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  Volcanology/Wulkanologia | | |
|  | Discipline  Earth and Environmental Science | | |
|  | Language of instruction  English | | |
|  | Teaching unit  Faculty of Earth Science and Environmental Management, Institute of Geological Sciences, Department of Mineralogy and Petrology | | |
|  | 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)*  summer | | |
|  | Form of classes and number of hours  Lectures: 24  Teaching methods  Multimedia lecture | | |
|  | Name, title/degree of the teacher/instructor  Coordinator: Dr hab. Marek Awdankiewicz, Prof. UWr.  Lecturer: Dr hab. Marek Awdankiewicz, Prof. UWr | | |
|  | Course/module prerequisites, in terms of knowledge, skills, social competences  Knowledge and skills in Earth Sciences at BSc level in general geology, mineralogy, petrology. | | |
|  | Course objectives  This course provides an overview of modern knowledge in the field of volcanology, with emphasis on the physical volcanology, including such topics as volcanism in global tectonic framework, nature and course of volcanic eruptions, products of volcanism, volcanic edifices, volcanic hazards, extraterrestrial volcanism. Students learn about the methods of characterization and interpretation of volcanic rocks in modern and ancient successions. The knowledge and skills acquired are useful for geologists carrying out basic research as well as those working in applied, economic and environmental geology (e.g., prospecting for mineral resource, natural hazards, environmental protection). | | |
|  | Course content  Lecture  Main topics: Volcanism in the global tectonic framework. Properties of magmas, mechanism and types of volcanic eruptions. Effusive eruptions, lava flows, lava domes, shallow-level subvolcanic intrusions. Explosive eruptions, pyroclastic deposits and rocks. Epiclastic processes and rocks. Volcanoes and volcanic centers – types and evolution. Volcanic hazards. Extraterrestrial volcanism. Modern volcanism in Europe. | | |
|  | Intended learning outcomes  P\_W01 Student has a thorough knowledge on volcanic phenomena and processes.  P\_W02 Student has knowledge on current problems and research methods of volcanology. He can verify and interpret basic results of volcanological research.  P\_W03 He has knowledge on global aspects of volcanism, the main zones of volcanic activity in the world and the role of volcanism in geological evolution of Poland.  P\_U01 Can read and use scientific publications in the field of volcanology.  P\_K01 Understands the need of continuous learning and improving professional skills. | Symbols of learning outcomes for particular fields of studies, *e.g. K\_W01\**, *K\_U05,K\_K03*  K2\_W01, K2\_W09  K2\_W03, K2\_W04  K2\_W07  K2\_U02  K2\_K01 | |
|  | Required and recommended reading *(sources, studies, manuals, etc.)*  Required reading  Cas R.A.F. i Wright J.V., 1987. Volcanic successions modern and ancient: A geological approach to processes, products and successions. Allen & Unwin (Publishers) Ltd., 528 pp.  Schmincke H.-U., 2004. Volcanism. Springer-Verlag Berlin-Heidelberg-New York, 342 pp.  Sigurdson H., (red.) 2000, 2015. Encyclopedia of Volcanoes. Academic Press.  Recommended reading  Blong R. J., 1984. Volcanic Hazards. A Sourcebook on the Effects of Eruptions. Academic Press, Sydney and London, 424 pp.  Fisher R.V. i Schmincke H.-U., 1984. Pyroclastic rocks. Springer-Verlag Berlin, 472 pp.  McPhie J., Doyle M. i Allen R., 2005. Volcanic textures. A guide to the interpretation of textures in volcanic rocks. CODES, Tasmania, 197 pp.  Wilson M., 1989. Igneous Petrogenesis. Chapman & Hall, 465 pp.  Selected internet resources:  Global Volcanism Program: http://www.volcano.si.edu/  USGS Volcano Hazards Program: http://volcanoes.usgs.gov  Volcanoes of the World: http://www.swisseduc.ch/stromboli/index-en.html  NOAA Ocean Explorer: http://oceanexplorer.noaa.gov/ | | |
|  | Assessment methods for the intended learning outcomes:  Written colloquium. K2\_W01, K2\_W03, K2\_W04, K2\_W07, K2\_W09, K2\_K01, K2\_U02. | | |
|  | Credit requirements for individual components of the course/module:  Participation in lectures is obligatory according to the general study regulations, detailed are specified by the lecturer. The final written colloquium is passed if the student obtains min. 50% of possible points. | | |
|  | 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: 24  - colloquium: 5 | | 29 |
| student's own work (including group-work) such as:  - consultations: 10  - reading the suggested literature: 20  - preparing for colloquium: 16 | | 46 |
| Total number of hours | | 75 |
| Number of ECTS credits | | 3 |