**COURSE SYLLABUS**

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|  | Course/module name in Polish and English  Geologia ropy naftowej, Petroleum Geology | | |
|  | Discipline  Earth and related environmental sciences | | |
|  | Language of instruction  English | | |
|  | Unit conducting the course/module  Faculty of Earth Sciences and Environmental Management, Institute of Geological Sciences | | |
|  | Course/module code  USOS | | |
|  | Type of course/module *(mandatory or optional)*  Optional | | |
|  | Field (major)\*  Applied Geoscience | | |
|  | Level of studies *(first-cycle\*, second-cycle\*, uniform master's programme \*)*  second cycle | | |
|  | Year of studies *(if applies*) | | |
|  | Semester *(winter or summer)*  Winter, Summer | | |
|  | Class type and the number of hours ( including online classes\*)  Lecture 20 hrs  Laboratory 18 hrs | | |
|  | Prerequisites regarding knowledge, skills, and social competences for the course/module  Basic knowledge from the sedimentology, petrology of sedimentary rocks, and stratigraphy. | | |
|  | Educational aims  Broadening students’ knowledge about: origin, chemical and physical properties of petroleum and natural gas; source rocks; reservoir rocks; porosity and permeability; hydrocarbon migration; hydrocarbon traps; petroleum exploration and production methods; unconventional hydrocarbon reserves; significance of petroleum; main hydrocarbon deposits around the world. | | |
|  | Course content  Lectures:  Chemistry of hydrocarbons, physical and chemical properties of hydrocarbons, origin of hydrocarbons, precursor material and current production of organic matter, main types of organic matter, organic matter accumulation and burial, kerogen, source rocks properties, generation of hydrocarbons, hydrocarbon migration, reservoir rock properties, hydrocarbon traps, unconventional hydrocarbon reserves, petroleum physical and chemical properties, petroleum exploration methods, enhanced oil recovery, significance of petroleum reserves, petroleum reserves and production in the world.  Laboratory:  Hydrocarbon naming convention, porosity and permeability measurement methods, source rock analysis, maceral composition, estimation of petroleum and natural gas reserves, petroleum properties, hydrocarbon composition measurement. | | |
|  | Intended learning outcomes  P\_W01 Student knows specialized terminology and has in-depth knowledge of petroleum geology, petroleum origin, hydrocarbon chemistry, hydrocarbon physical and chemical properties, hydrocarbon traps, types of hydrocarbon reserves  P\_U01 Student can identify and solve problems related to petroleum exploration and production  P\_K01 Student can objectively assess information related to petroleum deposits, and understands the need to expand knowledge of processes leading to petroleum formation and trapping | | Symbols of appropriate learning outcomes for particular fields of study, such as*: K\_W01\**, *K\_U05,K\_K03*  K2\_W02, K2\_W03, K2\_W08, K2\_W09  K2\_U01, K2\_U04  K2\_K01 |
|  | Mandatory and recommended reading list *(resources, studies, manuals, etc.)*  Mandatory literature:  Petroleum Geoscience by K. Bjorlykke, 2011, Springer  Recommended literature:  Petroleum Geoscience by J. Gluyas and R. Swarbrick, 2004, Blackwell Publishing  Basin Analysis by P.A. Allen and J.R. Allen, 2013, Blackwell Publishing  Other resources prepared by staff based on available literature and internet sources | | |
|  | Assessment methods for the intended learning outcomes:  e.g.  - individual oral presentation (T)  - final test (T) | | |
|  | Credit requirements for individual components of the course/module, e.g.:  - individual oral presentation (T)  - final test (T) | | |
|  | Student's workload | | |
| form of student's activities\* | number of hours for the implementation of activities | |
| classes (according to the plan of studies) with a teacher/instructor:  - lecture: 20  - laboratory: 18 | 38 | |
| student's/PhD student's\* own work (including group-work) such as:  - being prepared for classes:8  - reading the suggested literature:8  - preparing presentation: 12  - preparing for tests and exam: 12 | 40 | |
| Total number of hours | 78 | |
| Number of ECTS credits (*if required*) | 4 | |

(T) – implemented in a traditional way

(O) – implemented online

\*delete the inapplicable