

## 。 GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

| Subject name and code                          | Mobile applications, PG_00061795                                                                                                                                                                                                                                                            |                                            |                                                                                                                                                                     |                                     |           |                                                                                                                                                                               |                |             |  |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|--|
| Field of study                                 | Automation, Robotics and Control Systems                                                                                                                                                                                                                                                    |                                            |                                                                                                                                                                     |                                     |           |                                                                                                                                                                               |                |             |  |
| Date of commencement of studies                | October 2022                                                                                                                                                                                                                                                                                |                                            | Academic year of<br>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                                                                                                                                                        |                                     |           | 3.0                                                                                                                                                                           |                |             |  |
| Learning profile                               | general academic profile                                                                                                                                                                                                                                                                    |                                            | Assessment form                                                                                                                                                     |                                     |           | assessment                                                                                                                                                                    |                |             |  |
| Conducting unit                                | Katedra Elektrotechniki -> Faculty of Electrical and Control Engineering -> Wydziały Politechniki Gdańskie                                                                                                                                                                                  |                                            |                                                                                                                                                                     |                                     |           |                                                                                                                                                                               | ki Gdańskiej   |             |  |
| Name and surname                               | Subject supervisor                                                                                                                                                                                                                                                                          |                                            | dr inż. Paweł Kowalski                                                                                                                                              |                                     |           |                                                                                                                                                                               |                |             |  |
| of lecturer (lecturers)                        | Teachers                                                                                                                                                                                                                                                                                    |                                            |                                                                                                                                                                     |                                     |           |                                                                                                                                                                               |                |             |  |
| Lesson types and methods of instruction        | Lesson type                                                                                                                                                                                                                                                                                 | Lecture                                    | Tutorial                                                                                                                                                            | Laboratory                          | Project   | ject Seminar                                                                                                                                                                  |                | SUM         |  |
|                                                | Number of study<br>hours                                                                                                                                                                                                                                                                    | 10.0                                       | 0.0                                                                                                                                                                 | 0.0                                 | 20.0      |                                                                                                                                                                               | 0.0            | 30          |  |
|                                                | E-learning hours included: 0.0                                                                                                                                                                                                                                                              |                                            |                                                                                                                                                                     |                                     |           |                                                                                                                                                                               |                |             |  |
| Learning activity<br>and number of study hours | Learning activity                                                                                                                                                                                                                                                                           | Participation in<br>classes includ<br>plan | n didactic<br>ed in study                                                                                                                                           | Participation in consultation hours |           | Self-study                                                                                                                                                                    |                | SUM         |  |
|                                                | Number of study hours                                                                                                                                                                                                                                                                       | 30                                         |                                                                                                                                                                     | 5.0                                 |           | 40.0                                                                                                                                                                          |                | 75          |  |
| Subject objectives                             | Introduction to the pro                                                                                                                                                                                                                                                                     | ocess of design                            | ing and buildin                                                                                                                                                     | ıg mobile applio                    | cations f | for the A                                                                                                                                                                     | Android operat | ing system. |  |
| Learning outcomes                              | Course outcome                                                                                                                                                                                                                                                                              |                                            | Subject outcome                                                                                                                                                     |                                     |           | Method of verification                                                                                                                                                        |                |             |  |
|                                                | [K6_U03] can prepare and present<br>a presentation on the problems<br>and results of an engineering task                                                                                                                                                                                    |                                            | He prepares and presents a demonstration of the developed mobile application.                                                                                       |                                     |           | [SU5] Assessment of ability to<br>present the results of task                                                                                                                 |                |             |  |
|                                                | [K6_W10] has basic knowledge<br>related to mechatronics and<br>robotics systems                                                                                                                                                                                                             |                                            | He creates mobile applications for<br>devices with the Android operating<br>system. He integrates mobile<br>applications with mechatronics<br>and robotics systems. |                                     |           | [SW2] Assessment of knowledge<br>contained in presentation<br>[SW3] Assessment of knowledge<br>contained in written work and<br>projects                                      |                |             |  |
|                                                | [K6_W06] knows the structure of<br>computers and microprocessors<br>and the tasks of operating<br>systems, has basic knowledge of<br>the basics of computer software,<br>drivers, microprocessor<br>technology, design of simple<br>algorithms and the operation of<br>information networks |                                            | He programs microcontrollers and designs simple algorithms.                                                                                                         |                                     |           | [SW3] Assessment of knowledge<br>contained in written work and<br>projects<br>[SW2] Assessment of knowledge<br>contained in presentation                                      |                |             |  |
|                                                | [K6_U01] can obtain information<br>from literature, databases and<br>other sources; integrate the<br>information obtained, interpret it<br>and draw conclusions, formulate<br>and justify opinions                                                                                          |                                            | Acquires information from<br>literature, databases, and other<br>sources and uses it to build mobile<br>applications.                                               |                                     |           | [SU1] Assessment of task<br>fulfilment<br>[SU3] Assessment of ability to<br>use knowledge gained from the<br>subject<br>[SU2] Assessment of ability to<br>analyse information |                |             |  |

| Subject contents                                               | <ul> <li>Lecture:</li> <li>Syntax of the Kotlin language.</li> <li>Handling Android Studio.</li> <li>Project:</li> <li>Creating graphical applications for the Android operating system.</li> </ul> |                                                                                  |                                           |  |  |  |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------|--|--|--|
| Prerequisites<br>and co-requisites                             |                                                                                                                                                                                                     |                                                                                  |                                           |  |  |  |
| Assessment methods<br>and criteria                             | Subject passing criteria                                                                                                                                                                            | Passing threshold                                                                | Percentage of the final grade             |  |  |  |
|                                                                | Project                                                                                                                                                                                             | 50.0%                                                                            | 60.0%                                     |  |  |  |
|                                                                | Lecture assignment                                                                                                                                                                                  | 50.0%                                                                            | 40.0%                                     |  |  |  |
| Recommended reading                                            | Basic literature       Kotlin docs, https://kotlinlang.org/docs/home.html         Android Developer guides, https://developer.android.com/d                                                         |                                                                                  | cs/home.html<br>eveloper.android.com/docs |  |  |  |
|                                                                | Supplementary literature                                                                                                                                                                            | Developer documentation for Firebase, https://firebase.google.com/<br>docs?hl=pl |                                           |  |  |  |
|                                                                | eResources addresses                                                                                                                                                                                | Adresy na platformie eNauczanie:                                                 |                                           |  |  |  |
| Example issues/<br>example questions/<br>tasks being completed | Development of a selected application for the Android operating system.                                                                                                                             |                                                                                  |                                           |  |  |  |
| Work placement                                                 | Not applicable                                                                                                                                                                                      |                                                                                  |                                           |  |  |  |

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