

"KNOWLEDGE BASES AND DECISION SUPPORT IN COMPUTER-AIDED DESIGN SYSTEMS"

(course title)

**COURSE SYLLABUS ABSTRACT**  
**of higher education institution**  
**speciality**

1-40 05 01 Information systems and technologies (by field)  
(speciality code and name)

1-40 05 01 - Information systems and technology (in design and production)  
(specialisation code and name)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	3,4		
Semester	6,7		5,6
Lectures, hours	68		14
Laboratory classes, hours	50		14
Pass/fail, semester	6		5
Exam, semester	7		6
Contact hours	118		28
Independent study, hours	122		212
Total course duration in hours / credit units	240/6,5		

1. Course outline

Acquisition of special knowledge, skills and abilities necessary for an engineer in the process of designing expert systems.

2. Course learning outcomes

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

know and be able to use modern methods used in decision support systems; have an idea of the organization of knowledge bases; - have an idea of the problems of artificial intelligence in systems of design and technological design; have an idea of the organization of computer interaction in decision support systems.

be able to:

solve applied problems of design and technological design using artificial intelligence and decision support systems.

possess:

skills of working on a personal computer to work with decision support systems in the implementation of applied problems of design and technological design.

3. Competencies

K-1 Be able to apply basic scientific-theoretical knowledge to solve theoretical and practical problems.

AC-2 Master the systemic and comparative analysis.

AC-3 Have research skills.

AC-4 Be able to work independently.

AC-5 Be capable of generating new ideas (have creativity).

AC-6 Have an interdisciplinary approach to problem solving.

AC-7 Have skills related to the use of technical devices, information management and computer work.

AC-8 Have oral and written communication skills.

AK-9 Be able to learn and improve their skills throughout their lives.

AC-10 Use the basic laws of natural sciences in professional activities.

AC-11 Master the basic methods and means of acquiring, storing and processing information with the use of computers.

AK-14 Organize their own work on a scientific basis and independently estimate the results of their activity.

SK-6 Be able to work in a team.

PC-1 Master modern methods, languages, technologies and tools for design and development of software products.

PC-2 Master the principles and basic skills, techniques, methods of setting up, adapting and maintaining software tools.

PC-3 Analyze and justify the choice of technical and software tools and systems for automated support of processes of professional activity

PC-4 To develop software and systems for automated support of decisions of tasks of professional activity

PC-6 Perform testing of software products and used software tools for compliance with technical requirements.

PC-9 Perform modeling and designing of software tools, developed to ensure professional activity

PC-11 Develop functional, informational and other models of formalized representation of processes of professional activity.

PC-13 Develop models of data and knowledge bases, data warehouses for use in information systems, operational analysis systems and artificial intelligence systems

PC-21 Analyze and evaluate collected data.

PC-24 Use global information resources.

PC-25 Master the modern means of infocommunication.

4. Requirements and forms of midcourse evaluation and summative assessment

Oral and written form is used to diagnose competencies. The following assessment tools are used: reports on laboratory works with their oral defense, credit, exam.