GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

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|---|---|---|---|---|---|---|---|
| Subject name and code | Mobile applications, PG_00069109 | | | | | | |
| Field of study | APLIKACJE MOBILNE | | | | | | |
| Date of commencement of studies | October 2022 | | Academic year of realisation of subject | 2025/2026 | | | |
| Education level | first-cycle studies | | Subject group | | | | |
| 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 | Department of Control Engineering -> Faculty of Electrical and Control Engineering -> Faculties of Gdańsk University of Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Paweł Kowalski | | | | |
| | Teachers | | | | | | |
| Lesson types | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 10.0 | 0.0 | 20.0 | 0.0 | 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 | | 0.0 | | 0.0 | 30 |
| Subject objectives | Introduction to the process of designing and building mobile applications for the Android operating system. | | | | | | |

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K6_W08] has basic knowledge in the field of energy storage systems: mechanical, thermal, electrical and others, knows the basics of thermodynamics and fluid mechanics, as well as the construction and operation of thermal energy equipment, hydrogen installations, process equipment, including renewable energy sources | Develops a mobile application demonstrating the operation of energy storage systems and hydrogen devices. | [SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym |
| [K6_W13] knows the properties of materials used in the field of hydrogen energy and electromobility | Develops a mobile application demonstrating the properties of materials used in hydrogen energy and electromobility. | [SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym |
| [K6_K02] can work in a group taking on different roles in it | Designs a mobile application collaboratively | [SK1] Ocena umiejętności pracy w grupie |
| [K6_U12] can formulate a specification of simple engineering tasks of a practical nature related to the field of study | Defines the functional requirements of the mobile application. | [SU1] Ocena realizacji zadania |
| [K6_U08] can design and build systems and devices related to automation systems, mechatronics and robotics in energy storage devices and in hydrogen installations | Develops a mobile application supporting the operation of devices in hydrogen systems and energy storage. | [SU1] Ocena realizacji zadania |
| [K6_U05] can use analytical and simulation methods, prepare and for the formulation and solution of tasks in the field of hydrogen technologies, automation and robotics, electrical engineering, use various techniques to carry out engineering tasks related to electrical devices, hydrogen installations, control and robotics systems | Uses analytical and simulation methods to design and test mobile applications. | [SU4] Ocena umiejętności korzystania z metod i narzędzi |
| [K6_W18] knows the basics of the construction and operation of high-temperature fuel cells and electrolysers powered by hydrogen and other fuels and their practical application for energy generation and storage | Designs and develops a mobile application supporting the monitoring and control of energy storage systems. | [SW2] Ocena wiedzy zawartej w prezentacji |
| [K6_W15] he has knowledge of the construction, principles of operation and operation of electromagnetic energy converters used in transport systems and systems. | Develops a mobile application demonstrating the operation of electromagnetic energy converters in transport systems. | [SW2] Ocena wiedzy zawartej w prezentacji |

## Subject contents

Course content – lecture
- Syntax of the Kotlin language.
- Handling Android Studio.

Course content – laboratory
Creating graphical applications for the Android operating system.

## Prerequisites and co-requisites

## Assessment methods and criteria

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| Lecture assignment | 50.0% | 40.0% |
| Project | 50.0% | 60.0% |

## Recommended reading

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| Basic literature | Kotlin docs, https://kotlinlang.org/docs/home.html<br><br>Android Developer guides, https://developer.android.com/docs |
| Supplementary literature | Developer documentation for Firebase, https://firebase.google.com/docs?hl=pl |
| eResources addresses | |

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|---|---|
| Example issues/ example questions/ tasks being completed | Development of a selected application for the Android operating system. |
| Practical activites within the subject | Not applicable |

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