



## Subject card

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| Subject name and code                       | , PG_00062712                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |
| Field of study                              | Geodesy and Cartography                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                          | 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                               | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                          | Language of instruction                                                                                                                                   |                                     | Polish                                                                                                                                                    |            |     |
| Semester of study                           | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                          | ECTS credits                                                                                                                                              |                                     | 2.0                                                                                                                                                       |            |     |
| Learning profile                            | general academic profile                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                          | Assessment form                                                                                                                                           |                                     | assessment                                                                                                                                                |            |     |
| Conducting unit                             | Department of Geodesy -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                          | dr inż. Dominika Wróblewska                                                                                                                               |                                     |                                                                                                                                                           |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Lecture                                                  | Tutorial                                                                                                                                                  | Laboratory                          | Project                                                                                                                                                   | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 15.0                                                     | 0.0                                                                                                                                                       | 0.0                                 | 20.0                                                                                                                                                      | 0.0        | 35  |
|                                             | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 35                                                       |                                                                                                                                                           | 0.0                                 |                                                                                                                                                           | 0.0        | 35  |
| Subject objectives                          | The aim of the course is to prepare for work and then gain access to solving the problem and the project work method.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |
| Learning outcomes                           | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                          | Subject outcome                                                                                                                                           |                                     | Method of verification                                                                                                                                    |            |     |
|                                             | [K6_K02] is ready to solve problems related to the profession of geodesy and cartography engineer and to assess risks and effects of the performed activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                          | is ready to generate solutions to problems using the tools and soft skills learned                                                                        |                                     | [SK5] Assessment of ability to solve problems that arise in practice<br>[SK3] Assessment of ability to organize work                                      |            |     |
|                                             | [K6_K01] can think and act in a creative and enterprising way; is ready to define priorities for the implementation of an individual or group task; understands the need for continuous education and professional responsibility for his own and his team activities, and being ready to assess their own limitations, knows when to ask experts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                          | can think in a creative and entrepreneurial way; is ready to determine priorities for implementing an individual or group task,                           |                                     | [SK1] Assessment of group work skills<br>[SK2] Assessment of progress of work<br>[SK4] Assessment of communication skills, including language correctness |            |     |
|                                             | [K6_W12] knows and understands legal norms in the field of protection of intellectual property and patent management law, including conducting business in geodesy and cartography                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                          | knows and understands legal standards in the field of intellectual property protection and patent law as well as management, including running a business |                                     | [SW3] Assessment of knowledge contained in written work and projects<br>[SW2] Assessment of knowledge contained in presentation                           |            |     |
| Subject contents                            | Course content – lecture<br>Introduction to the subject, Creativity, innovation and entrepreneurship Generating innovative ideas using available methods (brainstorming and mindmapping) design thinking moodboards Group work Business Model Canvas or Lean Canvas as an engineering team process of creating value for customers (buyer persona) DT - introduction, Empathy Creating a Minimum Viable Product (landing page, prototype, story) DT - diagnosis and generation Channels to reach the customer: communication strategies, branding, social media marketing DT - Prototyping and testing Channels to reach the customer: communication strategies, branding, social media marketing CSR - an essential element in a modern enterprise. Financing of new business ventures. Basic forms of intellectual property protection. Application of artificial intelligence in the enterprise. |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |
| Prerequisites and co-requisites             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                          |                                                                                                                                                           |                                     |                                                                                                                                                           |            |     |

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| Assessment methods and criteria        | Subject passing criteria                                       | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Percentage of the final grade |
|                                        | Project                                                        | 60.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 60.0%                         |
|                                        | Knowledge                                                      | 60.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20.0%                         |
|                                        | Tasks                                                          | 100.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.0%                          |
|                                        | Presentation                                                   | 60.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20.0%                         |
| Recommended reading                    | Basic literature                                               | Creative thinking, or something from nothing. <a href="#">Michał Jasieński</a> .ISBN: 978-83-8294-290-3<br><br><a href="#">Designing an innovation strategy/ Mariusz Sołtysik</a> . Sołtysik, Mariusz (organizacja i zarządzanie) Autor   Polskie Wydawnictwo Ekonomiczne Wydawca copyright 2021   Warszawa : Polskie Wydawnictwo Ekonomiczne<br><br>Teamwork and leaders / <a href="#">Andrzej Pacana</a> . Pacana, Andrzej Autor   Oficyna Wydawnicza Politechniki Rzeszowskiej Wydawca2017   Rzeszów : Oficyna Wydawnicza Politechniki Rzeszowskiej<br><br><a href="#">Change through design: how design thinking changes organizations and stimulates innovation / Tim Brown ; współpr. Barry Katz ; przeł. Marta Höffner</a> .Brown, Tim (1954- )   Höffner, Marta Tłumaczenie   Katz, Barry   Instytut Dziennikarstwa i Komunikacji Społecznej (Uniwersytet Wrocławski)   Wydawnictwo Libron2013   Wrocław : Instytut Dziennikarstwa i Komunikacji Społecznej. Uniwersytet Wrocławski ; Kraków : Wydawnictwo Libron - Filip Lohner |                               |
|                                        | Supplementary literature                                       | <a href="#">Design thinking : new product development essentials from the PDMA / edited by Michael G. Luchs, K. Scott Swan, Abbie Griffin</a> .Luchs, Michael, 1968- editor.   Swan, Scott, 1962- editor.   Griffin, Abbie, editor.   Product Development & Management Association.2016   Hoboken, New Jersey : Wiley<br><br><a href="#">Design thinking guide - How to use design thinking in business / Beata Michalska-Dominiak, Piotr Grocholiński</a> . Michalska-Dominiak, Beata Autor   Grocholiński, Piotr Autor   Helion Wydawca copyright 2019   Gliwice : Helion                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                               |
|                                        | eResources addresses                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |
|                                        | Example issues/<br>example questions/<br>tasks being completed | Diagnosis of personal potential in the context of group work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                               |
| Practical activites within the subject | Not applicable                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                               |

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