VILNIUS COLLEGE OF TECHNOLOGIES AND DESIGN

Electrical and Automation Engineering

State code: 6531EX023
Study field: Electrical Engineering
Study mode and scope of the study programme:
Full-time studies - 3 years, Part-time studies - 4 years

Study aims

The aim of Electrical and Automation Engineering study programme of Electrical Engineering study field is to prepare highly qualified electrical and automation engineering specialists, who are competitive in the labour market of the Republic of Lithuania and the European Union, able to work independently, solve professional problems and apply the latest technological knowledge in the field of electrical engineering.

Study outcomes

- Understanding of the general processes and phenomena of natural sciences and mathematics in order to understand the fundamental basics of electrical engineering study field.
- Awareness of the most important concepts of electronics and electric engineering study field and ability to understand their content.
- Awareness of the basic knowledge of electronics and electric engineering which is important in practice.
- Awareness of the context of adjacent study fields and their solutions.

- Ability to apply knowledge and understanding on how to solve problems of electronics and electric engineering study field, to creatively apply familiar methods.
- Ability to apply knowledge and understanding in the analysis of engineering tasks and choose appropriate methods, experimental and industrial equipment in order to solve these tasks.
- Ability to apply analytical and modelling methods in solving qualitative and quantitative tasks of electronics and electric engineering study field.
- Ability to find appropriate professional information using databases and other scientific and engineering information sources.
- Ability to conduct necessary experiments in order to solve engineering tasks, process their results and provide practical conclusions of these results.
- Skills in operating technological equipment used in electronics and electric engineering study field.
- Ability to select engineering solutions as well as means and equipment needed to carry out these solutions.
- Ability to combine theoretical and applied knowledge in solving engineering problems.
- Understanding of ethical, environmental and commercial implications of engineering activities.
- Awareness of the principles for the organisation of engineering activities;
- Awareness of the main occupational and fire safety requirements.
- Ability to apply engineering knowledge and understanding in defining and performing design tasks according to intended requirements.
- Ability to solve engineering tasks as an individual and as a member of a team.
- Ability to communicate with the engineering community and the public.
- Understanding of the impact of engineering solutions on the public and the environment, compliance with the rules of professional ethics and of engineering activities and awareness of responsibility for engineering activities.
- Knowledge of the principle project management and business aspects at engineering level.
- Understanding of the importance of and preparedness for independent life-long learning.

The student will:

- work as a specialist in electrical and automation engineering companies;
- work as a manager of a separate division of a company;
- manage his / her own business;
- pursue further higher education at the University

	SUBJECT TITLE	ECTS CREDITS	ASSESSEMENT
Semester I (30 Credits)			
	Speciality Language Culture	3	D
	Mathematics	6	E
	Physics	6	E
	Electrical Measurments	3	D
	Engineering Graphics	6	D
Choice (choose one):			
	Foreign Language (English)	3	
	Foreign Language (French)	3	
	Foreign Language (Russian)	3	
	Foreign Language (German)	3	
Optional study subjects			
	Sociology	3	E
	Sustainable Development	3	E
	Psychology	3	E
Semester II (30 Credits)			
	Applied Programmes	3	D
	Emgineering Mechanics	3	D
	Electrical Circuit Analysis	6	E
	Electronics	3	E
	Programming	6	D
	Educational Practice	6	D
Choice (choose one):			
	Foreign Language (English)	3	E
	Foreign Language (French)	3	E
	Foreign Language (Russian)	3	E
	Foreign Language (German)	3	E
Semester III (30 Credits)			
	Sustainable Environment and Occupational Safety	3	E
	Basics of Automation	6	E
	Power Electronics	3	E
	Electrotechnical Materials	3	D
	Electric Machines and Drives	6	E
	Technological 1 Practice	6	D
Choice (choose one):			
	Electricity Market	3	D
	Science Workshop Project	3	D
	History of Energetics	3	D
Semester IV (30 Credits)			
	Microprocessors and Controllers	6	E
	Electrical Energetics	3	E
	Information Transmission Systems	3	D
	Applied Research	3	D
	Discrete Automatic Systems	6	E
	Production Practice	6	D

Choice (choose one):			
	Light Technology	3	D
	Interdisciplinary Project	3	D
	Biomass Energy	3	D
Semester V (30 Credits)			
	Electrical and Automation Equipment	6	E
	Electrical Safety	3	E
	Design of Automation and Control Systems	6	E
	Control of Technological Systems in Buildings	3	D
	Project Management	3	D
	Engineering Economics	3	
	Technological 2 Practice	6	D
Semester VI (30 Credits)			
	Engineering Economics	3	E
	Law	3	E
	Mechatronic Systems	3	E
	Final Practice	6	D
	Final Thesis	12	D
Choice (choose one):			
	Robotics	3	D
	Lightning Protection	3	D
	Modern Electrical Systems	3	D

E - Exam
D - Independet work