

FUNDAMENTALS OF SCIENTIFIC RESEARCH AND INNOVATION
COURSE SYLLABUS ABSTRACT

1-37 01 06 «Technical operation of cars (by directions)»
(speciality code and name)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	2,3	3	2
Semester	4,5	6	4
Lectures, hours	34	8	8
Practical classes (seminars), hours	16	4	4
Laboratory classes, hours	34	8	8
Course paper, semester	5	6	5
Exam, semester	4	6	4
Contact hours	84	20	20
Independent study, hours	36	100	100
Total course duration in hours / credit units	120/3		

1. Course outline

The discipline contains the basic theoretical and methodological foundations for conducting scientific research and innovation activities to ensure scientific and technological progress and solving engineering and socio-economic problems.

2. Course learning outcomes

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

- goals and objectives of fundamental and applied research;
- methodological foundations of experimental work;
- the main stages and methods of processing research results;
- innovative laws and objectives of innovative activity;
- fundamentals of correlation and regression analysis, theory of experiment planning and optimal decision-making;

be able to:

- fundamentals of the theory of queuing and the possibility of its use to solve the problems of technical operation;

- content, methods of innovation activity and the basics of its organization;
- methods of innovative design and business planning of developments;
- the main legislative and regulatory acts in the field of innovation;
- foreign and domestic experience in the field of innovation in the specialty.

be able to:

- process statistical data and use them in practical work;
- use the theory of experiment planning, queuing theory and reliability theory, correlation and regression models in research on technical operation;
- use methods of organizing and conducting scientific research in the field of transport;
- to analyze new technologies, equipment, projects and solutions in order to assess their innovative potential;
- determine the competitiveness of products;
- define innovation goals and ways to achieve them;
- apply methods of analysis and organization of innovation implementation.

possess:

- methodological foundations of experimental work;
- methodological foundations of theoretical research based on modeling;
- methods of innovative design and planning of scientific developments.

3. Competencies

CK – 14 Have the ability to apply information support and interfaces of automated information systems of car service

4. Requirements and forms of midcourse evaluation and summative assessment

To assess the level of knowledge of students, the following diagnostic tools are used: oral-written.

The oral-written form includes: reports on classroom practical exercises with their oral defense; reports on laboratory work with their oral defense; term papers with their oral defense; examination in oral or written form.