The syllabus of the course
«*Operating systems*»

Specialty	*121 Software engineering*
Study Programme	*Software engineering*
Study cycle (Bachelor, Master, PhD)	*the first (Bachelor) level of higher education*
Course status	*mandatory*
Language	*English*
Term	*second year, third semester*
ECTS credits	*4*
Workload	*Lectures - 16 hours.*
	Laboratory - 32 hours.
	Self study - 72 hours.
Assessment system	*Credit*
Department	*Department of Information Systems, auditorium 413 of the main building, phone: (057) 702-18-31, website: http://www.is.hneu.edu.ua/*
Teaching staff	*Dmytro Yuriyovych Holubnychyi, PhD in Technics, Associate professor*
Contacts	*dmytro.holubnychyi@hneu.net*
Course schedule	*Lectures: according to the schedule* *Practical studies: according to the schedule*
Consultations	*At the Department of Information Systems, offline, according to the schedule, individual, PNS chat.*

Learning objectives and skills:

formation of a system of special knowledge on learning the theoretical foundations of construction, principles of design, configuration and application of various modern operating systems that ensure the organization of computing processes in corporate information systems for economic, management, production, scientific and other purposes, as well as providing practical skills for automating everyday tasks administration

Structural and logical scheme of the course

Prerequisites	Post-requisites
Basics of Algorithm	Databases
Programming	Object-oriented programming
	Application and data security
	Distributed and parallel computing

The content of the course

Content module 1. *Architecture of operating systems*
Topic 1. Principles of construction of operating systems
Topic 2. Architecture of various operating systems
Content module 2 *RAM, threads and processes*
Topic 3. Processes and flows in operating systems
Topic 4. Architecture and memory management
Content module 3 *File system*
Topic 5. Executable files of the operating system
Topic 6. System registry
Content module 4. *Network, multiprocessor operating systems and information protection*
Topic 7. System services of the operating system
Topic 8. Data protection in the operating system

Teaching environment (software)

Microsoft office, OC ReactOS, KolibryOS, Linux Ubuntu, AIDA64, Process Explorer, Process Monitor,System Info for Windows, Task Info, Microsoft Spy++, WinmOS, PassMark PerformanceTest, Mz RAM Booster, CleanMem, RAM Saver Professional, VMMap, RAMMap, PE Explorer, PEview, PEiD, AccessEnum, AutoRuns, RegShot, Advanced Office Password Recovery, Advanced PDF Password Recovery, Advanced Archive Password Recovery, OllyDbg, Xvi32, Victoria, XPerfView, WinDbg, Multimedia projector

Assessment system

Assessment of students' learning outcomes is carried out by the University according to the cumulative 100-point system.

Current control is carried out during lectures and practical (seminar) classes and aims to assess the level of students' readiness to perform particular tasks, and is assessed by the amount of scored points. The maximum amount during the semester – 100 points; the minimum amount required is 60 points.

Current control includes the following assessment methods: assignments on a particular topic; testing; presentations, and performing laboratory works.

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More detailed information on assessment and grading system is given in the technological card of the course.

Course policies

Teaching of the academic discipline is based on the principles of academic integrity.

Violation of academic integrity includes academic plagiarism, fabrication, falsification, cheating, deception, bribery, and biased assessment.

Educational students may be brought to the following academic responsibility for breach of academic integrity: repeated assessment of the corresponding type of learning activity.