COURSE DESCRIPTION CARD - SYLLABUS

Course name
Basics of geology [S1BZ1E>PGL]

Course

Field of study
Sustainable Building Engineering

Year/Semester
1/2

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
English

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: Knowledge of high school graduate level in geography, chemistry and physics. Polytechnic level in descriptive geometry and basics of geodesy. SKILLS: The student knows basic rules occurring in nature, is able to synthesis obtained information, make their interpretation, come to conclusion, formulate and justify his own opinion. SOCIAL COMPETENCES: The student is 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:
- have knowledge in the fields of mathematics, physics, chemistry, biology and other fields of sciencen suitable to formulate and solve problems concerning sustainable building engineering (civil engineering, environmental engineering and architecture),
- know the basics of geology, soil mechanics and foundation engineering of building facilities,

- have 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:
- are 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,
- are able to use advanced information and communication technologies (ICT) appropriate to perform typical engineering tasks,
- are able to plan and organise work; both individual and team; can cooperate with other people, are prepared to team work, also in interdisciplinary design teams (professionals of different sectors).

Social competences:
- are 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,
- take responsibility for the accuracy and reliability of working results and their interpretation,
- understand 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 indentification. Final exam of lecture knowledge - 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 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
Grotzinger J.P., Jordan T.H., Understanding Earth (2007)
Skinner B.J,, Porter S.C., Park J., The Dynamic Earth (2000)
Plummer C. C., Physical geology (2008)
4. Benn D. I., Evans D.J.A., Glaciers & Glaciation (2010)
Additional

Stanley S. M., Earth system history (1999-2009)
Van Andel T. H., New Views on an Old Planet (1994)

Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,00
Classes requiring direct contact with the teacher	35	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	25	0,50