COURSE DESCRIPTION CARD - SYLLABUS

Course name
Modeling of agile software manufacturing [S2IZarz1-ZZiPP>MZWO]

Course

Field of study
Engineering Management

Year/Semester
2/3

Area of study (specialization)
Enterprise Resource and Process Management

Profile of study
general academic

Level of study
second-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

1,00

Coordinators

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Lecturers

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:
The student defines advanced methods and tools for modeling information and decision-making processes specific to agile software development methods, considering a variety of project scenarios and requirements [P7S_WG_02].
The student describes the structural and organizational considerations affecting the selection and

management of alternative funding sources [P7S_WG_05].
The student characterizes the complex interrelationships in network organizations and their impact on agile software development processes, especially in the context of team collaboration [P7S_WG_06].
The student names modern information systems and technologies and explains their application in the agile software development process [P7S_WG_10].

Skills:
The student interprets and analyzes the effects of changes in agile software development processes using advanced analysis tools [P7S_UW_02].
The student critically evaluates the effectiveness and usefulness of various agile methodologies in the context of specific IT projects [P7S_UW_03].
The student prepares and implements effective strategies within agile projects, taking into account dynamic changes in requirements [P7S_UW_04].
The student plans and manages agile software development projects, effectively coordinating activities and resources [P7S_UW_07].

Social competences:
The student identifies key factors affecting project success and manages them effectively, maximizing efficiency and productivity [P7S_KK_02].
The student plans and manages agile software development projects, effectively coordinating activities and resources [P7S_KO_03].

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

The program covers agile methodologies, with particular emphasis on application in software development, IT project documentation, testing, software quality and versioning.

Course topics

Lecture: basics of the agile approach, different agile methodologies, agile software development 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., Zarzadzanie 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 Giude to Scrum: the Rules of the Game, 2020.

Breakdown of average student's workload

	Hours	ECTS
Total workload	35	1,00
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)	5	0,00