The syllabus of the discipline
«*Architecture of computers and computer networks*»

Specialty	*121 Software Engineering*
Educational program	*Software engineering*
Educational level	*The first (bachelor's) level of higher education*
Discipline status	*Mandatory*
Language of instruction	*English*
Course / semester	*2nd year, 3rd semester*
Number of ECTS credits	*5*
Distribution by types of classes and hours of study	*Lectures - 24 hours.* *Laboratory classes - 24 hours.* *Self-study - 102 hours.*
Form of final control	*Grading including Exam*
Chair	*Department of Information Systems, room 413 (main building), (057) 702-18-31 (add. 4-37), department website: http://www.is.hneu.edu.ua/*
Teacher (s)	*Holubnychyi Dmytro Yuriiovych, Ph.D., Associate Professor;*
Contact Information teacher (s)	*Holubnichyi D.Yu.: dmytro.holubnychyi@hneu.net*
Class days	*Lecture: according to the current schedule of classes* *Practical: according to the current schedule of classes*
Consultations	*At the Department of Information Systems, full-time, according to the schedule of consultations, individual*

Goal academic discipline: formation of a system of theoretical knowledge and acquisition of practical skills and abilities to reveal the basic elements of the architecture of modern computer technology and technologies, concepts, methods of design and operation of computer networks and their administration using system utilities and specialized software

Prerequisites for learning

List of previously listened disciplines: Introduction to the specialty, Discrete Mathematics, Programming

The content of the discipline

Content module 1*Computer architecture*
Topic 1. General information about computer architecture
Topic 2. Computer processor architecture
Topic 3. Computer memory architecture
Topic 4. Bus architecture of the computer
Topic 5. I / O system
Topic 6. Supercomputers
Content module 2*Computer network architecture*
Topic 1. Basic concepts and characteristics of computer networks
Topic 2. Protocols of physical and channel levels
Topic 3. Configuring the network operating system
Topic 4. Network and transport layer protocols
Topic 5. Dial-up and virtual networks
Topic 6. Routing in computer networks

Material and technical (software) ensuring discipline

Microsoft office, AIDA64, SiSoft Sandra Professional, Fresh Diagnose, CPU-Z, Passmark Perfomance Test, Passmark KeyboardTest, Keyboard Test Utility, VisualRoute, Cisco Packet Tracer, LanCalculator, Solarwinds, Wireshark

Course page on the Moodle platform (personal training system)	*https://pns.hneu.edu.ua/*

Learning outcomes assessment system

The system of assessment of the formed competencies takes into account the types of classes, which include lectures, seminars, practical classes, as well as independent work. Assessment of the formed competencies of students is carried out according to the accumulative 100-point system. The minimum number of points for the current control during the semester, which allows the student to take the exam - 35, the maximum - 60. The final control is conducted in the form of a semester exam. The minimum score that allows you to successfully pass the exam - 25, the maximum - 40. The total number of points in the discipline is defined as a simple sum of points on the results of student success (maximum - 100 points).

Current control includes the following control measures: tasks by topics; current control works; Coursera for Campus certification.

More detailed information on the assessment and accumulation of points in the discipline is given in the work plan (technological map) of the discipline.

Discipline policies

The teaching of the discipline is based on the principles of academic integrity. Violations of academic integrity are: academic plagiarism, fabrication, falsification, write-off, deception, bribery, biased evaluation. For violation of academic integrity, students are brought to the following academic responsibility: re-assessment of the relevant type of educational work

More detailed information on competencies, learning outcomes, teaching methods, assessment forms, independent work is given in the Work program of the discipline

The syllabus was approved at the meeting of the department "June 10", 2022. Protocol №17