



Subject card

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|---|--|--|-------------------------------------|--|--|---------|-----|
| Subject name and code | Applied software - team project, PG_00037523 | | | | | | |
| Field of study | Technical Physics | | | | | | |
| Date of commencement of studies | October 2021 | Academic year of realisation of subject | | | 2024/2025 | | |
| Education level | first-cycle studies | Subject group | | | Optional subject group 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 | 4 | Language of instruction | | | Polish | | |
| Semester of study | 7 | ECTS credits | | | 4.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Division of Theoretical Physics and Quantum Informaton -> Institute of Physics and Applied Computer Science -> Faculty of Applied Physics and Mathematics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. inż. Marta Łabuda | | | | | |
| | Teachers | dr hab. inż. Marta Łabuda | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 0.0 | 60.0 | 0.0 | 75 |
| | 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 | 75 | 10.0 | | 15.0 | | 100 |
| Subject objectives | Knowledge about software implementation, testing, deployment and product service. To acquaint the student with the dangers of groupware, and with some collaboration tools. To acquaint the student with the concept of software quality and techniques of assurance this quality. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | K6_W05 | The student knows the threats resulting from the group work and knows the project management tools used for organization of the group work. The student knows the software quality specification. Student knows quality assurance techniques | | | [SW1] Assessment of factual knowledge | | |
| | K6_U01 | The student is able to independently obtain information from the given sources. | | | [SU1] Assessment of task fulfilment | | |
| | K6_K04 | The student knows project management software and tools. | | | [SK1] Assessment of group work skills | | |
| | K6_U03 | The student is able to use the selected programming technology in his or her project. | | | [SU1] Assessment of task fulfilment | | |
| | K6_K05 | The student is able to present his or her project. | | | [SK4] Assessment of communication skills, including language correctness | | |
| K6_U02 | The student is able to analyze the problem and solve it. | | | [SU4] Assessment of ability to use methods and tools | | | |

| Subject contents | <p>LECTURE</p> <p>The lecture is to extend the course of software engineering, with particular emphasis on the principles of group work, testing methods and quality control software, and selected modern programming techniques:</p> <ol style="list-style-type: none"> 1. Groupthink 2. Software Configuration Management 3. Tools for the IT project Management 4. Software Quality, Quality Control of Software. Cost of software quality 5. Introduction to software testing 6. Methods for testing scientific software 7. Exploratory Testing 8. Axioms in software testing 9. Automation testing 10. Automated testing in practice. Programming controlled tests 1 <p>LABORATORY Students are pursuing (worked in small groups) selected IT projects on the basis of the documentation prepared from the prototyping stage to implementation, testing and implementation of the finished product. 1st Prototype 2nd Inspection of the prototype 3rd Proper implementation of the project 4th Code Inspection 5th Application Testing 6th Implementation and acceptance</p> | | | | | | | | | | | |
|---------------------------------|--|--|--|--------------------------|-------------------|-------------------------------|---------|-------|-------|---------|-------|-------|
| Prerequisites and co-requisites | Ability to make an object-oriented programming; Knowledge of software engineering | | | | | | | | | | | |
| Assessment methods and criteria | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Subject passing criteria</th> <th style="width: 30%;">Passing threshold</th> <th style="width: 30%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Reports</td> <td>50.0%</td> <td>10.0%</td> </tr> <tr> <td>Project</td> <td>50.0%</td> <td>90.0%</td> </tr> </tbody> </table> | | | Subject passing criteria | Passing threshold | Percentage of the final grade | Reports | 50.0% | 10.0% | Project | 50.0% | 90.0% |
| Subject passing criteria | Passing threshold | Percentage of the final grade | | | | | | | | | | |
| Reports | 50.0% | 10.0% | | | | | | | | | | |
| Project | 50.0% | 90.0% | | | | | | | | | | |
| Recommended reading | Basic literature | <p>R. Patton: Testowanie oprogramowania, Mikom, Warszawa, 2002l. Sommerville: Inżynieria oprogramowania, WNT 2003J. Górski (red.), Inżynieria oprogramowania w projekcie informatycznym, MIKOM 2000</p> | | | | | | | | | | |
| | Supplementary literature | List of the accessible homepages of the selected by students IT technologies in which the group project is prepared. | | | | | | | | | | |
| | eResources addresses | <p>Adresy na platformie eNauczenie: Oprogramowanie aplikacyjne 2024 - Moodle ID: 27078 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=27078</p> | | | | | | | | | | |

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| Example issues/ example questions/ tasks being completed | Project schedule Reports of the work development Implementation of the IT project Testing |
| Work placement | Not applicable |

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