



Subject card

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|---|---|--|--|-------------------------------------|--|------------|-----|
| Subject name and code | Software Project Organization, PG_00047679 | | | | | | |
| Field of study | Informatics | | | | | | |
| Date of commencement of studies | October 2022 | | Academic year of realisation of subject | | 2024/2025 | | |
| Education level | first-cycle studies | | Subject group | | Obligatory subject group in the field of study Subject group related to scientific research in the field of study | | |
| Mode of study | Full-time studies | | Mode of delivery | | at the university | | |
| Year of study | 3 | | Language of instruction | | Polish | | |
| Semester of study | 6 | | ECTS credits | | 3.0 | | |
| Learning profile | general academic profile | | Assessment form | | exam | | |
| Conducting unit | Department of Software Engineering -> Faculty of Electronics, Telecommunications and Informatics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Jakub Miler | | | | |
| | Teachers | | dr inż. Maciej Kucharski dr inż. Katarzyna Łukasiewicz dr inż. Jakub Miler | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 0.0 | 15.0 | 0.0 | 30 |
| | E-learning hours included: 0.0 | | | | | | |
| Learning activity and number of study hours | Learning activity | Participation in didactic classes included in study plan | | Participation in consultation hours | | Self-study | SUM |
| | Number of study hours | 30 | | 7.0 | | 38.0 | 75 |
| Subject objectives | To learn the organization and realization of a software project based on two types of methodologies: agile Scrum and disciplined Rational Unified Process. To be able to select, adapt and combine methodologies and practices. | | | | | | |

| Learning outcomes | Course outcome | Subject outcome | Method of verification |
|---------------------------------|---|--|---|
| | [K6_U03] can design, according to required specifications, and make a simple device, facility, system or carry out a process, specific to the field of study, using suitable methods, techniques, tools and materials, following engineering standards and norms, applying technologies specific to the field of study and experience gained in the professional engineering environment | Student runs the project following the selected agile or disciplined methodology Student develops the backlogs and plans following the methodologies | [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment |
| | [K6_K03] is ready to meet social obligations, co-organise activities for the social environment, initiate actions for the public interest, think and act in an entrepreneurial way | Student selects the methodology matching the needs of a project according to market and social factors | [SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice |
| | [K6_U07] can apply methods of process and function support, specific to the field of study | Student realizuje projekt zgodnie z wybraną metodyką zwinną lub zdyscyplinowaną Student uses the agile documentation techniques to specify software and development plans Student uses the tools for methodologies | [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment |
| | [K6_W05] Knows and understands, to an advanced extent, methods of supporting processes and functions, specific to the field of study | Student knows the agile and disciplined software development methodologies Student understands advantages and limitations of software development methodologies | [SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge |
| | [K6_U11] can plan and organise individual and team work | Student plans the project following a selected agile or disciplined methodology Student organizes the project infrastructure and the team work | [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment |
| Subject contents | <ol style="list-style-type: none"> 1. Introduction to the subject 2. Introduction to the methodologies, classes, challenges 3. Project infrastructure - team, communication, documentation, tools 4. Scrum - roles, artifacts, events, rules 5. Scrum - product definition 6. Scrum - inside the sprint - organisation 7. Scrum - product development 8. Rational Unified Process structure 9. RUP Inception phase 10. RUP Elaboration phase 11. RUP Construction phase 12. RUP Transition phase 13. RUP process configuration 14. Balancing agility and discipline 15. Selection and adaptation of the methodology 16. Balancing agility and discipline - case studies | | |
| Prerequisites and co-requisites | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Project | 51.0% | 60.0% |
| | Written exam | 51.0% | 40.0% |

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| Recommended reading | Basic literature | <ol style="list-style-type: none"> 1. A. Koszłajda, Zarządzanie Projektami IT Przewodnik po Metodach, Helion, 2010 2. K. Schwaber, J. Sutherland, The Scrum Guide, The Definitive Guide to Scrum: The Rules of the Game, Scrum.org, 2017 3. M. Chrapko "Scrum. O zwinnym zarządzaniu projektami", Helion, 2012 4. K. S. Rubin "Scrum. Praktyczny przewodnik po najpopularniejszej metodyce Agile", Helion, 2013 5. M. Lacey "Scrum. Praktyczny przewodnik dla początkujących", Helion, 2014 6. K. Schwaber, Agile Project Management with Scrum, Microsoft Press, 2004 7. K. Beck, C. Andres, Wydajne programowanie. Extreme Programming, wyd. II, MIKOM, 2006 8. A. Cockburn, Agile Software Development. Gra zespołowa, wyd. II, Helion, 2008 9. J. Shore, S. Warden, Agile Development. Filozofia programowania zwinnego, Helion, 2008 10. P. Kruchten, The Rational Unified Process: An Introduction, 3rd edition, Addison-Wesley Professional, 2003 11. P. Kroll, P. Kruchten, The Rational Unified Process Made Easy: A Practitioner's Guide to the RUP, Addison-Wesley Professional, 2003 12. Rational Unified Process at IBM - www-01.ibm.com/software/awdtools/rup/ |
| | Supplementary literature | <ol style="list-style-type: none"> 1. Manifesto for Agile Software Development, www.agilemanifesto.org 2. K. Schwaber, M. Beedle, Agile Software Development with Scrum, Prentice Hall, 2001 3. K. Beck, Extreme Programming Explained: Embrace Change, Addison-Wesley Professional, 1999 4. OpenUP process model, http://epf.eclipse.org/wikis/openup/, EPF |
| | eResources addresses | <p>Adresy na platformie eNauczanie:</p> <p>Realizacja Projektu Informatycznego 2024/2025 - Moodle ID: 43994 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=43994</p> |
| Example issues/ example questions/ tasks being completed | <ol style="list-style-type: none"> 1. Design the infrastructure for a software project 2. Run a project following the agile approach and Scrum method - workshop 3. Develop Product Backlog and Sprint Backlog according to Scrum 4. Run a project following the RUP methodology - workshop 5. Develop the project plan according to RUP 6. Assign a methodology to a project - workshop | |
| Work placement | Not applicable | |

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