Annex No. 5

to Ordinance No. 21/2019

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | Course/module name in Polish and English  Metodyka i zastosowania stratygrafii  Methods and application in stratigraphy | | |
|  | Discipline  Earth and Environmental Science | | |
|  | Language of instruction  English | | |
|  | Teaching unit  Faculty of Earth Science and Environmental Management, Institute of Geological Sciences | | |
|  | Course/module code  USOS | | |
|  | Type of course/module *(mandatory or optional)*  Mandatory | | |
|  | 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*)  I | | |
|  | Semester *(winter or summer)*  Summer | | |
|  | Form of classes and number of hours  Lectures: 24  Classes:14  Teaching methods:  Multimedia lecture, discussion, practical exercises, individual work, preparation of reports. | | |
|  | Name, title/degree of the teacher/instructor  Coordinator: dr Alina Chrząstek  Lecturer: dr Alina Chrząstek  Classes instructor: dr Alina Chrząstek | | |
|  | Course/module prerequisites, in terms of knowledge, skills, social competences  Basic knowledge in the field of palaeontology, stratigraphy and historical geology. | | |
|  | Course objectives  The aim of the course is to provide students with the stratigraphic terminology, modern methods of stratigraphic investigations and possibilities of their application in practice, especially to stratigraphic correlations. | | |
|  | Course content  Lectures:  Selectivity of the fossil record. Taphonomy – the aim and methods. „Fossil-Lagerstatten” – examples and preconditions. Types of the fossil communities. Methods of describing and classifying fossils. Classifications of stratigraphic units, historical and current knowledge. International Stratigraphic Guide. Lithostratigraphy, biostratigraphy, magnetostratigraphy, chronostratigraphy and geochronology. Methods of stratigraphic correlation. Special stratigraphic methods (chemostratigraphy, SIS, seismic and sequence stratigraphy, eustatostratigraphy, cyclostratigraphy, tephrostratigraphy, event stratigraphy, ecostratigraphy.  Classes:  Methods of collecting and compiling of paleontological-stratigraphic material. Determination and description of selected species of macrofauna. Separation lithostratigraphic and biostratigraphic units in profiles. Determination the age range of the geological profile by the guide fossils. Lithological and age correlation of the selected geological profiles. | | |
|  | Intended learning outcomes  P\_W01 Student knows the palaeontological nomenclature and stratigraphic terminology.  P\_W02 Student knows the problems of fossilization processes, fossil communities and taphonomy.  P\_W03 Student is able to classify and describe fossils and knows how to use the source materials.  P\_W04 Student knows modern stratigraphic methods and the current state of knowledge.  P\_W05 Student knows the International Stratigraphic Guide.  P\_U01 Student is capable for using different data (paleontological, sedimentological, seismic, geochemical, isotopic and others) in stratigraphic research, correlation of stratigraphic units and paleoenvironmental interpretations.  P\_U02 Student is able to recognize the relationship between the rock record and the geological events.  P\_K01 Student understands the need to update and deepen knowledge of the earth sciences. | Symbols of learning outcomes for particular fields of studies, e.g. *K\_W01\**, *K\_U05, K\_K03*  K2\_W08  K2\_W01  K2\_U01, K2\_U05  K2\_W02; K2\_W03; K2\_W06  K2\_W08  K2\_U01; K2\_U02; K2\_U03; K2\_U04; K2\_U06  K2\_U03  K2\_K01; K2\_K06 | |
|  | Required and recommended reading *(sources, studies, manuals, etc.)*  Required reading:  Salvador A. (ed.), 1994. International Stratigraphical Guide: A guide to stratigraphical classification, terminology and procedure. International Union of Geological Sciences & Geological Society of America. [http://www.stratigraphy.org/guide.htm].  Recommended reading:  Brenner R.L., McHarque T.R., 1988. Integrative stratigraphy. Concepts and Applications. Prentice Hall.  Catuneanu, O., 2019. Scale in sequence stratigraphy. Marine and Petroleum Geology, 106: 128–159.  Doyle P., Bennett M.R. (eds.), 1998. Unlocking the stratigraphical record. School of Earth & Environmental Sciences, Advances in Modern Stratigraphy. Wiley & Sons.  Kin, A., Gruszczyński, M., Martill, D., Marshall, J. D., Błażejowski, B., 2012. Palaeoenvironment and taphonomy of a late Jurassic (Late Tithonian) Lagerstätte from central Poland. Lethaia, 46: 71–81.  Lyman, R. L., 2010. What Taphonomy Is, What it Isn’t, and Why Taphonomists Should Care about the Difference. Journal of Taphonomy Prometheus Press/Palaeontological Network Foundation, 8(1): 1–16.  Schoch R.M., 1989. Stratigraphy, principles and methods. Van Nostrand Reinhold, New York.  Tsolakos, K., Katsekis, G., Theodorou, J. A., 2021. Taphonomy of mass mollusk shell accumulation at Amvrakikos Gulf lagoon complex sandy barriers (NW Greece). Oceanologia, 63: 179–193 (www. Journals.elsevier.com/oceanologia)  North American Stratigraphic Code. North American Comission on Stratigraphic Nomenclature (2005). AAPG Bulletin, 89(1): 1547–1591. | | |
|  | Assessment methods for the intended learning outcomes:  e.g.  - final test: K2\_W01, K2\_W02, K2\_W03; K2\_W06, K2\_W08, K2\_K01, K2\_K06;  - semester papers, class reports (individual): K2\_U01, K2\_U02, K2\_U03, K2\_U04, K2\_U05, K2\_U06 | | |
|  | Credit requirements for individual components of the course/module:  e.g.  - monitoring attendance and progress on the course subject matter,  - final test individual – 1 hour, minimum 50% (lecture)  - writing the class reports (classes) | | |
|  | 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  - classes: 14 | | 38 |
| student's own work (including group-work) such as:  - consultings: 12  - being prepared for classes: 15  - reading the suggested literature: 10  - preparing papers/presentations/projects: 5  - writing a class report: 15  - preparing for tests: 10 | | 67 |
| Total number of hours | | 105 |
| Number of ECTS credits | | 4 |