POZNAN UNIVERSITY OF TECHNOLOGY

M.Sc. Programmes

Smart Measurement Systems

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.

Intelligent Measurement Systems is a modern specialization designed for students who want to develop in the field of measurement electronics, sensors and measurement signal processing. The specialization program places great emphasis on practical skills developed during laboratory classes, as well as on the use of many programming techniques (including Matlab, Python, LabView, SCADA) in the area of measurement issues. Our modern laboratory facilities enable students to work independently with measuring equipment. Graduates of the specialization can find employment in companies dealing with the production and distribution of electronic and measuring devices, in metrology laboratories, as well as in industries using industrial automation.

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
- Electronic measuring 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
- Advanced sensory systems
- Diploma seminar
- Smart signal processing

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
- Advanced metering infrastructure in power grids
- Modern systems for the acquisition of measurement signals
- PLC controllers and SCADA in measurement and industrial automation
- Preparation of master's thesis
- Thermal imaging diagnostics

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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