



VILNIUS COLLEGE OF TECHNOLOGIES
AND DESIGN

Mechanical Engineering Technology

State code: 6531EX026

Study field: Mechanical Engineering

Study mode and scope of the study programme:

Full-time studies - 3 years, Part-time studies - 4 years.

Study aims

The aim of Mechanical Engineering study programme is to prepare mechanical engineering specialists by providing them with knowledge, abilities and skills required for professional design, solving of professional problems and application of the latest technologies in the field of mechanical engineering.

Study outcomes

- Understanding of the general processes and phenomena of natural sciences on the basis of which the processes of natural and technological environment are explained, as well as the regularities and laws of mathematics necessary to understand fundamental foundations of mechanical engineering study field.
- Awareness of the most important concepts of mechanical engineering study field and ability to understand their content.
- Awareness of the basic knowledge of mechanical engineering which is important in practice.
- Awareness of the context of adjacent study fields and their solutions.
- Ability to apply professional knowledge and understanding on how to solve problems of mechanical 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, laboratory and industrial equipment in order to solve these tasks.
- Ability to apply analytical and modelling methods in solving engineering tasks of mechanical engineering study field.
- Ability to apply engineering knowledge and understanding in the mechanical engineering study field in formulating and implementing design tasks according to established requirements.

- Ability to find appropriate professional information using information technologies, databases, software and other scientific and engineering information sources.
- Ability to perform tests in solving engineering tasks, ability to process test results and provide practical conclusions of these results.
- Skills in working with technological equipment used in mechanical engineering study field.
- Ability to choose engineering solutions, means and equipment necessary for reaching these solutions.
- Ability to combine theoretical and applied knowledge in solving engineering problems.
- Understanding of ethical, economic and commercial implications of engineering activities.
- Understanding of the principles of organisation of engineering activities; awareness of the main occupational and environmental safety requirements.
- Understanding of design methodologies and ability to apply them.
- 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 main aspects of project implementation and management at engineering level.
- Understanding of the importance and preparedness for independent life-long learning.

The student will:

- work as mechanical engineering specialist in production and repair companies or various branches of industry;
- work as a hired company manager or a manager of his / her own business.

SUBJECT TITLE	ECTS CREDITS	ASSESSMENT
Semester I (30 Credits)		
Speciality Language Culture	3	D
Mathematics	6	E
Physics	3	D
Engineering Graphics	6	D
Materials Engineering	6	E
<i>Choice (choose one):</i>		
Foreign Language (English)	3	D
Foreign Language (French)	3	D
Foreign Language (Russian)	3	D
Foreign Language (German)	3	D
<i>Optional study subjects</i>		
Sociology	3	E
Psychology	3	E
Sustainable Development	3	E
Semester II (30 Credits)		
Physics	3	E
Computer-Aided Modelling	6	D
Engineering Mechanics	6	D
Applied Programmes	3	D
Applied Research	3	D
Technological 1 Practic	6	D
<i>Choice (choose one):</i>		
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
Engineering Mechanics	3	D
Technical Measurements	3	D
Electrical Engineering and Electronics	6	E
Cutting Processes and Tools	6	E
Technological 2 Practic	6	D
<i>Choice (choose one):</i>		
Welding Technology	3	D
Diagnostics and Monitorings	3	D
Science Workshop Project	3	D
Semester IV (30 Credits)		
Engineering Economics	3	E
Technological Equipment	6	E
Equipment Designing	3	D
Machines Production Technology	6	E
Law	3	E
Industrial Practices	6	D
<i>Choice (choose one):</i>		
Ergonomics	3	D
Repair Technologies	3	D
Interdisciplinary Project	3	D

Semester V (30 Credits)		
Engineering Economics	3	D
Machines Production Technology	6	D
Production Automation	3	E
Mechatronics	3	D
CNC Equipment Programming	3	E
Computer Aided Designing of Technologies	6	E
Technological 2 Practic	6	D
Semester VI (30 Credits)		
Project Management	3	D
Innovative Technologies	3	E
Designing of Enterprises	3	E
Final Practice	6	D
Final Thesis	12	D
Choice (choose one):		
Fundamentals of Integrated Production	3	D
Quality Assurance and Managements	3	D
Composite Materials and Covers	3	D

E - Exam

D - Independet work