

INFORMATION TECHNOLOGY DURING OPERATION
TRANSPORT AND TECHNOLOGICAL MACHINERY (cours title)

COURSE SYLLABUS ABSTRACT

7-06-0714-02 Innovative technologies in mechanical engineering
(speciality code and name)

Computer engineering of transport and technological machines
(concentration)

Advanced higher education

	STUDY MODE	
	full-time	part-time
Year	2	2
Semester	3	4
Lectures, hours	16	4
Laboratory classes, hours	34	8
Exam, semester	3	4
Contact hours	50	12
Independent study, hours	150	188
Total course duration in hours / credit units	200/6	

1. Course outline – the objectives of the academic discipline are to expand theoretical knowledge of modern information technologies and obtain practical skills in using them when solving problems in a specific subject area

2. Course learning outcomes

Upon completion of the course, students will be expected to know:

- trends in the development of information technologies in their subject area;
- basics of modern operating systems and software packages;
- issues of technical support of modern information technologies and basic techniques for working on personal computers;
- basics of network technologies and Internet services, technology for searching for necessary information on the global Internet;
- fundamentals of modern information technology software, techniques for working with basic information technology software products: text, graphic and table processors, databases, presentation preparation tools, network client programs, mathematical calculation support tools;
- basics of information security in computers and computer networks;
- basic methods and means of solving problems in their subject area based on the use of information technology;
- basic methods of mathematical modeling and optimization when solving applied problems in various subject areas.

be able to:

- work on a personal computer as a user;
- use modern information technologies and software in scientific research;
- work with basic information technology software products: text, graphic and spreadsheet processors, databases, presentation preparation tools and mathematical calculation support tools;
- set and program tasks in your subject area;
- search for information on the Internet and use its basic services;
- be able to program Web documents.

to possess a skill:

- work methods
- modern information technologies for working with text, graphic and multimedia documents, spreadsheets and databases;
- technologies for working on the Internet and creating HTML documents using scripting programming languages;
- basic technologies of object-oriented programming;
- technologies for working in the environment of MathCad and MatLab packages;
- methods of information security and solving differential equations;
- methods of minimizing functions, conditional optimization, solving variational problems.

3. Competencies - Apply information technology in the operation of transport and technological machines

4. Requirements and forms of midcourse evaluation and summative assessment Defense of laboratory work is carried out orally and in writing based on the questions given in the guidelines. The exam is performed in the form of an electronic test on the Moodle platform.