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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Sciences and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Chemistry** |
| Study Module (if applicable) | Research and Development |
| Course title | Selected Chapters of Physical Chemistry |
| Level of study | ☐Bachelor ✓ Master’s ☐ Doctoral |
| Type of course | ☐Obligatory✓ Elective |
| Semester  | ✓ Autumn ☐Spring |
| Year of study  | II |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Snežana Tošić |
| Teaching mode | ✓Lectures ☐Group tutorials ☐ Individual tutorials✓Laboratory work ☐ Project work ✓ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *The goal of this course is to acquire additional knowledge from selected chapters of physical chemistry.**Students will be able to understand, explain and interpret the physicochemical properties of different systems.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **The properties of liquid state of matter. Liquid crystals. Glassy state. The solid state of matter. Mechanical, electrical, magnetic, and optical properties. Superconductivity. The characteristics of plasma state of matter. Plasma in nature. Fundamentals and application of statistical thermodynamics. Phases. Selected examples of single-component, two-component system and ternary system. Electrokinetic and optical properties of colloids. Physicochemical properties of macromolecules.** **The reaction mechanisms. Polymerization kinetics. Photochemical kinetics. Chemical thermodynamics and kinetics. Chemical thermodynamics and electrochemistry. Physical chemistry and other sciences and scientific discipline: biology, biochemistry, physics, environmental, technology, chemistry of materials, etc.** |
| **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** | **-** |
| **Practical teaching** | **25** | **Oral examination** | **30** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |