

**DOCTORAL SCHOOL OF WROCLAW UNIVERSITY OF SCIENCE AND
TECHNOLOGY**

SUPERVISOR DECLARING/CONDUCTING COURSE: dr hab. Paweł P. Zagożdżon
DEPARTMENT: Faculty of Geoengineering, Mining and Geology
SCIENTIFIC DISCIPLINE: environmental engineering, mining and energy

COURSE CARD

Course name in Polish: Geologiczne uwarunkowania działalności gospodarczej – budowa geologiczna podłoża, procesy

Course name in English: Geological conditions of economic activity – geological structure of basement, processes

Course language: polish / english

University-wide general course type*:

The course is intended for all PhD students: YES / NO

- 1) ~~BASIC COURSE~~
- 2) ~~SPECIALIST COURSE~~
- 3) SEMINAR
- 4) ~~HUMANISTIC COURSE~~
- 5) LANGUAGE

Subject code: IGQ100227S

* delete as applicable

	Lecture	Foreign language course	Seminar	Mixed forms
Number of hours of organized classes in university (ZZU)			15	
Grading	–	–	Oral presentations	–

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Basic knowledge of physical geography, geology, physics and chemistry.
2. Basic knowledge of the structure and functioning of the natural environment and basic natural processes.
3. The ability to search for sources of specialist information, use literature sources, verify the truthfulness of literature, especially internet information.

COURSE OBJECTIVES

C1 Mastering the knowledge of selected geological issues (processes and structures) and methods of their impact on human economic activity.

C2 The ability to identify certain threats of a geological nature and determine their possible impact on economic activity.

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PROGRAM CONTENTS

Form of classes – Seminar		Number of hours
Se1	Introduction to classes, presentation of their form (the teacher synthetically discusses selected geological issues, students prepare papers presenting case studies), presentation of issues to be discussed. Selection of the topics of seminars. Introduction to selected geological issues to be discussed in class – part I: geotectonics (Earth models) – seismic and volcanic hazard zones; impact of seismic and volcanic factors – influence on communication, architecture, security, agriculture; tectonics (faults) – conditions of engineering and mining activities.	2
Se2–3	Presentation of the oral presentations – part I (each about 20 minutes/person + discussion).	4
Se4	Introduction to selected geological issues to be discussed in class – part II: dependence of variety of mineral resources on geological structure (resources of orogenic areas, quaternary minerals); erosion (seas, rivers) – shore retreat, flood damage; surface mass movements (rockfalls, landslides, runoffs) – geological structure of areas susceptible to the development of landslides, submarine landslides.	2
Se5–7	Presentation of the oral presentations – part I (each about 20 minutes/person + discussion).	6
Se7	Summary of classes, discussion, completion of classes.	1
Total hours		

TEACHING TOOLS USED

- N1. introductory information lectures with elements of a problem lecture, illustrated with multimedia presentations
 N2. preparation and presentation of oral presentation
 N3. moderated discussion during the exercises
 N4. literature (textbooks and specialist publications), Internet resources
 N5. consultation
 N6. individual work – studies of issues, preparation for papers

ACHIEVED SUBJECT LEARNING OUTCOMES

Type of learning outcome	Code of learning outcome	Assessment of learning outcome
knowledge	P8U_W01	He competently cites the authors of scientific papers.
skills	P8S_UW01	He can creatively interpret the obtained results and look for their application use.
skills	P8S_UW02	He can creatively interpret the obtained results and look for their application use.
social competences	P8S_KK01	Is aware of the role of cooperation in the process of research and analysis of the obtained results.

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social competences	P8S_KK02	Is aware of the role of cooperation in the process of research and analysis of the obtained results.
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PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

Allen P.A., 2000 – *Procesy kształtujące powierzchnię Ziemi*. Wyd. Nauk. PWN. Warszawa.
Chodyncka L., Gabzdyl W., Kapuściński T., 1985 – *Mineralogia i petrografia dla górników*. Wyd. Polit. Śl. Gliwice.
Craig J.R., Vaughan D.J., Skinner B.J., 2003 – *Zasoby Ziemi*. Wyd. PWN. Warszawa.
Earle S. 2019 – *Physical Geology*, <https://opentextbc.ca/geology/>.
Manecki A., Muszyński M., 2008 – *Przewodnik do petrografii*. Wyd. AGH. Kraków.
Mizerski W., 1999 – *Geologia dynamiczna dla geografów*. Wyd. PWN. Warszawa.
Mizerski W., 2006 – *Geologia dynamiczna*. Wyd. PWN. Warszawa.
Mizerski W., Orłowski S., 2001 – *Geologia historyczna dla geografów*. Wyd. PWN. Warszawa.
Stanley S.M., 2002 – *Historia Ziemi*. Wyd. PWN. Warszawa.
Skinner B.J., 1978 – *Zasoby Ziemi*. PWN. Warszawa.
Stupnicka E., 1978 – *Zarys geologii regionalnej świata*. Wyd. Geol. Warszawa.
Stupnicka E., Marzena Stempień-Sałek M., 2020 – *Geologia regionalna Polski*. Wyd. Uniw. Warsz. Warszawa.

SECONDARY LITERATURE:

Adams F., Laughlin G., 2000 – *Ewolucja Wszechświata*. Wyd. Nauk. PWN. Warszawa.
Bilans zasobów kopalin i wód podziemnych w Polsce. Państwowy Instytut Geologiczny. Warszawa.
Bilans gospodarki surowcami mineralnymi na tle gospodarki światowej. IGSMiE PAN. Kraków.
Czubla P., Mizerski W., Świerczewska-Gładysz E., 2005 – *Przewodnik do ćwiczeń z geologii*. Wyd. PWN. Warszawa.
Dadlez R., Jaroszewski W., 1994 – *Tektonika*. Wyd. Nauk. PWN. Warszawa.
Dzik J., 2003 – *Dzieje życia na Ziemi*. Wyd. PWN. Warszawa.
Earle S. 2019 – *Physical Geology*, <https://opentextbc.ca/geology/>.
MacDougall J. D., 1998 – *Krótką historia Ziemi*. Prószyński i S-ka. Warszawa.
Manecki A., Muszyński M., 2008 – *Przewodnik do petrografii*. Wyd. AGH. Kraków.
Orłowski S., Szulczewski M., 1990 – *Geologia historyczna*. Wyd. Geol. Warszawa.
Plummer C. C., Carlson D. H., Hammersley L., 2010 – *Physical geology*. McGraw-Hill. New York. USA.
Van Andel T. H., 1997 – *Nowe spojrzenie na starą planetę. Zmienne oblicze Ziemi*. Wyd. Nauk. PWN. Warszawa.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

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