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| ***Title of the course:*** **Earth sciences knowledge** | ***NEPTUN-code:***RKXFT1ABNF | ***Weekly teaching hours:*** *l+cw+lw*2+0+2 | ***Credit*:** 4***Exam type****:* tm  |
| ***Course leader:***Krisztina Demény Ph.D. | ***Position:*** senior lecturer |  ***Required preliminary knowledge: -*** |
|  |  | **Time of the course:**lecture: Tuesday – 12:35-14:15labour: Wednesday – 10:45-12:25 (D.306) |
|  ***Curriculum:*** |
| The geological history of the Earth. The internal structure of the Earth (the crust, the mantle, the core). Volcanism (type of volcanoes, volcanoes, and plate boundaries) and plate tectonics. Rocks (igneous, sedimentary, and metamorphic) and minerals classification systems. Major types of landforms (plains, mountains, cratons). Exogenous processes and main landform methods (the work of rivers, the formation of shores and coastlines, glacial processes, the work of wind). Main features of surface waters (rivers and lakes) and waters below the surface (groundwater, confined water, crack water). Karst processes (karst forms on or below the surface). Main soil types in the world (definition, functions, and major soil formations). |
| **Detailed description of the subject, timetable** |
| **Weeks** | **Topics of lectures and practices** |
| 1.18.02. and 19. 02. 2025.  | Lecture: Internal structure of the Earth (the crust, the mantle, the core)Practice: Talking general topics, requirements (fieldtrip, exercises) |
| 2.25.02. and 26. 02.2025. | Lecture: Plate tectonicsPractice: Minerals classification and rocks classification. Classifying and practising of igneous rocks and minerals I.  |
| 3.04.03. and 05.03.2025.  | Lecture: Volcanism (type of volcanoes, volcanoes and plate boundaries)Practice: Classifying and practising of igneous rocks II. |
| 4.11.03. and 12.03.2025.  | Lecture: The geological history of the EarthPractice: Classifying and practising of sedimentary rocks and minerals |
| 5.18.03. and 19.03.2025.  | Lecture: Landforms (shelves, cratons, mountains, plains), exogenous processes (in general). Practice: Classifying and practising of metamorphic rocks and minerals |
| 6.25.03. and 26.03.2025.. | Lecture: Landform processes (the work of rivers, the formation of shores and coastlines, glacial processes, the work of wind)Practice: Minerals and rocks systematization (igneous, sedimentary, metamorphic rocks) |
| 7.01.04. and 02.04.2025.  | Lecture + Practice: Written test I. – theoretical + practical |
| 8.08.04. and 09.04.2025.  | Lecture: Main features of surface waters (rivers and lakes). Main features of waters below the surface (groundwater, confined water, crack water).Practice: Defining and counting of main parameters of water level |
| 9.15.04. and 16.04.2025.  |  Lecture: Karst processes (karst forms on or below the surface).Practice: Defining and counting of runoff. |
| 10.22.04. and 23.04.2025.  | Holiday  |
| 11.29.04. and 30.04.2025.. | Lecture + Practice: student lecture |
| 12.06.05. and 07.05.2025. | Lecture: Main soil types in the world (definition, functions, and major soil formations). Practice: Defining and counting of catchment area. Analysis of main hydrological parameters. |
| 13.13.05. and 14.05.2025.. | Lecture + Practice: Written test II. – theoretical + practical |
| 14.20.05. and 21.05.2025.  | Replacement test  |
| **Mid-term requirements** |
| **Participation in occupations:**Compulsory |
| **Mid-terms, protocols, reports, etc.:*** 2 Written tests (lectures + laboratory/practice work), min. 2 (pass) every test.
* Student lecture
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| **The method of obtaining a signature / mid-term mark:**Basis of marking: attendance at lectures and laboratory works,Written tests min. = 2 (pass) in each tests (separately).In case of mid-semester mark fail (1), correction opportunities are available according to STUDENT REQUIREMENTS SYSTEM OF ÓBUDA UNIVERSITY  |
| ***Professional competencies:*** |
| Knowledge of general and specific mathematical, natural and social scientific principles, rules, relations, and procedures as required to pursue activities in the special field of environment protectionComprehensive knowledge of the basic features and interrelations of environmental elements and systems, as well as of the environmentally harmful substances affecting them. Able to perform basic tests of the quantity and quality characteristics of environmental elements and systems by state-of-the-art measuring instruments; to draw up and implement measurement plans; and to evaluate data. Open to professional cooperation with specialists related to their profession but involved in other areas. |
| ***Literature:*** |
| William M. Marsh, Martin M. Kaufman: Physical geography, Cambridge University Press, 2013.PPT files on the homepage of Moodle learning systemJane H. Hodgkinson, Frank D. Stacey: Practical Handbook of Earth Science, ISBN 9781138054448. CRC Press, 2017 |
| Comment:  |