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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 | Separation methods  |
| Level of Study | ☐Bachelor | ☐ Master’s | ☒ Doctoral |
| Type of Course |  ☐ Obligatory | ☒ Elective |
| Semester | ☒ Autumn | ☐ Spring |
| Year of Study | 2 |
| Number of ECTS Allocated | 8 |
| 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 detailed knowledge of physical and chemical separation techniques. Introduction to the theoretical principles of modern methods of separation. Application of theoretical knowledge in the selection of appropriate separation methods in relation to the analytical requirements. |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| The general theory of separation. The separation of the analyte from interfering substances. Distillation (single-stage, complex). Evaporation. Sublimation. Recrystallization. Filtration. Ultrafiltration. Centrifugation. Chemical methods of separation. Extraction methods. Theory of extraction equilibrium. Types of extraction systems. Extraction techniques. Application of the method of extraction in analytical chemistry. Chromatographic separation methods. General principles and theory of chromatography. The division of chromatographic methods. Gas-liquid chromatography. Ion exchange chromatography. The separation methods based on ion exchange. Gel chromatography. Affinity chromatography. Application of chromatographic methods in analytical chemistry. |
| **Language of Instruction** |
| ☒Serbian (complete course) | ☒ English (complete course) | ☐ Russian (complete course) |
| ☐Serbian with English mentoring | ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Assessment Methods and Criteria** |
| **Pre exam Duties** | **Points** | **Final Exam** | **Points** |
| **Activity During Lectures** | **10** | **Written Examination** | **30** |
| **Practical Teaching** | **20** | **Oral Examination** |  |
| **Teaching Colloquia** | **40** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |