



## Subject card

|   |  |  |  |                                     |  |            |     |
|---|--|--|--|-------------------------------------|--|------------|-----|
| Subject name and code                       | Geology, PG_00059254   |  |  |                                     |  |            |     |
| Field of study                              | Civil Engineering  |  |  |                                     |  |            |     |
| Date of commencement of studies             | October 2024   |  | Academic year of realisation of subject  |                                     | 2024/2025  |            |     |
| Education level                             | first-cycle studies  |  | Subject group  |                                     | Obligatory subject group in the field of study   |            |     |
| Mode of study                               | Part-time studies  |  | Mode of delivery   |                                     | at the university  |            |     |
| Year of study                               | 1  |  | Language of instruction  |                                     | Polish   |            |     |
| Semester of study                           | 1  |  | ECTS credits   |                                     | 4.0  |            |     |
| Learning profile                            | general academic profile   |  | Assessment form  |                                     | assessment   |            |     |
| Conducting unit                             | Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering   |  |  |                                     |  |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   |  | dr hab. Małgorzata Pruszkowska-Caceres   |                                     |  |            |     |
|   | Teachers   |  |  |                                     |  |            |     |
| 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   |  | 5.0                                 |  | 65.0       | 100 |
| Subject objectives                          | Student gets acquainted with internal and external geological processes, their influence on abiotic environment of men; ability to interpret geological maps and cross-sections.   |  |  |                                     |  |            |     |
| Learning outcomes                           | Course outcome   |  | Subject outcome  |                                     | Method of verification   |            |     |
|   | [K6_W01] Demonstrate knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering at a level necessary to achieve the other programme outcomes.   |  | General understanding of issues specified in the Geology learning program (Bases of the Earth Science), Quaternary Geology and Geomorphology in particular. Student gets acquainted with internal and external geological processes, their influence on abiotic environment of men; ability to interpret geological maps and cross-sections. |                                     | [SW1] Assessment of factual knowledge<br>[SW2] Assessment of knowledge contained in presentation<br>[SW3] Assessment of knowledge contained in written work and projects |            |     |
|   | [K6_U01] Apply knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering to solve engineering problems and issues.   |  | Student attains basic knowledge on geotechnical and geological engineering documentations principles; student knows how to use current methods of subsoil study. Student describes internal and external geological processes; explains natural geological threats; interprets the influence of geological processes.                        |                                     | [SU1] Assessment of task fulfilment<br>[SU2] Assessment of ability to analyse information<br>[SU5] Assessment of ability to present the results of task                  |            |     |
| Subject contents                            | Lecture: geological time, the Earths origin, the Earths layers, basis of stratigraphy; internal processes (volcanism, plutonism, metamorphism); plate tectonic theory; basis of tectonics; isostasy; the rock cycle; external processes (weathering, erosion, mass wasting); glacial, stream, marine, eolian processes.<br><br>Tutorials: minerals (definition, physical properties, origin, identification of basic minerals), igneous, sedimentary, metamorphic rocks (origin, mineral composition, textures, classification, identification); geological intersection, geological maps analysis, geological cross-section drawing |  |  |                                     |  |            |     |
| Prerequisites and co-requisites             | geography, chemistry level of secondary school   |  |  |                                     |  |            |     |

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|---------------------------------|--|---|-------------------------------|
| Assessment methods and criteria | Subject passing criteria                                       | Passing threshold   | Percentage of the final grade |
|                                 | practical exercises  | 60.0%   | 50.0%                         |
|                                 | colloquiums  | 60.0%   | 50.0%                         |
| Recommended reading             | Basic literature   | 1.Mizerski W: Geologia dynamiczna. Wyd. Naukowe PWN,Warszawa 2006 (2004)<br><br>2. Książkiewicz M: Geologia dynamiczna. Wyd. Geologiczne, Warszawa 1979<br><br>3. Jaroszewski W: Przewodnik do ćwiczeń z geologii dynamicznej. Wyd. Geologiczne, Warszawa 1986<br><br>4. Czubla P, Mizerski W,Świerczewska-Gładysz E: Przewodnik do ćwiczeń z geologii. Wyd. Naukowe PWN, W-wa 2004 |                               |
|                                 | Supplementary literature                                       | 1. Jaroszewski W,Marks L, Radomski A: Słownik geologii dynamicznej. Wyd. Geologiczne, Warszawa 1985<br><br>2. Roniewicz P: Przewodnik do ćwiczeń z geologii dynamicznej. Polska Agencja Ekolog., Warszawa 1999<br><br>3. Thompson &Turk: Modern Physical Geology Saunders College Publishing, 1996  |                               |
|                                 | eResources addresses   | Adresy na platformie eNauczanie:  |                               |
|                                 | Example issues/<br>example questions/<br>tasks being completed | Indicate geological events occurring at divergent plate boundaries<br><br>What are the main rock forming minerals of gabbro; indicate the stage of magma crystallization for this rock.<br><br>Describe conditions of granite forming<br><br>What is the subduction zone ?<br><br>What are the main processes responsible for the Earth relief?                                     |                               |
| Work placement                  | Not applicable   |   |                               |