



Syllabus of the course

"Design and Implementation of Software Systems"

Speciality	<i>D3 Management F6 Information Systems and Technologies</i>
Study Programme	<i>Management and Information Technologies</i>
Study cycle (Bachelor, Master, PhD)	<i>The first (Master's) level of higher education</i>
Course status	<i>mandatory</i>
Language	<i>English</i>
Term	<i>2 year, 3 semester</i>
ECTS credits	<i>5</i>
Workload	<i>Lectures – 16 hours.</i>
	<i>Laboratory studies – 44 hours.</i>
	<i>Self-study – 90 hours.</i>
Assessment system	<i>Grading including Exam</i>
Department	<i>Department of Informational Systems, Nauky Avenue 9-A, c. Kharkiv, building 1, auditorium 413 Phone: +38(057)702-18-31 (additional 437 website: https://it.hneu.edu.ua/is/</i>
Teaching staff	<i>Olena PLOKHA, PhD (Economics), associated professor</i>
Contacts	<i>olena.plokha@hneu.net +380955704711</i>
Course schedule	<i>Lectures: according to the schedule Laboratory classes: according to the schedule</i>
Consultations	<i>at the Department of Informational Systems: face-to-face sessions in accordance with the consultation timetable; individual sessions, chat via the PNS and Zoom</i>

Learning objectives and skills:

The course **aims** to provide students with a system of theoretical knowledge, practical skills, and abilities in software engineering for planning, designing, implementing, and ensuring the quality of software systems, using modern development methodologies and tools.

Structural and logical scheme of the course

Prerequisites	Post-requisites
Applied programming project Business information systems Risk management and management control Machine learning Analytics for data driven decisions in international management	Digital business modelling Complex training

Course content

Content module 1. Software Engineering Foundations & Planning

Topic 1. Introduction to Software Development.

Topic 2. Software Development Process & Models.

Topic 3. Agile Project Management.

Topic 4. Planning of Software Development.

Topic 5. Requirements Engineering & Elicitation.

Content module 2. Software System Design, Implementation & Operations



- Topic 6.** Design of Software Systems.
Topic 7. Implementation & Quality Assurance.
Topic 8. Deployment & Maintenance.
Topic 9. Final Project & Review.

Teaching environment (software)

(Multimedia projector, S. Kuznets PNS, Corporate Zoom system, Trello, Ramus Educational, Canvanizer)

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 – 60 points; the minimum amount required is 35 points.

Final control is carried out at the end of the semester in the form of an exam (the maximum amount is 40 points, the minimum amount required is 25 points).

Current control includes the following assessment methods: assignments on a particular topic; testing; presentations, and essay writing.

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.

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

More detailed information about competencies, learning outcomes, teaching methods, assessment forms, self-study is given in the Course program