



COURSE DESCRIPTION CARD - SYLLABUS

Course name

IT Project Management [S1Cybez1>ZPIT]

Course

Field of study
Cybersecurity

Year/Semester
1/1

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
15

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

Knowledge: The student has a basic level of knowledge and is familiar with fundamental concepts in economics, computer science, and mathematics. Skills: The student is capable of using IT tools and obtaining information from designated sources. Social Competences: The student should exhibit attitudes such as honesty, responsibility, perseverance.

Course objective

The objectives of the course are: • Introduce students to the fundamental principles of project management in the IT industry. • Develop teamwork skills and effective communication within project teams. • Familiarize students with tools that support IT project management. • Prepare students to carry out projects in team-based settings.

Course-related learning outcomes

Knowledge:

- The student knows the definition of an IT project and can characterize its lifecycle (planning, execution, closing).
- The student understands the key project management methodologies (Waterfall, Prince2, Scrum,

Agile) and the main differences between traditional and agile approaches.

- The student knows the fundamental areas of project management (scope, time, budget, quality, risk) and can list typical tools that support this process.

Skills:

- The student can apply selected IT project management tools (e.g., Trello, Jira) to plan and monitor the progress of a simple project.
- The student can work in a project team and communicate effectively (conduct brief meetings, report progress, solve problems).
- The student can prepare a simple schedule and define project tasks (milestones, priorities) and present the plan to the team or stakeholders.
- The student is able to identify key stakeholders and plan basic activities in change and risk management.

Social competences:

- The student understands the importance of collaboration and can share tasks within the team while taking responsibility for their execution.
- The student is aware of the consequences of unethical behavior in a project (e.g., falsifying reports, disrespecting team members).
- They are able to think and act in an entrepreneurial manner within the field of cybersecurity.
- The student can respond constructively to team problems and seek compromises.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture:

The knowledge acquired in the lecture is verified by a test in (1) written or (2) oral form.

In the written form, students have to answer 5 - 8 questions (test and open questions) with different scoring.

In the oral form, the student first draws 3 thematic groups from among the 5 main topics covered in the lecture part, and then draws 1 question in each group. For each question drawn, the student may be asked an additional question (related to the question drawn). Assessment of the question (includes the answer to both the drawn question and the supplementary question) includes the range of answers and the depth of understanding of the topic.

Project:

The skills acquired in the project are verified on the basis of progress reports prepared during the semester (25% of the grade) and the final report and defence of the project in the form of a presentation (75% of the grade). During the final presentation, the instructor will ask follow-up questions to assess the depth of understanding of the topic.

Grading scale for lecture and lab sections:

In both didactic forms, a pass threshold of 50% of the possible marks is adopted. The following grading scale applies: < 50% 2.0; 50%-59% 3.0; 60%-69% 3.5; 70%-79% 4.0; 80%-89% 4.5; 90%-100% 5.0.

Programme content

Within the course, students will learn how to define and organize IT projects, starting from preparing the project charter to setting goals and tasks within a schedule. They will become acquainted with the most important project management methodologies (Waterfall, Prince2, Agile, Scrum) and learn how to select the appropriate method for different types of projects. Additionally, they will understand the significance of change and risk management for the success of IT initiatives and how to identify and communicate with key stakeholders. Students will master the fundamentals of effective teamwork and the principles of efficient communication, especially in hybrid or remote environments. They will learn to use popular IT tools for planning and monitoring project progress. As a result, they will be capable of independently planning and executing a simple IT project, as well as preparing basic project documentation. Finally, through practical examples, they will discover how to analyze the causes of successes and failures, draw conclusions, and continuously improve the project management process.

Course topics

I. Fundamentals of IT Project Management

1. Introduction to Project Management

- Definition of an IT Project, Project Characteristics.
- Project Lifecycle: Planning, Execution, Closing.
- Importance of Project Management in the IT Industry.

2. Basic Concepts and Principles

- Pillars of Project Management: Scope, Time, Budget, Quality.
- Key Roles: Project Manager, Team, Stakeholders.
- Project Charter: Role in Project Initiation, Key Elements, and Significance.

II. Tools and Methods of IT Project Management

1. Project Management Methodologies

- Classical (Waterfall, Prince2) and Agile (Agile, Scrum) Methodologies - Overview and Applications.
- Principles of Managing in Accordance with Agile Methodology: Stand-ups, Backlog, Sprints, Retrospectives.
- Project Charter, Schedule, Milestones.

2. Tools Supporting Project Management

- Introduction to Basic Tools Used in Project Management.
- Managing Documentation, Code Repositories, Team Communication.

III. Teamwork and Communication

1. Basics of Teamwork

- Building an Effective Team, Member Roles, Motivating Team Members.

2. Communication in IT Projects

- Principles of Effective Communication, Status Meetings, Information Channels.
- Remote and Hybrid Work in the Context of IT Projects.

3. Role of the Project Manager in Teamwork

- Competencies of the Project Manager, Conflict Resolution, Decision-Making.

IV. Risk Management in IT Projects

1. Basic Concepts in Risk Management: Identification, Probability and Impact Analysis.

2. Risk Assessment (Risk Register, Risk Matrix) - Strategies for Mitigating Effects.

3. Risk Management Methodologies and Tools (Response Plan, Risk Monitoring).

V. Stakeholder and Change Management

1. Stakeholder Identification

- Analyzing Their Needs, Influence, and Engagement in the Project.
- Communication with Stakeholders: Frequency, Format, Level of Detail.

2. Change Management

- Causes of Changes in a Project (Scope, Budget, Schedule).
- Change Request and Approval Procedures, Impact Assessment on the Project.
- Change Register - Documenting and Communicating Changes Within the Team.

3. Case Study

VI. Group Project

1. Case Study Analysis

- Analyzing Sample Cases in the Process of Project Initiation, Execution, and Closing.
- Analyzing Team Management and the Role of the Project Manager in Project Execution.

2. Execution of an IT Project

- Setting Project Goals and Scope.
- Creating a Project Plan: Schedule, Tasks, Priorities.
- Documenting Progress, Reporting Results (Task Board, Risk Register, Change Log).

3. Presentation of Project Results

- Preparing a Team Presentation.
- Project Summary: Analyzing Successes, Challenges, and Areas for Improvement..

Teaching methods

- Theoretical lectures supported by multimedia presentations with elements of case studies.
- Team work on a project
- Practical exercises using project management tools.

Bibliography

Basic:

1. „Przewodnik PMBOK - wydanie 7” - Project Management Institute.

2. „PRINCE2 - skuteczne zarządzanie projektami” - Axelos.
3. Kenneth S. Rubin, „Essential Scrum: A Practical Guide to the Most Popular Agile Process”
4. „Podstawy zarządzania projektami” - Harold Kerzner.

Additional:

1. Documentation and online tool guides (Trello, Jira, GitHub).
2. „Agile Retrospectives: Making Good Teams Great” - Esther Derby, Diana Larsen.
3. „Scrum. O zwinnym zarządzaniu projektami” - Jeff Sutherland.

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00