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| **Study program:** Chemistry (PhD) | | |
| **Course title: Selected chapters of geochemistry (H315C)** | | |
| **Name of lecturer/lecturers Dragan M. Đorđević** | | |
| **Type of course: elective** | | |
| **Number of ECTS allocated 10** | | |
| **Course objectives**  **Introducing students to the concepts of geochemistry and geochemical research. Getting to know the problems of geochemical research and enabling them to apply the acquired knowledge for independent solutions potential problems. Consideration of the problem of geochemistry in the field of environmental protection** | | |
| **Course outcomes**  **Upon successful completion of this course, the student is able to:**  **• apply acquired knowledge when solving geochemical problems independently**  **• apply acquired knowledge to solve environmental protection problems related to geochemistry**  **behavior and migration of elements in the environment** | | |
| **SYLLABUS**  *Lectures*  *Introduction. History and definition of geochemistry. Geochemical crystal chemistry. Thermodynamics in geochemistry. Geophysical aspect of the structure and composition of the Earth and the Earth's crust. Geochemistry of igneous rocks. Geochemistry metamorphic rocks. Geochemistry of sedimentary rocks. Complete geochemical analysis of limestone, magmatic, silicate rocks. The origin of organic matter in sediments. Diagenesis: formation of humic acids and humin, creation of kerogen. Catagenesis: formation of bitumen, migration, accumulation, metagenesis. Kerogen: definition, isolation, determination of structure, maturation. Oil. Gas. Coal: origin, composition, classification, types according to the degree of classification. Bituminous shale* | | |
| **References**  9. F. Albarède, Geochemistry: an introduction. 2nd ed.. Cambridge (2009)  10.R. J. Schaetzl, Soils: genesis and geomorphology. 4th printing. Cambridge, UK; New York (2010)  11. K.H. Wedepohl, Editioral Board: C.W. Correns, D.M. Shaw, K.K. Turekian, J. Zemann, Handbook of Geochemistry, Springer-Verlag Berlin-Heidelberg-New York (1969) | | |
| **Active teaching classes** | **Lectures 105** | **Laboratory work** |
| **Teaching mode: Interactive lectures, homework, seminar work, panel discussions** | | |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** | | |
| activity during the lecture - 5 points; seminar work – 50 points; oral exam - 45 points | | |