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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Science and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Chemistry** |
| Study Module (if applicable) | Applied chemistry; Environmental chemistry |
| Course title | Selected chapters of instrumental analysis |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | first |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Ivana Rašić Mišić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring theoretical and practical knowledge about optical and electroanalytical methods of instrumental analysis and their application. After successfully finished course, students are capable of properly operating the certain instruments, choosing proper method and applying it correctly to actual analysis in order to obtain valid data.*  |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Optical methods. Principles, analytical information and application of: Infrared spectroscopy, Raman spectroscopy, Atomic absorption spectroscopy, Inductively coupled plasma-atomic emission spectroscopy, Atomic fluorescence spectroscopy, X-ray fluorescence spectroscopy, Molecular fluorescence and phosphorescence spectroscopy.****Electroanalytical methods. Principles, analytical information and application of: Membrane electrodes, Coulometry, Controlled-current coulometry, Controlled-potential coulometry, Polarography and voltammetry, Hydrodynamic voltammetry and voltammetric biosensors, Amperometric and biamperometric titrations, Improved polarographic techniques (Impulse techniques), Stripping methods, Cyclic voltammetry and Chonopotentiometry.**  |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[ ] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **5** | **Written examination** | **10** |
| **Practical teaching** | **25** | **Oral examination** | **30** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |