COURSE DESCRIPTION CARD - SYLLABUS

Course name
Basics of geology [S1Bud1>PGL]

Course

Field of study
Civil Engineering

Year/Semester
1/2

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
15

Laboratory classes
15

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

KNOWLEDGE: Student beginning this course should have knowledge of geography, chemistry and physics appropriate for high school graduates; should have knowledge of descriptive geometry and basics of geodesy from 1st semester. SKILLS: Student should know basic rules occurring in nature, should be able to make a synthesis of obtained information, make own interpretation, come to conclusion, formulate and justify own opinion. SOCIAL COMPETENCES: Student should be able to work independently and cooperate in a group, is able to take responsibility for the effects of his work and expending of knowledge.

Course objective

Achieving the necessary level of knowledge in the geology field enabling its use in the further course of studies in related subjects.

Course-related learning outcomes

KNOWLEDGE: Student:
1. Has knowledge in the fields of mathematics, physics, chemistry, biology and other fields of science suitable to formulate and solve problems concerning sustainable building engineering (civil engineering, environmental engineering and architecture);

2. Knows basics of geology, soil mechanics and foundation engineering of building facilities;
3. Has knowledge of most frequently applied building and installation materials and their properties, research methods, basic elements of their design, performance and assembly technologies, methods for evaluation and maintenance of structure technical condition.
SKILLS: Student:
1. Is able to obtain information from literature, databases and other properly selected information sources; can integrate the obtained information, interpret and evaluate it, as well as draw conclusions, formulate, discuss and justify opinions;
2. Is able to use advanced information and communication technologies (ICT) appropriate to perform typical engineering tasks.
SOCIAL COMPETENCES: Student:
1. Is able to adapt to new and changing circumstances, can define priorities for performing tasks defined by themselves and other people, acting in the public interest and with regard to the purposes of sustainable development;
2. Takes responsibility for the accuracy and reliability of working results and their interpretation;
3. Understands the need of team work, are responsible for the safety of their own work and team's work.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Checking of the systematic preparation for classes (short writing tests) and personal activity of students.
Final laboratory exam - oral examination of skill of rocks identification.
Final lecture exam - combined test (multiple choice and supplementing of missing content) and a descriptive part (two descriptive issues).

Programme content

Basic issues in the field of physical geology and tectonics, with particular emphasis on glacial and post-glacial processes and geohazards. Recognition of minerals and igneous, sedimentary and metamorphic rocks.

Course topics

Lectures: (order and topics modified to the needs of the audience):
1. Inner structure of the Earth, continental and oceanic crust
2. Plutonism i volcanism
3. Physical and chemical weathering
4. Mass movement
5. Glaciations and geological structure of Wielkopolska
6. Basics of hydrogeology
7. Review of soils with specific properties
Laboratory classes:
Rock-forming minerals, basic igneous, sedimentary and metamorphic rocks.

Teaching methods

Lecture - multimedia presentations.
Laboratory - multimedia presentations containing theoretical introduction and then practical classes in recognition of minerals and rocks.

Bibliography

Basic:
1. Grotzinger J.P., Jordan T.H., Understanding Earth (2007).
2. Skinner B.J,, Porter S.C., Park J., The Dynamic Earth (2000).
3. Plummer C. C., Physical geology (2008).
4. Benn D. I., Evans D.J.A., Glaciers & Glaciation (2010).
Additional:
1. Stanley S. M., Earth system history (1999-2009).
2. Van Andel T. H., New Views on an Old Planet (1994).

Supplementary:
1. Stanley S. M., Historia Ziemi (PWN 2001).
2. Van Andel T. H., Nowe spojrzenie na starą planetę. Zmienne oblicze Ziemi (PWN 1997).
3. Mizerski W., Geologia dynamiczna (PWN 2010).
4. Czubla P., Mizerski W., Świerczewska-Gładysz E., Przewodnik do ćwiczeń z geologii (wydanie II), (PWN 2009).
5. Jeż J., Biogeotechnika (Wydaw. PP, 2008).

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00