

FUNDAMENTALS OF SOFTWARE PROJECT MANAGEMENT

COURSE SYLLABUS

Code and name of specialty	121 Software Engineering	Institute / faculty	Faculty of Computer Science and Software Engineering
Program name	“Software Engineering” (Innovation Campus)	Department	Software Engineering and Management Information Technologies
Type of program	Educational and Professional	Language of instruction	Ukrainian, English

LECTURER

Maryna Vovk

maryna.vovk@khpi.edu.ua



Ph.D., Associate Professor at the Department of Software Engineering and Management Information Technologies of NTU «KhPI». Prepared and published more than 30 research papers and textbooks (Google Scholar:

https://scholar.google.com/citations?hl=ru&user=YEmGWLkAAAAJ&view_op=list_works&sortBy=pubdate; ORCID: <https://orcid.org/0000-0003-4119-5441>; Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57203517746>).

Leading lecturer of courses: "Project Management" (*in Ukrainian and English*), "Fundamentals of Software Project Management" (*in Ukrainian and English*), "Innovation and Entrepreneurship" (*in Ukrainian and English*).

GENERAL DESCRIPTION OF THE COURSE

Summary	The course “Fundamentals of Software Project Management” is a course in the cycle of professional compulsory training of the specialty 121 “Software Engineering”. It is taught in the eighth semester in the amount of 90 hours (3 ECTS credits), in particular: lectures – 20 hours, laboratory classes – 10 hours, independent work – 60 hours. There are no individual tasks. The study of the discipline ends with the exam.
Course objectives	Formation of students' theoretical and practical knowledge necessary for working with projects, to give an idea of modern project management technology and to acquaint students with the principles of using project management in the tasks of their future professional activity.
Types of classes and control	Lectures, laboratory classes. Continuous assessment – laboratory works, intermediate modular assessment. Final assessment – exam.
Term	8

Student workload (credits) / Type of course

3 / Mandatory (elective)

Lectures (hours)

20

Laboratory classes (hours)

10

Self-study (hours)

60

Program competences

GC 02. Ability to apply knowledge in practical situations.

GC05. Ability to learn and master modern knowledge.

GC06. Ability to search, process and analyze information from various sources.

GC 07. Ability to work in a team.

PC14. Ability to participate in software design, including modelling (formal description) of its structure, behavior and functioning processes.

PC17. Ability to adhere to specifications, standards, rules and recommendations in the professional field in the implementation of life cycle processes.

PC21. Ability to assess and take into account economic, social, technological and environmental factors affecting the sphere of professional activity.
 PC26. Ability to algorithmic and logical thinking.

Learning outcomes	Teaching and learning methods	Forms of assessment (continuous assessment CAS, final assessment FAS)
<p>PLO01. Analyze, purposefully search for and select the necessary information and reference resources and knowledge to solve professional problems, taking into account modern advances in science and technology.</p> <p>PO03. Know the basic processes, phases and iterations of the software life cycle.</p> <p>PO14. Put into practice the tools of domain analysis, design, testing, visualization, measurement and documentation of software.</p> <p>PO16. Have the skills of team development, approval, design and release of all types of software documentation.</p> <p>PO22. Know and be able to apply methods and tools of project management.</p> <p>PO23. Be able to document and present the results of software development.</p> <p>PO24. Be able to calculate the economic efficiency of software systems.</p>	<p>Interactive lectures with presentations, discussions, laboratory classes, teamwork, case method, student feedback method, problem-based learning</p>	<p>Written individual assignments for laboratory works (CAS), assessment of knowledge in laboratory classes (CAS), express surveys (CAS), online tests (CAS), final/semester control in the form of a semester exam, according to the schedule of the educational process (FAS)</p>

ASSESSMENT AND GRADING

Range s of points corres pondi ng to grades	core (points) for all types of learning activities	ECTS grading scale	The national grading scale	Allocation of grade points	100% Final assessment as a result of Final exam (30%) and Continuous assessment (70%). 30% Final exam 70% Continuous assessment: Module №1 (10%) Module №2 (20%) Laboratory works (40%) Laboratory work №1 (10%) Laboratory work №2 (10%) Laboratory work №3 (10%) Laboratory work №4 (10%)
	90-100	A	excellent		
	82-89	B	good		
	74-81	C	satisfactory		
	64-73	D			
	60-63	E			
	35-59	FX	Unsatisfactory (with the exam retake option)		
	0-34	F	Unsatisfactory (with mandatory repetition of the course)		

Course policy

Students must attend all classes according to the study schedule and adhere to the norms of academic ethics. To study the course, students need to have their personal computer and (or) use computers of the computer center at the department. Students must work with compulsory and recommended reading, including Internet resources. Students must complete and submit all laboratory works during the semester in which the course is taught, before the examination session. The final assessment is not carried out without the personal presence of students.

COURSE STRUCTURE AND CONTENT

Lecture 1	Introduction to project management.			Self-study	Elaboration of lecture material Preparation for laboratory classes Independent study of topics and issues that are not taught in lectures
Lecture 2	The concept of project and project management	Laboratory work 1	Subject area analysis. Problem analysis: building a problem tree. Building a goal tree.		
Lecture 3	Modern project management concepts				
Lecture 4	Project life cycle. Project organization according to PMBoK methodology.	Laboratory work 2	Scope project. Communication policy goals		
Lecture 5	Initialization processes				
Lecture 6	Planning processes	Laboratory work 3	Develop a Product Backlog.		
Lecture 7	Execution processes				
Lecture 8	Monitoring and control processes	Laboratory work 4	User interface design, prototype development		
Lecture9	Completion processes				
Lecture 10	Flexible technologies in project management. SCRUM. KANBAN.				

RECOMMENDED READING

Compulsory

1. A Guide to the Project Management Body of Knowledge (PMBOK® Guide). (2021).
2. Agile Practice Guide Kindle Edition. (2017).
3. SAFe 5.0 Distilled: Achieving Business Agility with the Scaled Agile Framework 9780136820406 Report DMCA / Copyright. (2020).

Recommended

4. Agile Transformation: Using the Integral Agile Transformation Framework™ to Think and Lead Differently (1 ed.) Report DMCA / Copyright. (2020).
5. Succeeding with Agile Hybrids: Project Delivery Using Hybrid Methodologies (1st ed.). (2020).
6. Doing Agile Right: Transformation Without by Darrell Rigby, Sarah Elk, Steve Berez. (2020).
7. The Startup Owner's Manual: The Step-By-Step Guide for Building a Great Company by Steve Blank and Bob Dorf. (2020).

Academic integrity

Graduate students are expected to adhere to the Code of Ethics of Academic Relations and Integrity” of NTU “KhPI”.

The content of this syllabus is consistent with the course program.