

## FACULTY OF MECHANICAL ENGINEERING AND DESIGN

- Bachelor's degree programme of **MECHANICAL ENGINEERING**
- Bachelor's degree programme of **MECHATRONICS**
- Bachelor's degree programme of **VEHICLE ENGINEERING/ AVIATION ENGINEERING**
- Courses from the Bachelor's degree programme **FASHION ENGINEERING/ TEXTILE ENGINEERING**
- Master's degree programme of **INDUSTRIAL ENGINEERING AND MANAGEMENT**
- Master's degree programme of **MECHANICAL ENGINEERING**
- Master's degree programme of **MECHATRONICS**
- Courses from the Master's degree programme **FASHION ENGINEERING/ TEXTILE ENGINEERING**

### DISCRETE COURSES

## Bachelor's degree programme MECHANICAL ENGINEERING

### 1<sup>st</sup> semester

Course code	Course title	ECTS Credits
<a href="#">P130B001</a>	Mathematics 1	6
<a href="#">T210B198</a>	Engineering Drawing	6
<a href="#">P175B166</a>	Information Technologies for Mechanical Engineers	6

### 2<sup>nd</sup> semester

<a href="#">P130B002</a>	Mathematics 2	6
<a href="#">P190B101</a>	Physics 1	6
<a href="#">P190B231</a>	Theoretical Mechanics	6
<a href="#">T450B103</a>	Materials Science and Engineering	6
<a href="#">H570B104</a>	Academic and Technical Communication in English (Level C1)	6

### 3rd semester

<a href="#">P190B504</a>	Mechanics of Materials	6
<a href="#">P190B231</a>	Theoretical Mechanics	6
<a href="#">P160B003</a>	Theory of Probability and Statistics	6
<a href="#">T130B178</a>	Technological Machines and Tools	6
<a href="#">P401B401</a>	General Chemistry	6

### 4<sup>th</sup> semester

<a href="#">T200B109</a>	Applied Thermodynamics and Hidromechanics	6
<a href="#">T190B270</a>	Electrical and Electronic Circuits	6
<a href="#">T210B147</a>	Structural Integrity	6
<a href="#">T210B200</a>	Machine Dynamics	6

### 5<sup>th</sup> semester

<a href="#">T210B436</a>	Fluid Power Systems	3
<a href="#">T210B403</a>	Machine Elements 1	6
<a href="#">T110B405</a>	Measurements	6
	Electives of Entrepreneurship Education 2017*	6
<a href="#">H570B104</a>	Academic and Technical Communication in English (Level C1)	6

**Electives of Entrepreneurship Education 2019\***

Course code	Course title	ECTS Credits	Semester
<a href="#">S000B177</a>	Technology Entrepreneurship*	6	autumn
<a href="#">S190B377</a>	Fundamentals of Enterprises Management*	6	autumn
<a href="#">S191B017</a>	Marketing	6	autumn
<a href="#">S192B114</a>	Fundamentals of Enterprises Accounting and Financial Management*	6	autumn

**\*Important note!**

Some courses will be offered only if a sufficient number of students register for the course.

## Bachelor's degree programme MECHATRONICS

**1<sup>st</sup> semester**

Course code	Course title	ECTS Credits
<a href="#">P130B001</a>	Mathematics 1	6
<a href="#">T130B177</a>	Introduction to Speciality	6
<a href="#">T210B198</a>	Engineering Drawing	6
<a href="#">S183B001</a>	Sustainable Development	6
<a href="#">P175B145</a>	Introduction to Programming for Engineers	6

**2<sup>nd</sup> semester**

<a href="#">P130B002</a>	Mathematics 2	6
<a href="#">P190B101</a>	Physics 1	6
<a href="#">P190B231</a>	Theoretical Mechanics	6
<a href="#">T210B001</a>	Fundamentals of Mechatronics	3
<a href="#">T450B102</a>	Materials Engineering	3
<a href="#">H570B104</a>	Academic and Technical Communication in English (Level C1)	6

**3<sup>rd</sup> semester**

<a href="#">P190B504</a>	Mechanics of Materials	6
<a href="#">T500B002</a>	Human Safety	3
<a href="#">P190B231</a>	Theoretical Mechanics	6
<a href="#">P200B104</a>	Physics 3	3
<a href="#">P160B003</a>	Theory of Probability and Statistics	6
	Electives of Personality and Health Development 2019*	3

**4<sup>th</sup> semester**

<a href="#">T190B270</a>	Electrical and Electronic Circuits	6
<a href="#">T210B501</a>	Strength of Structural Elements	3
<a href="#">T200B109</a>	Applied Thermodynamics and Fluid Mechanics	6
<a href="#">T130B033</a>	Computer-Aided Design 1	6

**5<sup>th</sup> semester**

<a href="#">T190B373</a>	Applied Electrical Engineering	3
<a href="#">T110B405</a>	Measurements	6
<a href="#">T210B403</a>	Machine Elements 1	6
<a href="#">H570B104</a>	Academic and Technical Communication in English (Level C1)	6
	Electives of Entrepreneurship Education 2019*	6
<a href="#">T120B008</a>	Signals Theory	3

**6<sup>th</sup> semester**

<a href="#">T120B007</a>	Microprocessor Technique	6
<a href="#">T130B012</a>	Manufacturing Engineering	6
<a href="#">T125B001</a>	Automatic Control Fundamentals	6
<a href="#">T170B140</a>	Semester Project	6

**7<sup>th</sup> semester**

<a href="#">T210B133</a>	Technologies of Mechatronic Systems	9
<a href="#">T125B112</a>	Semester Project	6
<a href="#">T210B028</a>	Intelligent Mechatronics Systems	6
<a href="#">T210B024</a>	Mechatronic System Design	6

**Electives of Entrepreneurship Education 2019\***

Course code	Course title	ECTS Credits	Semester
<a href="#">S000B177</a>	Technology Entrepreneurship*	6	autumn
<a href="#">S190B377</a>	Fundamentals of Enterprises Management*	6	autumn
<a href="#">S191B017</a>	Marketing	6	autumn
<a href="#">S192B114</a>	Fundamentals of Enterprises Accounting and Financial	6	autumn

**Electives of Personality and Health Development 2019**

Course code	Course title	ECTS Credits	Semester
<a href="#">S264B001</a>	Applied Psychology	3	autumn
<a href="#">S265B010</a>	Basics of Communication	3	autumn
<a href="#">B710B195</a>	Personal Health Education	3	autumn

**\*Important note!**

Some courses will be offered only if a sufficient number of students register for the course.

**Courses from the Bachelor's degree programme  
 FASHION ENGINEERING/ TEXTILE ENGINEERING**

Course code	Course title	ECTS Credits	Semester
<a href="#">T150B195</a>	Fashion collection	6	autumn
<a href="#">T470B109</a>	Computer-aided Design for Textile*	6	autumn
<a href="#">T470B148</a>	Technologies of Functional and Smart Textiles Manufacturing	6	autumn
<a href="#">T470B149</a>	Development of New Textile Product	6	autumn
<a href="#">T150B189</a>	Computer-aided Design of Clothing 1*	6	spring
<a href="#">T150B171</a>	Clothing Technology*	9	spring
<a href="#">T470B131</a>	Design and Technology of Knits*	6	spring
<a href="#">T150B194</a>	Workshop of Fashion Product*	6	spring
<a href="#">T470B147</a>	Design and Technologies of Woven Fabrics*	6	spring
<a href="#">T150B144</a>	Clothing Manufacturing*	6	spring
<a href="#">T470B142</a>	Nonwoven Textiles*	3	spring
<a href="#">PR00B123</a>	Semester Project*	6	autumn/spring

**Courses from the Bachelor's degree programme  
 VEHICLE ENGINEERING/ AVIATION ENGINEERING**

Course code	Course title	ECTS Credits	Semester
<a href="#">T310B010</a>	Air Low*	3	autumn
<a href="#">T310B109</a>	Aviational Materials*	6	autumn
<a href="#">T310B103</a>	Elements of Aircraft Structures*	6	autumn
<a href="#">T310B106</a>	Types, Constructions and Systems of Aircrafts*	6	autumn
<a href="#">T310B100</a>	Human Factors in Aviation*	6	autumn
<a href="#">T200B115</a>	Fluid Mechanics and Thermodynamics*	6	spring
<a href="#">T450B105</a>	Materials of Transport Facilities*	6	autumn

**\*Important note!**

Particular elective course will be offered only if a sufficient number of students register for the course.

### Master's degree programme FASHION ENGINEERING/ TEXTILE ENGINEERING\*

Course code	Course title	ECTS Credits	Semester
<a href="#">T000M134</a>	Research Project 1	6	autumn
<a href="#">T150M121</a>	Eco-Clothing Engineering*	6	autumn
<a href="#">T470M128</a>	Mechanics and Design of Textile Materials*	6	autumn
<a href="#">T470M125</a>	Advanced and Specialized Textile Processing	6	autumn/ spring
<a href="#">W230M010</a>	Industrial Design of Fashion Collections	6	spring
<a href="#">T150M128</a>	Simulation of Clothing Exploitation Processes*	6	spring
<a href="#">T000M186</a>	Research Project 1	6	spring
<a href="#">T470M133</a>	Engineering of Functional and Interactive Textile*	6	spring
<a href="#">T150M136</a>	Digital Technologies of Clothing Production*	6	spring

**\*Important note!**

Particular elective course will be offered only if a sufficient number of students register for the course.

### Master's degree programme INDUSTRIAL ENGINEERING AND MANAGEMENT

#### 1<sup>st</sup> semester

Course code	Course title	ECTS Credits
<a href="#">T210M136</a>	Product Development	6
<a href="#">T130M009</a>	Manufacturing Planning and Control	6
<a href="#">T130M008</a>	Industrial Production	6
<a href="#">T130M016</a>	Quality Management	6
<a href="#">S181M004</a>	Managerial Finance	6

#### 2<sup>nd</sup> semester

<a href="#">T210M134</a>	Industrial Maintenance	6
<a href="#">T130M020</a>	Engineering Operations Strategy	6
<a href="#">S191M013</a>	Industrial Marketing	6
<a href="#">T210M023</a>	Computer-Aided Analysis of Structures	6

#### 3<sup>rd</sup> semester

<a href="#">T130M125</a>	International Industry and Business	6
<a href="#">S189M015</a>	Productivity Management	6
<a href="#">T130M833</a>	Computer Integrated Manufacturing	6
<a href="#">S190M102</a>	Engineering Projects Management	6

### Master's degree programme MECHANICAL ENGINEERING

#### 1<sup>st</sup> semester

Course code	Course title	ECTS Credits
<a href="#">T210M150</a>	Basics of Scientific Research	6
<a href="#">T210M435</a>	Mechanical Vibrations	6
<a href="#">T210M009</a>	Finite Element Method	6
<a href="#">T210M015</a>	Experimental Mechanics	6

2<sup>nd</sup> semester

<a href="#">T210M203</a>	Applied Fluid Dynamics	6
<a href="#">T210M513</a>	Computational Solid Mechanics	6
<a href="#">T210M110</a>	Dynamics of Mechatronic Systems	6

3<sup>rd</sup> semester

<a href="#">T210M033</a>	Constructional Strength and Reliability	6
<a href="#">T210M022</a>	Quality and Reliability of Technical Objects	6

## Master's degree programme MECHATRONICS

1st semester

Course code	Course title	ECTS Credits
<a href="#">T210M032</a>	Integrated CAD/CAE/CAM Systems	6
<a href="#">T210M009</a>	Finite Element Method	6
<a href="#">T210M101</a>	Adaptive Mechatronic Systems	6
<a href="#">S190M102</a>	Engineering Projects Management	6
<a href="#">T130M016</a>	Quality Management	6

2nd semester

<a href="#">T125M262</a>	Computer-Aided Control of Technological Equipment	6
<a href="#">T130M833</a>	Computer Integrated Manufacturing	6
<a href="#">T000M125</a>	Research Project 1	6

## DISCRETE COURSES\*

Course code	Course title	ECTS Credits	Semester
<b>Bachelor's level courses</b>			
<a href="#">T130B116</a>	Fundamentals of Publishing	6	autumn
<a href="#">W240B111</a>	Design Workshop	6	autumn
<a href="#">W240B101</a>	Fundamentals of Design	6	autumn
<a href="#">W240B192</a>	Three-dimensional Visualisation and Animation	6	autumn
<a href="#">T150B184</a>	Basics of 3D design	9	spring
<a href="#">T130B009</a>	Media Publishing Technologies	6	spring
<a href="#">W200B103</a>	User experience design	6	spring
<a href="#">W240B102</a>	Bionics & Design	3	spring
<a href="#">W240B010</a>	Product Design	6	spring
<a href="#">W240B100</a>	Sketch	6	spring
<a href="#">W210B705</a>	Graphic Design	6	spring
<a href="#">W200B104</a>	Image Design and Communication	3	autumn/ spring

**\*Important note!**

Particular discrete course will be offered only if a sufficient number of students register for the course.