Electrical Engineering

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Faculty	Faculty of Electrical Engineering and Computer Science
Type of study	Bachelor
Language of instruction	English
Code of the programme	B0714A060020
Regular period of the study	3 years
Cost	50,000 CZK per semester
Coordinating department	Department of Cybernetics and Biomedical Engineering
Coordinator	prof. Ing. Michal Prauzek, Ph.D.
Keywords	electronics, electrical power engineering, theoretical electrical engineering, measuring and cotrol systems, communication technology

About study programme

The aim of the study of the three-year bachelor's program in Electrical Engineering is to educate bachelors as a university-educated operational specialist for all areas of electrical engineering and at the same time to prepare him for a follow-up master's degree. During the study, graduates of the program will acquire the necessary knowledge of mathematics, physics, theoretical electrical engineering, electronics, measuring and control systems, communication technologies and electrical power engineering. In practice, graduates will work, for example, as a designer of electronic equipment, service technician of measuring and control technology, designer of semiconductor technology, technician of operation of communication networks, designer of electrical systems.

Graduate's employment

Graduates can work as workers in various operations, in design and in research and development departments in the development and implementation of electronic applications. Typical job positions are: electronic equipment designer, service technician of measuring and control technology, designer of semiconductor technology, technician of operation of communication networks, designer of electrical systems.

Study aims

The aim of the study is to educate bachelors as a university-educated expert who masters the theoretical and practical foundations of electrical engineering. The aim of the bachelor's study program is to educate graduates with a broad base so that he can either continue in one of the follow-up master's study programs in the given areas of education or he can go into practice.

Graduate's knowledge

Graduates are prepared as bachelors with a broad base in the field of electrical engineering. During the study, graduates of the program will acquire the necessary knowledge of mathematics, physics, theoretical electrical engineering, electronics, measuring and control systems, communication technologies and electrical power engineering.
Specifically, it is knowledge mainly from digital and microprocessor technology, microcomputer control systems, power semiconductor systems, communication networks and data transmission, programmable logic controllers and visualizations of control systems, embedded systems, industrial robotics, electrical machines and apparatus, production, transmission, distribution and use of electrical energy.

Graduate's skills

Graduates of the bachelor's program are able to solve practical problems in various areas of electrical engineering on the basis of a framework-defined task. Graduates are able to find, classify and interpret information that is important for solving a defined practical problem, and can use some basic research procedures in the field to the extent necessary for solving practical problems.

Graduate's general competence

Graduates of the bachelor's study program are able to design and use in practice technical procedures in the field of electrical engineering. According to the framework assignment, he can also coordinate the activities of the team. They acquire additional professional knowledge, skills and competences on the basis of practical experience, which can be supplemented by an independent study of theoretical knowledge.

Professions

- Electrical equipments developer
- Power engineering design engineer
- Communications network designer
- Measurement technician
- Software developer for industrial electronics
- Electronics development worker
- Diagnostic technician

Hard skills

- SW - MATLAB/Simulink (creation of simulation models and system simulation)
- IP communication protocols
- Measurement of electrical quantities
- Power electronics (design, knowledge and use of semiconductor converters)
- Optical sensors and networks
- Control electronics (control systems with microprocessors)
- Electrical machines and appliances

Study curriculum

- form Full-time (en)