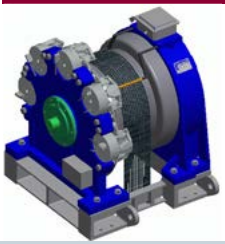
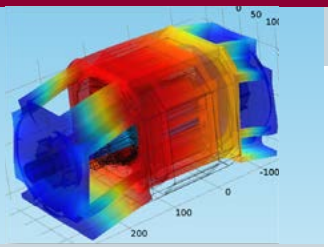
POZNAN UNIVERSITY OF TECHNOLOGY

M.Sc. Programmes

Drive Systems in Industry and Electromobility

Field of study: Electrical Engineering





Programme description

Electrical engineering is a field of technology and science that deals with the generation, processing (transformation), transmission, distribution, storage and use of electricity. This is a wide and constantly developing field that includes many disciplines such as circuit theory, electromagnetic field, signal processing, control systems, robotics, information technology, communications and electronics. This diversity offers students a wide range of areas of specialisation, as well as a variety of career choices. Electrical engineering graduates can work as specialists in sample industries, e.g. in designer offices, productions lines, automotive construction, power engineering, transmission systems, advanced measurement systems, medical equipment, PLC, IT and microprocessor programming. It is also very important that the electrical engineering master diploma allows to apply for an electrical license to an unlimited extent in the construction industry, which additionally increases the potential number of workplaces and provides very good earnings.

Electrical engineering graduates are also well prepared to independently self-study, and have good skills in organisational work. They know how to prepare great documentation and formulate technical texts. They are able to analyze a large amount of information and select those that may be most useful when solving a given problem. Currently, they are among the group of the most sought after and paid specialists in the country and abroad. Electrical engineering is constantly evolving very quickly. This is why graduates of this course have opportunity to be a part of this growth, what makes this work always interesting.

The specialty Drive Systems in Industry and Electromobility concerns: construction, control and operation of electric drive systems in industry and electromobility, the application of computer methods of simulating as well as designing and testing electrical machines applied in drive systems with the use of professional software eg. Maxwell, MagNet, MotorSolve, Comsol, Inventor, Matlab and others, automation of drive systems, including construction, principles of operation and methods of controlling industrial servo drives, modern methods of diagnostics of electric drive systems, the use of new technologies as well as new materials in electromechanical converters, application of modern analysis and visualisation methods of computer simulation results and measurement data.

Course summary:

Semester 1

- Electrical engineering
- Electrical measurements of non-electrical quantities
- Electromechanical Propulsion Systems
- Electronics and power electronics
- Generation of electric Energy
- Mathematics
- Object oriented programming
- Renewable energy sources
- Short Course in Occupational Safety
- Elective Course: English for technology / German for technology
- Testing of electric drive systems

Semester 2

- Computer measurement systems
- Cybersecurity and telecommunications in the power industry
- Decision algorithms in the electric power engineering
- Designing of measurement and control systems
- Disturbances in electric power systems
- Electromechanical Propulsion Systems
- Lighting engineering and electroheat
- Microprocessor technology
- Numerical methods in engineering
- Object oriented programming
- Selected problems of signal processing
- Elective Course: Interpersonal communication / Social Psychology
- Design of converters and electric drives
- Diploma seminar
- Optimisation methods in electromagnetic devices design

Semester 3

- Electromagnetic compatibility
- High voltage engineering
- Statistical process control
- Elective Course: Ethics and work psychology / Etiquette and self-presentation / Managerial skills training / Project management / Psychology of communication / Time and team management
- Diploma seminar
- Automation of electric propulsion systems
- Data analysis and visualization
- Diploma project
- Exploitation and diagnostics of drive systems
- New technologies in electrical engineering
- Preparation of master's thesis

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M.Sc. Programmes

Drive Systems in Industry and Electromobility

Field of study: Electrical Engineering

University	Poznan University of Technology Poznan, POLAND
Degree to be obtained	Master of Science
Programme website	https://www.put.poznan.pl/en
Contact	International Relations Office Piotrowo 5, room 101 61-138 Poznań, Poland
Phone	+48 61 665 3544
Fax	+48 61 665 3956
E-mail	study@put.poznan.pl
Language of instruction	English
ECTS points	90
Duration	1.5 years (3 semesters)
Programme begins	end of February
Programme ends	end of June
Deadline for application	3 months before the course starts – end of November
Education requirements	English language – level B2 (Common European Framework), Bachelor's degree or its equivalent in engineering or applied sciences, with a qualification in electrical engineering. Full list of the required documents is available at: https://www.put.poznan.pl/en
Mode of instruction	Lectures, classes, laboratory classes, projects, workshops, internships