



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Modeling Agile Software Development

Course

Field of study

Engineering Management

Area of study (specialization)

Enterprise resource and process management

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

Tutorials

Projects/seminars

15

Other (e.g. online)

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

Ph.D., Karolina Grobelna

Responsible for the course/lecturer:

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Faculty of Engineering Management

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Prerequisites

Basic knowledge of programming, software engineering and IT project management.

Course objective

Mastering students' knowledge of theory, design and implementation of software. Presentation of the process related to the use of information systems (development and utilization) - software life cycle. The material includes building and managing a project in the field of computer science and software engineering, identification and definition of requirements, and description of activities related to ensuring the quality of the resulting software. Provide students basic knowledge about running projects with agile methodologies (on the example of an IT project).



Course-related learning outcomes

Knowledge

1. Student knows in-depth the methods and tools for modeling information and decision-making processes [P7S_WG_02]
2. Student has an in-depth knowledge of the determinants of organizational structures, knows the structure-forming mechanisms and methods of modeling and changing organizational structures [P7S_WG_05]
3. Student has knowledge of the connections in network organizations (concerns, holdings, clusters, etc.) and in-depth knowledge of organizational dependencies between organizational units of the enterprise, as well as virtual units [P7S_WG_06]
4. Student has extended knowledge of systems, objects and technical devices, understands their role and importance in shaping economic organizations [P7S_WG_10]

Skills

1. Student is able to forecast and model complex social processes involving phenomena from various areas of social life (cultural, political, legal, economic) with the use of advanced management methods and tools [P7S_UW_02]
2. Student has the ability to use the acquired knowledge in various scopes and forms, extended by a critical analysis of the effectiveness and usefulness of the applied knowledge [P7S_UW_03]
3. Student has the ability to independently propose solutions to a specific management problem and carry out a decision-making procedure, in this scope [P7S_UW_04]
4. Student is able to properly analyze the causes and course of social processes and phenomena (cultural, political, legal, economic), formulate their own opinions on this subject and formulate simple research hypotheses and verify them [P7S_UW_07]
5. Student is able to identify the need and use the possibilities of continuous learning (second and third cycle studies, postgraduate studies, courses) - improving professional, personal and social competences; can argue the need for lifelong learning to others [P7S_UK_02]

Social competences

1. Student is aware of the interdisciplinarity of knowledge and skills needed to solve complex organizational problems and the need to create interdisciplinary teams [P7S_KK_01]
2. Student is able to see the cause-effect relationships in the implementation of the set goals and rank the importance of alternative or competitive tasks [P7S_KK_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: knowledge acquired during the lecture is verified by 1 test at the last lecture and activity



(including the result of the simulation). The test consists of 30-40 questions (closed, multiple choice).
Passing threshold: 60% of points.

Project: partial evaluations of the progress of the project stages, defense and presentation of the project, final evaluation (average grade). Passing threshold: 60% of points.

Programme content

Lecture: basics of the agile approach, agile software development methodologies, agile methodologies, IT project documentation (in the agile and classic approach), testing and quality approach in software development, versioning, agile IT project management - simulation.

Project: students model a selected IT process (selection and justification of a specific agile methodology, agile business goal and task prioritization methods, formal requirements record, tools for managing agile IT projects, using Jira - basics of working with the tool, feedback and feedback loop).

Teaching methods

Lecture: multimedia presentation illustrated with examples given on the board, seminar lecture.

Project: design method and presentation of students' projects, simulation, didactic game, programming methods with the use of e-learning tools, business stories.

Bibliography

Basic

1. Grobelna K., Wpływ klimatu organizacyjnego na efektywność zespołów stosujących zwinne metodyki wytwarzania oprogramowania, Wydawnictwo Politechniki Poznańskiej, 2021.
2. Kapusta M., Zarządzanie projektami krok po kroku, Edgard, 2013.

Additional

1. Grobelna K., Trzcieliński S., Wpływ organizacji wytwarzania oprogramowania na motywację programistów – studium przypadku [in:] S. Trzcieliński (ed.), Zwinność przedsiębiorstwa w praktyce, KNOiZ PAN, 2016.
2. Grobelna K., Trzcieliński S., Zwinne metodyki wytwarzania oprogramowania a współczesne koncepcje zarządzania, [in:] Agile Commerce – świat technologii i integracji procesowej, Wydawnictwo Społecznej Akademii Nauk, 2017.
3. Schwaber K., Beedle M., Agile Software Development with Scrum, Pearson Education, 2002.
4. Schwaber K. Sutherland J., The Scrum Guide. The Definitive Guide to Scrum: the Rules of the Game, 2020.



Breakdown of average student's workload

	Hours	ECTS
Total workload	35	1,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for tests/exam, project preparation) ¹	5	0,0

¹ delete or add other activities as appropriate