Annex No. 5

to Ordinance No. 21/2019

**COURSE/MODULE SYLLABUS FOR UNIVERSITY COURSES/PhD STUDIES**

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|  | Course/module name in Polish and English  Environmental geohazards/Geozagrożenia środowiskowe | | |
|  | Discipline  Earth and Environmental Science | | |
|  | Language of instruction  English | | |
|  | Teaching unit  Faculty of Earth Science and Environmental Management, Institute of Geological Sciences, Department of Isotopic and Applied Geology, | | |
|  | Course/module code  USOS | | |
|  | Type of course/module *(mandatory or optional)*  optional | | |
|  | Field of studies (major, if applicable)  Geology (spec. Applied Geoscience) | | |
|  | Level of higher education *(undergraduate (I cycle), Master’s (II cycle), 5 year uniform Master’s studies)*  Master’s (II cycle) | | |
|  | Year of studies *(if applicable*)  II | | |
|  | Semester *(winter or summer)*  winter | | |
|  | Form of classes and number of hours  Lectures: 24h  Multimedia lecture | | |
|  | Name, title/degree of the teacher/instructor  Coordinator: Dr Adriana Trojanowska-Olichwer  Lecturer: Dr Adriana Trojanowska-Olichwer, Dr Wojciech Drzewicki | | |
|  | Course/module prerequisites, in terms of knowledge, skills, social competences  Basic knowledge on chemical and geological processes in environment | | |
|  | Course objectives  Presentation of the knowledge on natural environmental hazards, their causes, consequences and warning and forecasting systems | | |
|  | Course content  Lecture  Earthquakes, tsunami.  Volcanic eruptions, early warning systems.  Landslides, causes and prevention.  Avalanches and other snow risks, causes and prevention.  Hurricanes, tornadoes, cyclones, El Niño, early warning systems.  Collisions with space objects Earth.  Desertification, floods, origin, course, consequences, prevention, early warning systems against floods.  Acid rain, smog, ozone depletion causes, course, consequences, prevention, warning systems.  Natural toxins, their origins, impact. Natural toxins as a chemical weapon.  Biological factors: the microbiological hazards and the pathogenic impact, epidemiology, used as a biological weapon. | | |
|  | Intended learning outcomes  P\_W01 Student has in-depth knowledge about dangerous and catastrophic phenomena occurring in nature. He knows their causes and effects.  P\_U01 Student uses scientific literature in the field of geological sciences in English. Can critically verify the information.  P\_K01 Student understands the need for continuous learning and improving professional competence and update the information. | Symbols of learning outcomes for particular fields of studies, *e.g. K\_W01\**, *K\_U05,K\_K03*  K2\_W01, K2\_W03  K2\_U02, K2\_U03  K2\_K01 | |
|  | Required and recommended reading *(sources, studies, manuals, etc.)*  Required reading  Klimaszewski, M., 1978. Geomorfologia PWN. Warszawa  Marek Graniczny, Włodzimierz Mizerski, Katastrofy przyrodnicze Wydawnictwo Naukowe PWN 2009.  The disaster handbook, University of Minesota dostęp : http://disaster.ifas.ufl.edu/masterfr.htm  Natural disasters webQuest dostęp: http://www.eht.k12.nj.us/~puggit/oster/disasters.htm  PIG -PIB – http://www.pgi.gov.pl/  http://www.mos.gov.pl/kategoria/2372\_geologia\_dla\_turystyki/ | | |
|  | Assessment methods for the intended learning outcomes:  Written test. K2\_W03, K2\_W04, K2\_U02, K2\_U03, K2\_U07, K2\_K06. | | |
|  | Credit requirements for individual components of the course/module:  -attendance is obligatory,  - written test, 60% of correct answers required to pass. | | |
|  | Total student effort | | |
| form of student activities | | number of hours for the implementation of activities |
| classes (according to the plan of studies) with a teacher/instructor:  - lectures:24h | | 24h |
| student's own work (including group-work) such as:  - consultations:14h  - reading the suggested literature: 17h  - preparing for tests and exam: 20h | | 51h |
| Total number of hours | | 75h |
| Number of ECTS credits | | 3 |