

**CURRICULUM**  
**Bachelor's degree program in Mechanical engineering**  
**as of 2021/2022 academic year**

ECTS Subject code T ME No													
- T – type of course: B for BEng, M for MEng;													
- I - IV semester – fundamental subjects - professional field 5.1 Mechanical engineering;													
- ME – “Mechanical engineering”;													
- No – number of the subject;													
Lectures (L), Tutorials (Tut.), Labs (Lab.), Auditorium Total (AT), Self-Study (SS), Exam (E), Continuous Assessment (CA), Semester Project (SP), Semester Assignment (course work) (SA).													
№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
<b>SEMESTER I</b>													
1	<b>MAT12</b>	Mathematics I	30	30	0	<b>60</b>	150	<b>210</b>	1				7
2	<b>PHY01</b>	Physics	45	15	30	<b>90</b>	120	<b>210</b>	1				7
3	<b>CHE01</b>	Chemistry	30	0	15	<b>45</b>	105	<b>150</b>		1			5
4	<b>CCE23</b>	Information and Communication Technologies	30	0	45	<b>75</b>	165	<b>240</b>	1			1	8
5	<b>LNG01</b>	Foreign Language I	0	30	0	<b>30</b>	30	<b>60</b>		1			2
6	<b>SPR01</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>135</b>	<b>75</b>	<b>90</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>30</b>
<b>SEMESTER II</b>													
7	<b>MAT22</b>	Mathematics II	30	30	0	<b>60</b>	120	<b>180</b>	1				6
8	<b>ENG01</b>	Material Science	45	0	45	<b>90</b>	120	<b>210</b>	1			1	7
9	<b>MEC01</b>	Mechanics I	30	15	15	<b>60</b>	150	<b>210</b>	1			1	7
10	<b>EEA21</b>	Basics of Electrical Engineering and Electronics	30	0	30	<b>60</b>	90	<b>150</b>		1			5
11	<b>LNG02</b>	Foreign Language II	0	30	0	<b>30</b>	30	<b>60</b>		1			2
12	<b>PRC01</b>	Practicum	0	0	0	<b>0</b>	60	<b>60</b>		1			2
13	<b>SPR02</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>135</b>	<b>75</b>	<b>90</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>30</b>
<b>SEMESTER III</b>													
14	<b>MAT31</b>	Mathematics III	30	30	0	<b>60</b>	120	<b>180</b>	1				6
15	<b>MEC02</b>	Mechanics II	30	0	30	<b>60</b>	150	<b>210</b>	1			1	7
16	<b>MEC03</b>	Strength of Materials	45	0	30	<b>75</b>	135	<b>210</b>	1			1	7
17	<b>ENG02</b>	Engineering Graphics	30	0	45	<b>75</b>	105	<b>180</b>		1		1	6
18	<b>CCE24</b>	Internet Technologies	15	15	0	<b>30</b>	60	<b>90</b>		1			3
19	<b>SPR03</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>150</b>	<b>45</b>	<b>105</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>30</b>
<b>SEMESTER IV</b>													
20	<b>MEC04</b>	Machine Elements	45	15	30	<b>90</b>	120	<b>210</b>	1				7
21	<b>MEC05</b>	Fluid Mechanics, Hydro and Pneumatic Drive	45	0	30	<b>75</b>	105	<b>180</b>	1				6
22	<b>ENR01</b>	Thermodynamics and Heat Transfer	30	0	30	<b>60</b>	90	<b>150</b>	1				5
23	<b>MEC06</b>	Theory of Machines and Mechanisms	30	15	15	<b>60</b>	120	<b>180</b>	1			1	6
24	<b>MEC07</b>	Machine Elements - project	0	0	0	<b>0</b>	90	<b>90</b>			1		3
25	<b>PRC02</b>	Practicum	0	0	0	<b>0</b>	60	<b>60</b>		1			2
26	<b>SPR04</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>150</b>	<b>30</b>	<b>105</b>	<b>285</b>	<b>615</b>	<b>900</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>30</b>

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
<b>SEMESTER V</b>													
27	<b>BME01</b>	Manufacturing technologies	30	0	15	<b>45</b>	75	<b>120</b>	1				<b>4</b>
28	<b>BME02</b>	Automation and Robotization of Production Engineering	45	0	15	<b>60</b>	90	<b>150</b>	1				<b>5</b>
29	<b>BME03</b>	Materials Handling Equipment	30	0	30	<b>60</b>	90	<b>150</b>	1				<b>5</b>
30	<b>BME04</b>	Nonmetal machine elements	30	0	15	<b>45</b>	75	<b>120</b>		1			<b>4</b>
31	<b>BME05</b>	Fine Mechanical Technique	30	0	15	<b>45</b>	75	<b>120</b>	1				<b>4</b>
32	<b>BME06</b>	Computer Integrated Design in Mechanical Engineering	30	0	15	<b>45</b>	105	<b>150</b>		1		1	<b>5</b>
33	<b>BME07</b>	Materials Handling Equipment-project	0	0	0	<b>0</b>	90	<b>90</b>			1		<b>3</b>
<b>Total</b>			<b>195</b>	<b>0</b>	<b>105</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>30</b>
<b>SEMESTER VI</b>													
34	<b>BME08</b>	Metrology and Measuring Instruments	30	0	30	<b>60</b>	90	<b>150</b>	1			1	<b>5</b>
35	<b>BME09</b>	Industrial Management	30	0	0	<b>30</b>	60	<b>90</b>		1			<b>3</b>
36	<b>BME10</b>	Methodology for Design	45	0	15	<b>60</b>	60	<b>120</b>	1				<b>4</b>
37	<b>BME11</b>	Logistics Engineering	30	0	30	<b>60</b>	90	<b>150</b>	1				<b>5</b>
38	<b>BME12</b>	Industrial Robots and Robotized Technological Modules	30	0	30	<b>60</b>	60	<b>120</b>	1				<b>4</b>
39	<b>BME13</b>	Computer-Aided Design of Automation Systems	30	0	15	<b>45</b>	75	<b>120</b>		1			<b>4</b>
40	<b>BME14</b>	Industrial Robots and Robotized Technological Modules-project	0	0	0	<b>0</b>	90	<b>90</b>			1		<b>3</b>
41	<b>PRC03</b>	Practicum	0	0	0	<b>0</b>	60	<b>60</b>		1			<b>2</b>
<b>Total</b>			<b>195</b>	<b>0</b>	<b>120</b>	<b>315</b>	<b>585</b>	<b>900</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>30</b>
<b>SEMESTER VII</b>													
42	<b>BME15</b>	Quality Inspection and Management	30	15	15	<b>60</b>	90	<b>150</b>	1			1	<b>5</b>
43	<b>BME16</b>	Intelligent Measurement Systems	30	0	30	<b>60</b>	120	<b>180</b>	1				<b>6</b>
44	<b>BME17</b>	Precise Mechanical Technique	45	0	15	<b>60</b>	90	<b>150</b>		1			<b>5</b>
45	<b>BME18</b>	Innovative automation devices and systems	30	0	30	<b>60</b>	90	<b>150</b>	1				<b>5</b>
46	<b>BME19</b>	Computer Aided Design and Simulation Modeling in Mechanical Engineering	30	0	30	<b>60</b>	120	<b>180</b>	1				<b>6</b>
47	<b>BME20</b>	Precise Mechanical Technique - project	0	0	0	<b>0</b>	90	<b>90</b>			1		<b>3</b>
<b>Total</b>			<b>165</b>	<b>15</b>	<b>120</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>30</b>
<b>SEMESTER VIII</b>													
48	<b>BME21</b>	Programing of Automation Equipment	30	0	20	<b>50</b>	100	<b>150</b>	1				<b>5</b>
49	<b>BME22</b>	Construction and ecotechnics	30	0	15	<b>45</b>	75	<b>120</b>	1				<b>4</b>
50	<b>BME23</b>	Optional subject (list 1)	20	0	15	<b>35</b>	55	<b>90</b>	1				<b>3</b>
51	<b>BME24</b>	Optional subject (list 2)	20	0	15	<b>35</b>	55	<b>90</b>	1				<b>3</b>
52	<b>BME25</b>	Safety Techniques and Environmental Protection	20	15	0	<b>35</b>	55	<b>90</b>		1			<b>3</b>
53	<b>PRC04</b>	Practicum	0	0	0	<b>0</b>	60	<b>60</b>		1			<b>2</b>
54	<b>BME26</b>	Diploma project	0	0	0	<b>0</b>	300	<b>300</b>	Defense of diploma thesis			<b>10</b>	
<b>Total</b>			<b>120</b>	<b>15</b>	<b>65</b>	<b>200</b>	<b>700</b>	<b>900</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>30</b>

## LIST OF THE OPTIONAL SUBJECTS

<b>List 1 Optional subject BME23</b>		<b>ECTS = 3</b>
1	Control Systems	<b>BME23.1</b>
2	Computer Integrated Design of Construction Equipment	<b>BME23.2</b>
3	Automation Control	<b>BME23.3</b>
4	Technical Testing and Diagnostics	<b>BME23.4</b>
<b>List 2 Optional subject BME24</b>		<b>ECTS = 3</b>
1	Assembly Automation	<b>BME24.1</b>
2	Mechanization and Automation of the Construction Processes and Ecotechnologies in Construction	<b>BME24.2</b>
3	Methods and Devices for Measuring Physical and Mechanical Quantities	<b>BME24.3</b>
4	Reinforced Structural Polymers	<b>BME24.4</b>

### LIST OF THE FACULTATIVE SUBJECTS

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
<b>SEMESTER V</b>													
1	<b>FaSPR05</b>	Sport	0	0	0	<i>0</i>	30	<b>30</b>		1			<b>1</b>
2	<b>FaBME01</b>	Introduction to Networking	30	0	30	<b>60</b>	90	<b>150</b>		1			<b>5</b>
<b>SEMESTER VI</b>													
1	<b>FaSPR06</b>	Sport	0	0	0	<i>0</i>	30	<b>30</b>		1			<b>1</b>
2	<b>FaBME02</b>	Computer Design of Mechanical Drives and Technological Structures	30	0	30	<b>60</b>	90	<b>150</b>		1			<b>5</b>
<b>SEMESTER VII</b>													
1	<b>FaSPR07</b>	Sport	0	0	0	<i>0</i>	30	<b>30</b>		1			<b>1</b>
2	<b>FaBME03</b>	Intellection Property and Patent Policy	30	15	0	<b>45</b>	45	<b>90</b>		1			<b>3</b>
<b>SEMESTER VIII</b>													
1	<b>FaSPR08</b>	Sport	0	0	0	<i>0</i>	30	<b>30</b>		1			<b>1</b>