

## FACULTY OF ELECTRICAL AND ELECTRONICS ENGINEERING

- COURSES of the DEPARTMENT OF AUTOMATION
- COURSES of the DEPARTMENT OF ELECTRONICS ENGINEERING
- COURSES of the DEPARTMENT OF ELECTRIC POWER SYSTEMS
- COURSES of the PROJECTS and PRACTICE

### DEPARTMENT OF AUTOMATION

| Course code                     | Course title  | ECTS Credits | Semester |
|---------------------------------|---|--------------|----------|
| <b>Bachelor's level courses</b> |   |              |          |
| <a href="#">T125B468</a>        | Analysis and Reliability of Technical Systems       | 3            | autumn   |
| <a href="#">T125B117</a>        | Computational Intelligence Methods                  | 6            | autumn   |
| <a href="#">T121B007</a>        | Speech Processing Fundamentals                      | 6            | autumn   |
| <a href="#">T125B168</a>        | Mobile Robots                                       | 6            | autumn   |
| <a href="#">T125B361</a>        | Automatic Control Theory                            | 6            | autumn   |
| <a href="#">T125B116</a>        | Image Processing and Recognition                    | 6            | autumn   |
| <a href="#">T125B167</a>        | Intelligent Automation Systems and Devices          | 6            | autumn   |
| <a href="#">T190B302</a>        | Electric Drives                                     | 6            | autumn   |
| <a href="#">T125B155</a>        | Fundamentals of Intelligent Control Systems         | 6            | autumn   |
| <a href="#">T125B019</a>        | Software for Engineering Calculations               | 6            | autumn   |
| <a href="#">T125B147</a>        | Kinematics, Statics and Dynamics of Robots          | 6            | autumn   |
| <a href="#">T125B169</a>        | Project of Robotic System                           | 6            | autumn   |
| <a href="#">T125B150</a>        | Control Systems and Programing of Robots            | 6            | spring   |
| <a href="#">T125B151</a>        | Modeling of Robotized Systems                       | 6            | spring   |
| <a href="#">T125B360</a>        | Programmable Logical Controllers                    | 6            | spring   |
| <b>Master's level courses</b>   |   |              |          |
| <a href="#">T125M003</a>        | Systems Modelling and Identification                | 6            | autumn   |
| <a href="#">T125M165</a>        | Digital Control Systems                             | 6            | autumn   |
| <a href="#">T125M161</a>        | Information Technologies for Control Systems        | 6            | autumn   |
| <a href="#">T125M119</a>        | Programmable Process Control Systems                | 6            | autumn   |
| <a href="#">T125M105</a>        | Process Optimization and Optimal Control            | 6            | autumn   |
| <a href="#">T12M123</a>         | Programmable Logical Controllers                    | 6            | autumn   |
| <a href="#">T125M021</a>        | Modelling and Control of Biotechnological Processes | 3            | autumn   |
| <a href="#">T270M873</a>        | Modern Environmental and Technology Management      | 3            | autumn   |
| <a href="#">T125M008</a>        | Industrial Communication Networks                   | 6            | spring   |
| <a href="#">T125M262</a>        | Computer-Aided Control of Technological Equipment   | 6            | spring   |
| <a href="#">T125M137</a>        | Hybrid Systems for Process Monitoring and Control   | 9            | spring   |

### DEPARTMENT OF ELECTRONICS ENGINEERING

| Course code                     | Course title                         | ECTS Credits | Semester |
|---------------------------------|--------------------------------------|--------------|----------|
| <b>Bachelor's level courses</b> |                                      |              |          |
| <a href="#">T110B401</a>        | Basics of Measurements and Metrology | 6            | autumn   |
| <a href="#">T121B201</a>        | Signals and Systems 1                | 6            | autumn   |
| <a href="#">T170B121</a>        | Programming of Electronic Systems    | 6            | autumn   |

|                               |   |   |        |
|-------------------------------|---|---|--------|
| <a href="#">T170B202</a>      | Electronics   | 6 | autumn |
| <a href="#">T170B158</a>      | Electronics Manufacturing Technologies              | 6 | autumn |
| <a href="#">T170B176</a>      | Circuit Theory                                      | 6 | spring |
| <a href="#">T170B151</a>      | Fundamentals of Digital and Microprocessor Systems  | 6 | spring |
| <a href="#">T190B261</a>      | Materials Science and Engineering                   | 6 | spring |
| <a href="#">T170B303</a>      | Analogue Devices                                    | 6 | spring |
| <b>Master's level courses</b> |   |   |        |
| <a href="#">B110M001</a>      | Medical Informatics Systems                         | 6 | autumn |
| <a href="#">B140M009</a>      | Ultrasonic Medical Diagnostics                      | 6 | autumn |
| <a href="#">T121M501</a>      | Digital Signal Processing and Machine Learning      | 6 | autumn |
| <a href="#">B115M001</a>      | Experimental Biomechanics                           | 6 | autumn |
| <a href="#">B470M101</a>      | Systems of Human Physiology                         | 6 | autumn |
| <a href="#">T170M513</a>      | Reliability and Certification of Electronic Devices | 6 | autumn |
| <a href="#">B140M107</a>      | Design of Biomedical Devices                        | 6 | autumn |
| <a href="#">T110M007</a>      | Inovative Measuring Systems                         | 6 | autumn |
| <a href="#">T170M014</a>      | Testing of Electronic Systems                       | 6 | autumn |
| <a href="#">T170M613</a>      | Multiphysics Modelling for Electronics Design       | 6 | autumn |
| <a href="#">B140M008</a>      | Methodology of Biomedical Engineering               | 6 | autumn |
| <a href="#">B140M102</a>      | Imaging Instruments and Methods in Medicine         | 6 | autumn |
| <a href="#">T111M100</a>      | Biomedical Image Processing and Analysis            | 6 | spring |
| <a href="#">T110M107</a>      | Embedded Systems Design                             | 6 | spring |
| <a href="#">T121M161</a>      | Digital Wireless Technologies                       | 6 | spring |
| <a href="#">B110M002</a>      | Digital Processing of Biomedical Signals            | 6 | spring |

## DEPARTMENT OF ELECTRIC POWER SYSTEMS

| Course code                     | Course title   | ECTS Credits | Semester |
|---------------------------------|--|--------------|----------|
| <b>Bachelor's level courses</b> |  |              |          |
| <a href="#">T190B392</a>        | Electromagnetic Field  | 3            | autumn   |
| <a href="#">T140B139</a>        | Solar Energy   | 3            | autumn   |
| <a href="#">T140B128</a>        | Electric Power Economics and Market                                | 6            | autumn   |
| <a href="#">T140B110</a>        | High Voltage Engineering of Renewable Energy Sources               | 6            | autumn   |
| <a href="#">T190B015</a>        | Analysis of Electric Circuits 1                                    | 6            | autumn   |
| <a href="#">T500B010</a>        | Work Safety  | 3            | autumn   |
| <a href="#">T140B130</a>        | Project of Smart Energy Systems Control                            | 6            | autumn   |
| <a href="#">T140B011</a>        | Power Transmission   | 6            | autumn   |
| <a href="#">T140B125</a>        | Smart Electric Power Systems                                       | 6            | autumn   |
| <a href="#">T125B106</a>        | Smart Microprocessor Based Systems                                 | 6            | autumn   |
| <a href="#">T190B202</a>        | Electromechanics   | 6            | spring   |
| <a href="#">T190B010</a>        | Analysis of Electric Circuits 2                                    | 6            | spring   |
| <a href="#">T170B466</a>        | Applied Electronics  | 6            | spring   |
| <a href="#">T190B131</a>        | Power Electronics and Energy Converters                            | 6            | spring   |
| <a href="#">T140B109</a>        | Electrical Power Engineering                                       | 6            | spring   |
| <a href="#">T170B142</a>        | Energy Systems Electronics   | 6            | spring   |
| <a href="#">T190B109</a>        | Electrical Machines of Renewable Sources                           | 6            | spring   |
| <a href="#">T140B012</a>        | Technology of Wind and Hydro Energetics                            | 6            | spring   |
| <a href="#">T140B111</a>        | Protective Relaying and Automation of Disturbed Generation Systems | 6            | spring   |
| <b>Master level courses</b>     |  |              |          |
| <a href="#">P176M001</a>        | Artificial Intelligence in Smart Grids                             | 6            | autumn   |
| <a href="#">T140M122</a>        | Cybernetic Security of Power Systems                               | 6            | autumn   |
| <a href="#">T140M261</a>        | Power Systems Operation and Control                                | 6            | autumn   |
| <a href="#">T140M161</a>        | Energetic Systems Analysis   | 6            | autumn   |
| <a href="#">T140M123</a>        | Energy Systems   | 6            | autumn   |

|                          |  |   |        |
|--------------------------|--|---|--------|
| <a href="#">T500M109</a> | Human-Computer Interaction               | 6 | spring |
| <a href="#">T140M165</a> | Power System Planning                    | 6 | spring |
| <a href="#">T140M163</a> | Reliability and Quality of Power Systems | 6 | spring |
| <a href="#">T140M125</a> | Markets of Energy Resources              | 6 | spring |

## PROJECT and PRACTICE\*

| Course code                     | Course title        | ECTS Credits | Semester      |
|---------------------------------|---------------------|--------------|---------------|
| <b>Bachelor's level courses</b> |                     |              |               |
| <a href="#">PR00B143</a>        | Additional Practice | 12           | autumn/spring |
| <a href="#">PR00B203</a>        | Additional Practice | 18           | autumn/spring |
| <a href="#">PR00B144</a>        | Additional Practice | 24           | autumn/spring |
| <a href="#">PR00B140</a>        | Project             | 12           | autumn/spring |
| <a href="#">PR00B141</a>        | Project             | 18           | autumn/spring |
| <a href="#">PR00B113</a>        | Project             | 24           | autumn/spring |
| <b>Master's level courses</b>   |                     |              |               |
| <a href="#">PR00M100</a>        | Additional Practice | 12           | autumn/spring |
| <a href="#">PR00M116</a>        | Additional Practice | 18           | autumn/spring |
| <a href="#">PR00M114</a>        | Project             | 18           | autumn/spring |
| <a href="#">PR00M115</a>        | Project             | 24           | autumn/spring |

\*it is necessary to coordinate with the Faculty of Electrical and Electronics Engineering before choosing a practice or project module, subject and supervisor.