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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) | - |
| Course Title | Modern methods of optical analysis  |
| Level of Study | ☐Bachelor | ☒ Master’s | ☐ Doctoral |
| Type of Course |  ☒ Obligatory | ☐ Elective |
| Semester | ☒ Autumn |  ☐ Spring |
| Year of Study | 1 |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Vesna Stankov Jovanović |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☐ Project work | ☐ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| Acquiring theoretical and practical knowledge of modern optical instrumental methods of analysis, possibilities of their application, the selection of appropriate methods |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| Introduction to optical methods of analysis. Qualitative optical spectrometric methods. Infrared spectroscopy. Raman spectroscopy. Nuclear magnetic resonance spectrometry. Electron spin resonance spectrometry. x-ray diffraction methods. Quantitative optical spectrometric methods. Atomic absorption spectrometry. Inductively coupled plasma spectrometry (optical emission and mass spectrometric detection). Atomic fluorescence spectrometry. x-ray fluorescence spectrometry. Visible and ultraviolet molecular spectrometry. Molecular fluorescent and phosphorescent spectrometry. Chemiluminescent spectrometry. Automation of optical methods of analysis. |
| **Language of Instruction** |
| ☒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** | **30** |
| **Practical Teaching** | **20** | **Oral Examination** |  |
| **Teaching Colloquia** | **45** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |