

OBJECT-ORIENTED DESIGN AND PROGRAMMING

(course title)

COURSE SYLLABUS ABSTRACT of higher education institution

speciality

Specialty 1-40 05 01 – Information systems and technologies (by directions)

Direction of speciality 1-40 05 01 – Information systems and technologies (in design and production)

	STUDY MODE		
	Full-time (daytime)	Correspondence	Correspondence abbreviated
Year	1,2	2	2
Semester	2, 3	3,4	3,4
Lectures, hours	50	10	10
Laboratory classes, hours	68	16	16
Курсовой проект, семестр	4		
Credit, semester	2	3	3
Exam, semester	3	4	4
Contact hours	118	26	26
Independent study, hours	134	226	226
Total course duration in hours / credit units	252/7		

1. Summary of the content of the training discipline.

The purpose of the study discipline "Object-oriented design and programming" to teach students methods of building complex programs and systems using object-oriented programming.

2. learning outcomes

know:

- basic language concepts and syntax, OOP technology and program development techniques;
- methods of definition and use of basic objects and language constructions;
- technology of organization and use of hierarchy of classes, predefined classes and data types, methods of access limitation and handling of exceptional situations;
- methods of classes parameterization and their use to solve problems;
- methods of templates and container abstractions application;
- working with threads and development of multithreaded applications;

be able to:

- define abstractions, modules, and build a hierarchy of classes to implement programs;
- use methods: typing, encapsulation, inheritance, polymorphism to develop software products;
- use the capabilities of standard libraries;
- to use the mechanism of exceptions to create stable applications;
- create your own and use the provided standard libraries of templates for complex data structures;
- use OOP technology to develop complex programs and systems;

possess:

- methods and tools and systems for developing object-oriented programs;
- techniques for creating object-oriented software components and organizing their interaction in software projects

3. Formable competencies

УК-1 – Know the basics of research activities, search, analysis and synthesis of information

УК-5 – Have the skills of self-development and improvement in professional activities

УК-6 – Show initiative and adapt to changes in professional activities

БПК-11 – Analyze the causes of occupational injuries and diseases, develop measures to prevent occupational injuries and diseases