Syllabus
Course Program

IT project teams formation and development

Specialty
121 – Software Engineering
122 – Computer Science

Institute
Institute of Computer Science and Information Technology

Educational program
Software Engineering
Computer Science and Intelligent Systems

Department
Software Engineering and Management Intelligent Technologies (321)

Level of education
Bachelor's level

Course type
Special (professional), Mandatory

Semester
7

Language of instruction
English, Ukrainian

Lecturers and course developers

Maryna Vovk

maryna.vovk@khpi.edu.ua
Doctor of Philosophy (Ph.D.), Associate Professor, Associate Professor of Software Engineering and Management Intelligent Technologies Department

Google Scholar: https://scholar.google.com/citations?user=YEmGWLkAAAAJ
ORCID: https://orcid.org/0000-0003-4119-5441
Scopus: https://www.scopus.com/authid/detail.uri?authorId=57203517746
Web of Science: https://www.webofscience.com/wos/author/record/T-7377-2018

More about the lecturer on the department's website

General information

Summary

In today's conditions, successful managers are those who, along with mastering the basics of management, are also aware of the importance of the psychological foundations of leadership, know how to and apply methods of managing project teams. When teaching the discipline, considerable attention will be paid to the study of: psychological methods of leadership in project management; organizational and role structures of project management; project team management methods; project team development methods; methods of project team motivation; communication methods between project team members.

Course objectives and goals

Formation of a modern system of views and special knowledge in the field of formation and development of IT project teams, necessary for creating a project team, helping it to achieve maturity, ensuring effective work, motivating employees and effectively holding meetings.

Format of classes

Lectures, laboratory classes, self-study, consultations. Final control in the form of a credit.

Competencies

121 - Software engineering
К02. Ability to apply knowledge in practical situations.
К05. Ability to learn and master modern knowledge.
К06. Ability to search, process and summarize information from various sources.
К07. Ability to work in a team.
К17. Ability to comply with specifications, standards, rules and guidelines in the professional field when implementing life cycle processes.
К21. Ability to evaluate and take into account economic, social, technological and environmental factors that affect the field of professional activity.
К26. Ability to think algorithmically and logically.
122 - Computer Science
GC1. Ability to think abstractly, analyze and synthesize.
GC2. Ability to apply knowledge in practical situations.
GC3. Knowledge and understanding of the subject area and understanding of professional activities.
GC6. Ability to learn and master modern knowledge.
GC7. Ability to search, process and analyze information from various sources.
GC9. Ability to work in a team.
GC10. Ability to be critical and self-critical.
GC11. Ability to make informed decisions.
GC12. Ability to evaluate and ensure the quality of work performed.

Learning outcomes

121 - Software engineering
PLO01. Analyze, purposefully search and select information and reference resources and knowledge necessary for solving professional problems, taking into account modern achievements of science and technology.
PLO02. To know the code of professional ethics, to understand the social significance and cultural aspects of software engineering and to adhere to them in professional activities.
PLO16. Have the skills of team development, coordination, design and production of all types of program documentation.
PLO22. To know and be able to apply project management methods and tools.
PLO23. Be able to document and present the results of software development.
122 - Computer science
PLO11. Have the skills to manage the life cycle of software, products and services of information technology in accordance with the requirements and restrictions of the customer, be able to develop project documentation (feasibility study, terms of reference, business plan, agreement, contract.
PLO20. Develop the architecture of software systems and their individual components in the construction of intelligent control systems in various industries, as well as manage the life cycle processes of software of intelligent control systems.

Student workload

The total volume of the course is 120 hours (4 ECTS credits): lectures – 16 hours, laboratory classes – 16 hours, self-study – 88 hours.

Course prerequisites

Architecture of corporate information systems

Features of the course, teaching and learning methods, and technologies

Teaching and learning methods:
interactive lectures with presentations, discussions, laboratory classes, teamwork, case method, student feedback, problem-based learning.
Forms of assessment:

written individual assignments for laboratory work (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).

Program of the course

Topics of the lectures

Topic 1. Teams in an IT project: definition, classification, goals
Topic 2. IT project team planning
Topic 3. Formation of a team
Topic 4. Interviews and interviews
Topic 5. Training, certification and development of project personnel
Topic 6. Effective intra-team communications. Effective holding of meetings and meetings
Topic 7. Conflict and stress management
Topic 8. Motivation in IT teams

Topics of the workshops

Workshops are not provided within the discipline.

Topics of the laboratory classes

Topic 1. Teams in an IT project: definition, classification, goals
Topic 2. IT project team planning
Topic 3. Formation of a team.
Topic 4. Interviews and interviews.
Topic 5. Training, certification and development of project personnel.
Topic 6. Effective intra-team communications. Effective holding of meetings and meetings.
Topic 7. Conflict and stress management.
Topic 8. Motivation in IT teams.

Self-study

Individual assignments are not provided in the curriculum.
Students are recommended with additional materials (videos, articles) for self-study and processing.

Course materials and recommended reading

Key literature

1. IT Operations Management Team A Complete Guide - 2021 Edition.
2. Laudato, A. (2022). Fostering Innovation: How to Build an Amazing It Team
3. As For Me And My Team We Will Get It Done. (2021). by Funny Team Members (Author)
4. Klünder J, Horstmann J, Karras O. (2020) Identifying the Mood of a Software Development Team by Analyzing Text-Based Communication in Chats with Machine Learning.

Additional literature

1. Clifton, J., Harter, J. (2019). It's the Manager: Moving From Boss to Coach
2. A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition and The Standard for Project Management (ENGLISH) Seventh edition, Kindle Edition, 2021
3. Філдінг Пол Дж. (2020). Як керувати проєктами/ пер. з англ. О. Якименко. Харків: Вид-во «Ранок»: Фабула

Assessment and grading

Criteria for assessment of student performance, and the final score structure

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 (10%)
Laboratory works (50%)
Laboratory work №1 (10%)
Laboratory work №2 (10%)
Laboratory work №3 (10%)
Laboratory work №4 (10%)
Laboratory work №5 (10%)

Grading scale

Total points	National	ECTS
90–100	Excellent	A
82–89	Good	B
75–81	Good	C
64–74	Satisfactory	D
60–63	Satisfactory	E
35–59	Unsatisfactory (requires additional learning)	FX
1–34	Unsatisfactory (requires repetition of the course)	F

Norms of academic integrity and course policy

The student must adhere to the Code of Ethics of Academic Relations and Integrity of NTU "KhPI": to demonstrate discipline, good manners, kindness, honesty, and responsibility. Conflict situations should be openly discussed in academic groups with a lecturer, and if it is impossible to resolve the conflict, they should be brought to the attention of the Institute's management.
Regulatory and legal documents related to the implementation of the principles of academic integrity at NTU "KhPI" are available on the website: http://blogs.kpi.kharkov.ua/v2/nv/akademichna-dobrochesnist/

Approval

Approved by 08.06.2023 Head of the department
Ihor HAMAIUN

08.06.2023 Guarantors of the educational programs
Andrii KOPP
Uliya LITVINOVA