COURSE DESCRIPTION CARD - SYLLABUS

Course name
Project Management [S1DSwB1>ZProj]

Course

Field of study
Data Science in Business

Year/Semester
2/3

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
15

Projects/seminars
15

Number of credit points

3,00

Coordinators

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Lecturers

Prerequisites

The prerequisites for the Project Management course include basic knowledge of management and communication, the ability to use MS Office and work in a shared environment. Students should also demonstrate a willingness to work in a team, which is crucial in implementing projects.

Course objective

The aim of the Project Management subject is to equip students with knowledge and skills that allow them to understand the nature and role of projects in management, effectively use modern project management tools, and effectively plan and organize their implementation.

Course-related learning outcomes

Knowledge:
Characterizes project management methods and tools, such as Gantt charts, network diagrams, stakeholder analysis, RAM/RACI matrix, and risk analysis, and their application in project planning and

execution [DSB1_W03].
Describes the stages of the project life cycle and identifies appropriate tools for managing scope, time, cost, and project risk [DSB1_W07].
Explains the functioning of project teams, defining the roles of team members and stakeholders, with a particular focus on communication processes and coordination of actions [DSB1_W10].

Skills:
Plans and organizes a project, using project management tools such as Gantt charts, network diagrams, and risk analysis [DSB1_U08].
Analyzes and evaluates project management methods in terms of their effectiveness, considering economic, strategic, and organizational aspects [DSB1_U07].
Creates project teams, assigns roles, and resolves organizational issues to ensure effective project execution [DSB1_U14].
Manages the project throughout its life cycle, monitoring progress, coordinating tasks, and adapting actions to changing conditions [DSB1_U13].

Social competences:
Analyzes cause-and-effect relationships in project execution, assesses priorities and task importance, adapting actions to changing conditions [DSB1_K01].
Plans and manages projects in an entrepreneurial manner, considering optimal resource utilization and business risk [DSB1_K04].
Collaborates in project teams, communicating effectively and solving organizational and execution issues related to project management [DSB1_K02].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Formative assessment: attendance and activity during didactic classes, results of solving cognitive tasks, participation in discussion. Summative assessment: result of written test.
Exercises: Formative assessment: attendance and activity during didactic classes, results of solving individual tasks, participation in discussion. Summative assessment: presentation on the group forum.
Laboratory: Attendance and activity during didactic classes, results of solving individual tasks. Summative assessment based on the main task.

Programme content

Lecture: Basic issues of project management, their place and role in the organization. Characteristics of projects and their life cycle. Key stages of project implementation - planning, organization, implementation and control. Project management structure, roles and tasks of project participants. Project management methodologies - traditional and agile approaches.
Exercises: Practical aspects of project planning and implementation, including defining goals, stakeholder analysis, communication and risk planning. Creating schedules and cost analyses. Preparing and presenting project assumptions.
Laboratory: Using IT tools for project management, such as MS Project or others. Creating schedules, assigning resources and optimizing their use. Cost analysis and monitoring project progress.

Course topics

Lecture: Defining the place and role of projects in management. Project management premises. Project as a task with specific features. Types of projects. Typical project course (initiation, setting requirements, defining goals and identifying conditions, feasibility analysis, risk analysis, task structuring (SPP), resource and workflow planning, budgeting, course control, project closure). Project organization (appointing a project manager and his/her roles, team formation principles and problems during the transformation of a group into a team, communication system). Classical and agile project management methodologies.

Exercises and laboratories are complementary classes, during which technical and organizational documentation for a selected project is created.
Exercises: Defining conditions and project card, stakeholder analysis in the project, communication plan, network diagram, risk analysis, cost analysis in the project (unit cost, sources of financing, assessment of the feasibility of implementing the project), presentation of the project.

Laboratory: Preparation of tasks using IT support MsProject or other - work breakdown structure, Gantt chart, assignment of human resources along with the elimination of overloads, assignment of material resources, cost analysis.

Teaching methods

Lecture: problem-based or conversational lecture, supported by discussion.
Exercises: auditorium exercises covering solving cognitive tasks, case analysis, discussion and implementation of a group project
Laboratories: practical exercises on the use of IT tools supporting project management and implementation of a group project in a digital environment.

Bibliography

Basic:
1. Wysocki, R. K. (2011). Effective project management: traditional, agile, extreme. John Wiley & Sons.
2. Bukłaha, E., & Rzempała, J. (2023). PMS TOOLS FOR AGILE PROJECTS. Scientific Papers of Silesian University of Technology. Organization & Management/Zeszyty Naukowe Politechniki Śląskiej. Seria Organizacji i Zarzadzanie, (185).
3. Thesing, T., Feldmann, C., & Burchardt, M. (2021). Agile versus waterfall project management: decision model for selecting the appropriate approach to a project. Procedia Computer Science, 181, 746-756.

Additional:
1. PMBOK® Guide - Seventh Edition (2021).
2. PRINCE2® - Skutecznie Zarządzanie Projektami (2023).
3. Manifest Agile (2001).
4. Schwaber, K., & Sutherland, J. (2020). The scrum guide. The Definitive Guide to Scrum: The Rules of the Game. Scrum Alliance.

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00