KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

UNIA EUROPEJSKA
EUROPEJSKI FUNDUSZ SPOŁECZNY

Course title	ECTS code
Cosmogenic nuclides in geology	7.3.0214

Name of unit administrating study

null

Studies

faculty	field of study		
Wydział Oceanografii i Geografii	Geologia	type	wszystkie
		form	wszystkie
		specialty	wszystkie
		specialization	wszystkie

Teaching staff

dr Karol Tylmann

Forms of classes, the realization and number of hours

Forms of classes

Lecture, Tutorial

The realization of activities

classroom instruction

Number of hours

Lecture: 15 hours, Tutorial: 15 hours

ECTS credits

3
Contact Hours: 44
Number of ECTS credits: 2
- participation in lectures: 15
- participation in conversation: 15
- participation in the test: 2
- participation in consultations: 12

Students' own work
Number of ECTS credits: 1
Total number of hours: 25
- preparation for the test: 10
- preparing for classes: 15

The academic cycle

2023/2024 winter semester

Type of course

an elective course

Language of instruction

english

Teaching methods

- discussion
- multimedia-based lecture

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

Graded credit

Assessment methods

- ssignment work – conducting research and presenting results
- assignment work – project or presentation
- Writing evaluation of the lecture

The basic criteria for evaluation

Lecture:
Getting minimum 51% of points during writing evaluation, according to Study Regulations at UG
Seminar:
Evaluation of activity during seminar and writing thesis.

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements

no

B. Prerequisites

no

Aims of education

To be familiar with contemporary possibilities of cosmogenic nuclides analysis in geology.

Course contents

A. Lecture content:
A. 1. Cosmic ray and its impact on geospheres.
A. 2. Genesis and classification of cosmogenic nuclides occuring in the environment.
A. 3. Measurements of the cosmic ray intensity and production rate of the cosmogenic nuclides.
A. 4. Methods of measurements of cosmogenic nuclides concentration in samples.
A. 5. Calibration sites.
A. 6. Selected examples of the application of cosmogenic nuclides in geological studies.
A. 7. Exposure and burial dating with in-situ produced cosmogenic nuclides.

B. Seminar content
B. 1. Potential and limits of the application of cosmogenic nuclides in geology.
B. 2. Examples of the cosmogenic nuclides applications in geology.
B. 3. Computer and statistical tools used in analysis of the cosmogenic nuclides results.
B. 4. Processing of given results of exposure dating with cosmogenic nuclides.

Bibliography of literature

Dunai T. 2010. Cosmogenic nuclides. Principles, Concepts and Applications in the Earth Surface Sciences. Cambridge University Press, pp. 187.

The learning outcomes (for the field of study and specialization)

P6U_W: P6S_WG - K_W02, K_W04
P6U_U: P6S_UW - K_U02, K_U03; P6S_UK - K_U03
P6U_K: P6S_KK - K_K03

Knowledge

W_1 K_W02 to know and to understand rminology related to cosmogenic nuclides and their applications in geoscience (program content: A1-7)
W_2 K_W04 to know and to understand phenomena and processes occuring in the past and today on the Earth, which may be analysed with cosmogenic nuclides, to define methods of these studies (program content: A1-7)

Skills

U_1 K_U02 to be able to analytical and synthetic way of thinking leading to a correct conclusions based on given results of nuclides analysis (program content: B1-4)
U_2 K_U03 to be able to use source information in English, including archival data and umerical databases of cosmogenic nuclides research (program content: B1-4)

Social competence

K_1 K_K03 to be ready to be careful and critical in acceptance of information from scientific literature, Internet and other sources related to cosmogenic nuclides research (program content: B1-4)

Contact

k.tylmann@ug.edu.pl

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FUNDUSZ SPOŁECZNY

Course title	ECTS code
Introduction to volcanology	7.3.0230

Name of unit administrating study

null

Studies

faculty	field of study		
Wydział Oceanografii i Geografii	Geologia	type	wszystkie
		form	wszystkie
		specialty	wszystkie
		specialization	wszystkie

Teaching staff

dr Dominik Pałgan

Forms of classes, the realization and number of hours

Forms of classes

Lecture

The realization of activities

classroom instruction

Number of hours

Lecture: 30 hours

ECTS credits

2
Contact Hours: 32
ECTS credits: 1,25
- participation in lectures: 30
- participation in written test: 2

Student's own work: 0.75
Total number of hours: 15
- preparation for the test: 15

The academic cycle

2023/2024 summer semester

Type of course

an elective course

Language of instruction

english

Teaching methods

multimedia-based lecture

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

Graded credit

Assessment methods

The basic criteria for evaluation

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements
B. Prerequisites

Aims of education

Course contents

Bibliography of literature

The learning outcomes (for the field of study and specialization)

Knowledge

Skills

Social competence

Contact

dominik.palgan@ug.edu.pl

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EUROPEJSKI
FUNDUSZ SPOŁECZNY

Course title	ECTS code
Water protection and restoration	13.9.0222

Name of unit administrating study

null

Studies

faculty	field of study		
Wydział Oceanografii i Geografii	Geologia	type	pierwszego stopnia
		form	stacjonarne
		specialty	Podstawowa
		specialization	Podstawowa

Teaching staff

prof. dr hab. Julita Dunalska

Forms of classes, the realization and number of hours

Forms of classes

Tutorial

The realization of activities

classes outside UG premises, classroom instruction, online classes

Number of hours

Tutorial: 20 hours

ECTS credits

2

The academic cycle

2023/2024 summer semester

Type of course

an elective course

Language of instruction

english

Teaching methods

seminar lecture

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

Graded credit

Assessment methods

assignment work – project or presentation

The basic criteria for evaluation

After confirming the implementation of learning outcomes, the student obtains a grade depending on the score obtained (51-60% - 3.0; 61-70% - 3.5; 71-80% - 4.0; 81-90% - 4.5; 91-100% - 5.0).

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements

Lack

B. Prerequisites

Knowledge of English

Aims of education

Familiarization with the problems of water protection and restoration; preparation for taking action to improve the water quality.

Course contents

- Challenges and opportunities of aquatic ecosystems protection.
- Methods and techniques of water protection and restoration (presentation of solutions implemented in New Zealand, Australia, Florida U.S. and Poland).
- The concept of modern water protection and restoration in accordance with "Nature-Based Solutions" and "Circular Economy".
- The role of "Citizen Science" in the planning of conservation and restoration activities.

Bibliography of literature

- Dunalska J.A. 2019. Rekultywacja jezior – teoria i praktyka. Wyd. PAN, Warszawa.
- Cooke G. D., E. B. Welch, S. A. Peterson, S. A. Nichols. 2005. Restoration and management of lakes and reservoirs. Third edition. Boca Raton: Taylor&Francis.
- Jeppesen E., Søndergaard M., Jensen H.S., Ventäla A-M. 2009. Lake and reservoir management. Encyclopedia of Inland Waters, 295-309.
- Klapper H. 2003. Technologies for lake restoration. J. Limnol., 62(1): 73-90.
- Abell J. 2018. Ecofish - shallow lakes restoration review - final shallow lakes: A literature review. Waikato Regional Council Technical Report, 13.
- Hamilton D.P, Dada A. 2016. Lake management: A restoration perspective. In: Advances in New Zealand Freshwater Science. Jellyman PG, Davie TLA, Pearson CP, Harding JS (Eds.). New Zealand Freshwater Sciences Society and New Zealand Hydrological Society Publishers, 531-552.

The learning outcomes (for the field of study and specialization)

K_W04
K_U02
K_K04

Knowledge

K_W04 knows and understands the phenomena and processes occurring in surface waters; has knowledge of the principles of lake protection and restoration; defines methods for the water resources restoration.

Skills

K_U02 has the ability to analytical and synthetic reasoning the obtained environmental data and on their basis propose methods of restoration. Understands the opportunities and threats to the implementation of the proposed activities.

Social competence

K_K04 when inferencing, it demonstrates the attitude of conscious and reliable assessment of the impact of human activities on the aquatic environment.

Contact

503 168485

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Course title	ECTS code
Contemporary problems of environmental geography	7.1.0701

Name of unit administrating study

null

Studies

faculty	field of study		
Wydział Oceanografii i Geografii	Geologia	type	pierwszego stopnia
		form	stacjonarne
		specialty	wszystkie
		specialization	wszystkie

Teaching staff

dr hab. Wojciech Tylmann; prof. dr hab. Mirosław Miętus; dr Włodzimierz Golus; dr Janusz Filipiak; dr Mirosława Malinowska

Forms of classes, the realization and number of hours

Forms of classes

Lecture

The realization of activities

classroom instruction, online classes

Number of hours

Lecture: 30 hours

ECTS credits

3
Classes requiring the direct participation of an academic teacher:
- participation in lectures 30 hours;
- participation in the exam for 1 hour;
- participation in consultations (offered contact) 10 h.
The total number of hours 42. Number of ECTS credits 2
Student's own work:
- preparation for the exam (studying literature) 33 h
The total number of hours 36, number of ECTS points 1.
The total student workload: 75 h. The total number of ECTS points: 3

The academic cycle

2023/2024 winter semester

Type of course

an elective course

Language of instruction

english

Teaching methods

- problem-focused lecture
- seminar lecture

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

Examination

Assessment methods

assignment work – project or presentation

The basic criteria for evaluation

In accordance with the University of Gdańsk Study Regulations: obtaining more than 50% of points in the written exam.

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements
No formal requirements

B. Prerequisites
English skills at B+ level

Aims of education

Presentation of selected problems and research directions in modern physical geography, particularly:
- Past and modern global environmental changes - forcing factors, mechanisms and processes, and future implications.

Course contents

A.1 Past global changes: international research programs and scientific organizations.
A.2 Scientific ocean drilling: the exploration of the seafloor.
A.3 Ice core science: global climate changes in the past.
A.4 Continental scientific drilling: environmental history recorded in terrestrial sediment archives.
A.5 Human-environment interactions in the past: erosion, landscape evolution, pollution.
A.6 Monitoring and modeling the water cycle – catchment and aquifer resources.
A.7 Addressing water scarcity and quality: collection and collation of hydrological data.
A.8 Building hydrological services and real-time hydrological networks around the world.
A.9 Mapping: current tools used in visualisation of hydrological information.
A.10 Ecology and hydrology: ecohydrological structure and sustainable development.
A.11 International climate dialogue - political, financial and organizational aspects.
A.12 Climate change and natural and anthropogenic ecosystems - observed and projected changes and impacts.
A.13 Climate-, weather- and water extreme events and related response measures (organization of early warning systems).
A.14 Governance efforts to develop and implement mitigation and adaptation responses in natural and anthropogenic ecosystems.

Bibliography of literature

Fischer H., Kull C., Kiefer T. 2006. Ice core science. PAGES news, 14(1), 1-44, https://doi.org/10.22498/pages.14.1.
Intergovernmental Panel on Climate Change, 2018, Special Report: Global Warming of 1.5°C (Summary for Policymakers + selected Chapters) (available at www.ipcc.ch)
Intergovernmental Panel on Climate Change, 2019, Special Report: the Ocean and Cryosphere in a Changing Climate (Summary for Policymakers + selected Chapters) (available at www.ipcc.ch)
Intergovernmental Panel on Climate Change, 2019, Special Report: Climate Change and Land (Summary for Policymakers + selected Chapters) (available at www.ipcc.ch)
Intergovernmental Panel on Climate Change, 2021, Sixth Assessment Report (Summaries for Policymakers + selected Chapters of WGI) (available at www.ipcc.ch)
International Continental Scientific Drilling Program, 2020. ICDP Science Plan 2020-2030., https://www.icdp-online.org/media/icdp-science-plan.
Koppers A.A.P., Coggon R., eds. 2020. Exploring Earth by Scientific Ocean Drilling: 2050 Science Framework. 124 pp., https://doi.org/10.6075/J0W66J9H.

The learning outcomes (for the field of study and specialization)

K_W03 (P6U_W, P6S_WG)
K_U02 (P6U_U, P6S_UW)
K_U08 (P6U_U, P6S_UK)

Knowledge

K_W03 (P6U_W, P6S_WG) - the student knows and understands at an advanced level the processes and phenomena occurring in the past and today in the natural environment of the Earth

Skills

K_U02 (P6U_U, P6S_UW) - the student formulates and analyzes basic problems related to changes in the lithosphere, hydrosphere, and atmosphere on a local, regional and global scale
K_U08 (P6U_U, P6S_UK) - the student uses scientific language and discuss topics related to global problems of physical geography in English

Social competence

Contact

wojciech.tylmann@ug.edu.pl