summer Training I	0	0	0	5
13	MECE 302	Sensors and Measurement	3	2	4	7
14	MECE 401	Introduction to Robotics	3	2	4	5

			T	R	C	
15	MECE 307	Machine Elements I	3	0	3	5
16	MECE 301	Theory of Machines I	3	0	3	4
17	MECE 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	MECE 311	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	
		TOTAL CREDIT			**74**	

Civil Engineering students should take MECE 200 summer internship course in a department or business related to Mechatronics engineering.

Mathematics and Computer Department
(Total of 28 courses, where 26 are compulsory courses and 2 are technical elective courses)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 104	Fundamentals of Mechatronics Engineering	2	0	2	2
2	MECE 113	Computer Aided Engineering Drawing I	2	2	3	6
3	MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
4	MECE 203	Statics	3	0	3	6
5	MECE 206	Dynamics	3	0	3	4
6	MECE 202	Strength of Materials	3	0	3	5
7	MECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
8	MECE 223	Digital Design I + Lab.	3	2	4	4
9	MECE 336	Microprocessors I + Lab.	3	2	4	5
10	MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5

11	MECE 388	Automatic Control + Lab.	2	2	3	5
12	MECE 200	Summer Training I	0	0	0	5
13	MECE 302	Sensors and Measurement	3	2	4	7
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	MECE 240	Electromechanical Energy Conversion	3	0	3	4
18	MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
19	MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
20	MECE 347	Electronics + Lab.	3	2	4	6
21	MECE 210	Manufacturing Processes	3	2	4	5
22	MECE 215	Fundamentals of Thermal Systems	3	0	3	4
23	MECE 307	Machine Elements I	3	0	3	5
24	MECE 301	Theory of Machines I	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	
		TOTAL CREDIT			**88**	

Mathematics and Computer Department students should take MECE 200 summer internship course in a department or business related to Mechatronics engineering.

B) MINOR PROGRAMS:

COMPUTER ENGINEERING DEPARTMENT
(8 compulsory courses + 2 elective courses)

	Course Code	Course Title	T	R	C	ECTS
1	MECE 113	Computer Aided Engineering Drawing I	2	2	3	6
2	MECE 203	Statics	3	0	3	6
3	MECE 202	Strength of Materials	3	0	3	5
4	MECE 206	Dynamics	3	0	3	4
5	MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
6	MECE 388	Automatic Control + Lab.	2	2	3	5
7	MECE 302	Sensors and Measurement	3	2	4	7
8	MECE 401	Introduction to Robotics	3	2	4	5
9	*MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
10	*MECE 240	Electromechanical Energy Conversion	3	0	3	4
11	*MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
12	*MECE 347	Electronics + Lab.	3	2	4	6
13	*MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
14	*MECE 210	Manufacturing Processes	3	2	4	5
15	*MECE 215	Fundamentals of Thermal Systems	3	0	3	4
16	*MECE 307	Machine Elements I	3	0	3	5
17	*MECE 301	Theory of Machines I	3	0	3	4

Courses with '*' in the able are elective courses. Students should complete at least 2 of these elective courses to complete the program.

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

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

Courses with '*' in the able are elective courses. Students should complete at least 2 of these elective courses to complete the program.

Materials Science and Engineering Department
(8 compulsory courses + 2 elective courses)

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

Courses with '*' in the able are elective courses. Students should complete at least 2 of these elective courses to complete the program.

Civil Engineering Department
(8 compulsory courses + 2 elective courses)

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

Courses with '*' in the able are elective courses. Students should complete at least 2 of these elective courses to complete the program.

Mathematics and Computer Department
(10 compulsory courses+ 5 elective courses)

	Course	Course Title	T	R	C	ECTS
1	MECE 113	Computer Aided Engineering Drawing I	2	2	3	6
2	MECE 203	Statics	3	0	3	6
3	MECE 202	Strength of Materials	3	0	3	5
4	MECE 206	Dynamics	3	0	3	4
5	MECE 233	Electrical Circuit Analysis + Lab.	3	2	4	4
6	MECE 223	Digital Design I + Lab.	3	2	4	4
7	MECE 336	Microprocessors I + Lab.	3	2	4	5
8	MECE 200	Summer Training I	0	0	0	5
9	MECE 302	Sensors and Measurement	3	2	4	7
10	MECE 401	Introduction to Robotics	3	2	4	5
11	*MECE 232	Advanced Electrical Circuit Analysis + Lab.	3	2	4	4
12	*MECE 246	Fundamentals of Electronics + Lab.	3	2	4	5
13	*MECE 240	Electromechanical Energy Conversion	3	0	3	4
14	*MECE 218	Principles of Signals and Systems + Lab.	3	2	4	5
15	*MECE 347	Electronics + Lab.	3	2	4	6
16	*MECE 388	Automatic Control + Lab.	2	2	3	5
17	*MECE 114	Computer Aided Engineering Drawing II	2	2	3	4
18	*MECE 215	Fundamentals of Thermal Systems	3	0	3	4
19	*MECE 210	Manufacturing Processes	3	2	4	5
20	*MECE 307	Machine Elements I	3	0	3	5
21	*MECE 301	Theory of Machines I	3	0	3	4

Mathematics and Computer Department students should take MECE 200 summer internship course in a department or business related to Mechatronics engineering.

Courses with '*' in the able are elective courses. Students should complete at least 2 of these elective courses to complete the program.