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| **Course title** | **Geology** |
| **Code** | ZDOB12 |
| **Study** | Postgraduate Interdisciplinary University Study Programme *Environment Protection and Nature Conservation* |
| **Semester** | I. |
| **ECTS** | 5 |
| **Course state** | Obligatory |
| **Professors** | Doc. dr.sc. Neda Vdović, assistant professor |
| **Colaborators** | - |
| **Entrance conditions** | - |
| **Aim** | Gaining knowlegde about the Earth's composition, structure and development; special attention is paid to recent sediments and their interaction with metal pollutants |
| **Learning outcomes** | 1. Introduction to Earth's development, structure and composition<br>2. Introduction to rocks and minerals<br>3. Characteristics of recent sediments and processes involved in sedimentation; the origin of sediments and their distribution pathways; defining sedimentary environment; sediment sampling<br>4. Surface physico-chemical characteristics of mineral particles (main componenets of sediments) which influence pollutant (toxic metals) adsorption<br>5. Processes and conditions responsible for pollutant adsorption<br>6. Examples of actual investigations |

**Connections between students activity, learning outcomes and evaluation**

| Students activity | ECTS | Learning outcomes | Course activity | Evaluation methods | Points* | |
|---|---|---|---|---|---|---|
| | | | | | min | max |
| Active participation | 1 | 1-5 | Lecture | Attendance record | | |
| Seminar preparation | 1 | 1-5 | Seminar check | Evaluation of presentation and discussion | | |
| Exam preparation | 3 | 1-5 | Final exam | Oral exam | | |
| | **5** | | | | | |

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| **Consultations** | According to the students' need | | |
| **Teaching form** | **Lectures** | **Seminars** | **Exercises** |
| **No. of hours** | 15 | 5 | 5 |
| **Content** | 1. Introduction to geology - Earth's structure, development and composition<br>2. Rocks and minerals – rock and mineral types; their characteristics<br>3. Sediments – sediment classification; sedimentary environments; sampling of sediments<br>4. Characterization of sediments – determination of sedimentary and mineralogical characteristics of sediments<br>5. Adsorption properties of mineral particles – surface physico-chemical characteristics of mineral particles<br>6. Sediments and contaminants – characteristics of mineral particles usually contained in sediments and envrionmental conditions that influence adsorption of metal contaminants<br>7. Examples of sedimentary environments and metal-sediments relationship | | |
| **Compulsory literature** | S. Marshak: Essentials of Geology, W.W. Norton & Co., NY, London, 2004, 536 str.<br>R.C. Selley: An Introduction to Sedimentology, Academic Press, 1976, 408 str.<br>W. Salomons & U. Förstner: Metals in the Hydrocycle, Springer, 1984, 349 str.<br>E. Prohić: Geokemija, udžbenici Sveučilišta u Zagrebu, Targa, Zagreb, 1998, 554 str. | | |

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| **Optional literature** | W. Salomons & W.M. Stigliani: Biogeodynamics of Pollutants in Soils and Sediments, Springer, 1995, 345.<br>J. Buffle & H. P. van Leeuwen: Environmental particles, Lewis publishers, 1992, 554 str. |
| **Completion condition** | Attendance and active participation during lectures |
| **Exam form** | Oral presentation and oral exam |
| **Possible teaching languages** | Croatian and English |
| **Form of quality monitoring** | Survey after lectures |