

# "COMPUTER NETWORKS"

(name of the discipline)

## OUTLINE

### TO THE SYLLABUS OF THE INSTITUTION OF HIGHER EDUCATION

**Specialty** 1-40 05 01 Information Systems and Technologies

(by subject area)

**Major field of study** 1-40 05 01-01 Information systems and technologies (in design and production)

	Form of higher education	
	Full-time (full-time)	Correspondence
Course	2	
Semester	3	
Lectures, hours	34	
Laboratory classes, hours	34	
Exam, semester	3	
Classroom hours in the educational discipline	68	
Independent work, hours	82	
Total hours in the discipline / credit units	150/4	

### 1. Summary of the contents of the study discipline

Basic provisions and concepts of network theory, namely: topology of computer networks, communication and information exchange protocols, commonly used technology of local and global networks, basic protocols and applications of the Internet, methods of configuration and adjustment of network devices, methods of troubleshooting, basics of constructing computer networks of various topologies.

### 2. Learning outcomes

As a result of studying the discipline the student must:

know: the basic concepts of construction of local and global networks; methods of combining computers and devices in a network; basic functions and modes of interaction of computers, hardware and software network; basic protocols, methods of organization, methods of combining computers in a network; types of network topologies and basic realized algorithms of interaction nodes; transmission methods, data coding and protection; principles of program development to organize client-server interaction, methods of program development for distributed processing  
be able to: analyze the level of efficiency of network solutions; effectively use operating systems and offer network solutions for developed application tasks; develop interaction programs to work in client-server architecture to organize client-server interaction and distributed data processing; use different protocols in software development;

To master: methods of development and substantiation of network configuration, estimation of traffic in segments, a choice of the network equipment and the software; technics of configuration of local networks, realization of network protocols by means of software tools; basic methods and software tools of development of network applications; methods of statement and the decision of a problem of designing or modernization of a local, or corporate computer network; skills of work with the information in local and global computer networks.

### 3. Competencies to be formed

AK-1, AK-2, AK-3, AK-4, AK-5, AK-7, AK-11.

### 4. Requirements and forms of current and intermediate attestation.

ZLR, PKU, exam.