

Fundamentals of research and innovation

(course title)

COURSE SYLLABUS ABSTRACT

1-40 05 01 Information systems and technologies (majors in)

(speciality code and name)

1-40 05 01-01 Information systems and technologies (in designing and producing)

(specialisation code and name)

	STUDY MODE	
	full-time	part-time (shortened program)
Year	4	4
Semester	7	7
Lectures, hours	34	8
Practical classes (seminars), hours	16	6
Pass/fail, semester	7	7
Contact hours	50	14
Independent study, hours	40	76
Total course duration in hours / credit units	90/2,5	

1. Course outline

Organization of scientific research. Search for information sources. Methods of processing the results of the experiment. Theoretical foundations of innovation. The essence of innovation. Innovation Process Structure.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know: goals and objectives of basic and applied research; methodological foundations of experimental work; main stages and methods of processing research results; innovative laws and goals of innovation activities; content, methods of innovative activity and the basis of its organization; patterns of development of innovative strategies;

be able to: conduct research on new technologies, equipment, projects and solutions in order to assess their innovative potential;

possess: basics of research of new technologies, equipment, projects and solutions with the aim of their innovative potential.

3. Competencies

AK-1 – Be able to apply basic scientific and theoretical knowledge to solve theoretical and practical problems; AK-2 – Own system and comparative analysis; AK-3 – Own research skills; AK-4 – Be able to work independently; AK-5– Be able to generate new ideas (have creativity); AK-6 – Have a multidisciplinary approach to problem solving; AK-7 – Have skills related to the use of technical devices, information management and computer work; AK-8 – Have oral and written communication skills; AK-9 – Be able to study, improve your qualifications throughout your life; AK-10 – Use the basic laws of natural sciences in your professional activity; AK-11 – Own the main methods, methods and means of obtaining, storing, processing information using computer equipment; AK-14 – Organize your work on a scientific basis, independently evaluate the results of your work; SLK-5 – Be capable of criticism and self-criticism; SLK-6 – Be able to work in a team; PK-3 – Analyze and justify the selection of technical, software and systems for automated support of professional activities; PK-31 – Design new and modernize technological processes that ensure the required technical and economic indicators

4. Requirements and forms of midcourse evaluation and summative assessment

– verbal-written: protection of practical classes, test.