


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	type	all
Faculty of Oceanography and Geography	Geology	form	all
		specialty	all
		specialization	all
Teaching staff			
dr Karol Tylmann			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		3	
Lecture, Tutorial		Contact Hours: 44	
The realization of activities		Number of ECTS credits: 2	
classroom instruction		- participation in lectures: 15	
Number of hours		- participation in conversation: 15	
Lecture: 15 hours, Tutorial: 15 hours		- 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			
2024/2025 winter semester			
Type of course		Language of instruction	
- an elective course - obligatory		english	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
- discussion - multimedia-based lecture		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			

learning effects	discussion	multimedia-based lecture
	knowledge	
K_W02	Writing evaluation	
K_W04	Writing evaluation	
	skills	
K_U02		final paper
K_U03		final paper
	social competences	
K_K03		observation and discussion in class

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 occurring 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 terminology 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 occurring 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 numerical 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