University of Gdańsk

Subject card

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|---|---|---|---|
| Subject name and code | Marine Paleoenvironments and Methods of Investigation - lecture, PG_00205336 | | |
| Field of study | Oceanography | | |
| Date of commencement of studies | October 2027 | Academic year of realisation of subject | 2029/2030 |
| Education level | Bachelor's studies | Subject group | Obligatory subject group in the field of study<br>Optional subject group<br>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 | 3 | Language of instruction | Polish |
| Semester of study | 5 | ECTS credits | 2.0 |
| Learning profile | academic | Assessment form | exam |
| Conducting unit | Laboratory of Marine Geology -> Department of Chemical Oceanography and Marine Geology -> Faculty of Oceanography and Geography -> Rector | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. Małgorzata Witak, prof. UG | |
| | Teachers | | |

**Lesson types**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 30.0 | 0.0 | 0.0 | 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 | 2.0 | 18.0 | 50 |

**Subject objectives**

Understanding of the mechanisms of evolution of the lithosphere, hydrosphere, atmosphere and biosphere. The ability to apply stratigraphic methods in determining the age of geological objects and processes. To be able to analyse the causes and effects of sedimentary-diastrophic cycles in Poland.

## Learning outcomes

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [OCEANL3-U03] is able to process, describe, and present results, and draw conclusions | is able to identify fossils, sedimentary rocks and tectonic structures and, on their basis, to make correct inferences about exogenous processes in the past | [SU4] test/exam - oral or written |
| [OCEANL3-W02] has a broad knowledge and understanding of physical, biological, chemical, and geological processes and phenomena occurring in aquatic environments, with particular emphasis on the marine environment | knows and understands to an advanced level the interrelationship between animate and non-living elements of the aquatic palaeoenvironment, identifies and correctly describes basic geological phenomena and explains their course in relation to past marine processes | [SW4] test/exam - oral or written |
| [OCEANL3-W05] has an advanced knowledge of techniques, research methods, and tools (mathematical, statistical, and computational) used by oceanographers to describe and interpret processes and phenomena occurring in the marine environment | knows at an advanced level the techniques, research methods and tools and understands the importance of basic research methods for the determination of relative and absolute ages of geological events and is able to interpret them correctly in relation to exogenous processes in the past | [SW4] test/exam - oral or written |
| [OCEANL3-W01] has an advanced knowledge and understanding of the terminology used in oceanography and related exact and natural sciences (in Polish and a selected foreign language) | has an advanced knowledge and understanding of the terminology used in stratigraphy and historical geology | [SW4] test/exam - oral or written |
| [OCEANL3-U12] is able to systematically expand and update oceanographic knowledge and enhance professional qualifications | is able to systematically expand and update his/her knowledge of historical geology and improve professional qualifications | [SU4] test/exam - oral or written |
| [OCEANL3-U01] is able to use the current scientific terminology in the field of oceanography in various forms of expression | is able to use the applicable scientific terminology in the field of stratigraphy andhistorical geology in various forms of expression | [SU4] test/exam - oral or written |

## Subject contents

Importance of palaeoenvironmental change studies for the natural sciences. Terminology used in marine sediment stratigraphy. Methods of relative age studies (chronostratigraphy, lithostratigraphy and biostratigraphy). Geochronological methods for age determination of geological objects and processes. Causes and consequences of changes in marine palaeoenvironments in Poland from the Precambrian to the present day.

## Prerequisites and co-requisites

## Assessment methods and criteria

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| test | 51.0% | 100.0% |

## Recommended reading

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|---|---|
| Basic literature | Orłowski S. Szulczewski M. 1990. Geologia historyczna. Cz. I. Wyd. Geol., Warszawa<br>Mizerski W., Orłowski S. 2005. Geologia historyczna dla geografów. Wydawnictwo Naukowe<br>PWN, Warszawa |
| Supplementary literature | Racki G., Narkiewicz M., 2006, Polskie Zasady Stratygrafii, PIG, Warszawa<br><br>Stanley S. M., 2002. Historia Ziemi, Wydawnictwo Naukowe PWN, Warszawa<br>van Andel, T.H., 1997. Nowe spojrzenie na starą planetę. Wyd. Naukowe PWN, Warszawa |
| eResources addresses | |

## Example issues/ example questions/ tasks being completed

1. Explain the importance of fossils in stratigraphy

2. List the basic lithostratigraphic units

3 Explain the changes in land and sea configuration in the early Palaeozoic

## Work placement

Not applicable

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