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| **Study program:** Master studies Chemistry | | | | |
| **Course title:** Environmental monitoring (H234C) | | | | |
| **Name of lecturer/lecturers:** Jelena Z. Mitrović, Marjan S. Ranđelović | | | | |
| **Type of course:** elective | | | | |
| **Number of ECTS allocated: 6** | | | | |
| **Course objectives**  Acquiring the necessary knowledge from monitoring and monitoring (monitoring) the quality of water, air and soil in accordance with requirements and regulations, as well as from the application of various monitoring techniques in the environment, ways and procedures of obtaining information about the quality of the environment and analysis of the obtained data for the purpose of management environment. | | | | |
| **Course outcomes**  After successful completion of this course, the student is able to:  - defines the information that needs to be obtained through monitoring in accordance with legal regulations,  - choose the type and mode of monitoring,  - determine the risk levels as a function of the elements used to define the monitoring regime,  - make a plan for taking samples from the environment,  - analyze, manage data and form a report,  - uses the information obtained in order to manage the environment. | | | | |
| **SYLLABUS**  *Lectures*  Принципи мониторинга животне средине. Врсте и режим мониторинга. Законска регулатива мониторинга. Терминологија у области мониторинга животне средине. Дефинисање потребне информације за управљање животном средином. Пројектовање мреже мониторинга: дефинисање мерних места, параметара мерења и учесталости узорковања. Планирање процедуре за прикупљање података. Мониторинг воде – методе узорковања и анализе. Мониторинг ваздуха – методе узорковања и анализе. Мониторинг земљишта – методе узорковања и анализе. Биоиндикатори у мониторингу животне средине. Ланац добијања резултата, поузданост, репродуктивност и упоредивост резултата. Обрада резултата и саопшатавање резултата мониторинга. Контрола квалитета и обезбеђење квалитета мониторинга (QА/QC). Акредитација лабораторија и сертификација. Трошкови мониторинга.  *Laboratory work*  Planning and organizing air monitoring. Planning and organization of surface and waste water monitoring. Planning and organizing soil and groundwater monitoring. Taking samples from the environment. Quality control of environmental monitoring. | | | | |
| **References**  1. Dalmacija B., Kontrola kvaliteta voda u okviru upravljanja kavalitetom, PMF, Novi Sad, 2000.  2. Dalmacija B., Parametri kvaliteta vode i sedimenta i tumačenje standarda (imisioni standardi), PMF, Novi Sad, 2012.  3. Burden F.R., McKelvie I., Forstner U., Guenther A., Environmental Monitoring Handbook. McGraw-Hill, 2002.  4. Gržetić I., Obezbeđenje kvaliteta i upravljanje kvalitetom na projektima i zadacima sa analitičkom praksom, Tehnika - Kvalitet, Standardizacija i Metrologija, 2, 2002. | | | | |
| **Active teaching classes** | **Lectures** | | **Laboratory work** | |
| **Teaching mode** | | | | |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** | | | | |
| **Pre exam duties** | **Points** | **Final exam** | | **Points** |
| Activity during lectures | 10 | Written examination | | 60 |
| Practical teaching | 10 | Oral examination | |  |
| Teaching colloquia | 20 |  | |  |