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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) | | | | - | | |
| Course title | | | | Physical Chemistry 2 | | |
| Level of study | | | | ✓Bachelor ☐ Master’s ☐ Doctoral | | |
| Type of course | | | | ✓ Obligatory☐ Elective | | |
| Semester | | | | ☐ Autumn ✓Spring | | |
| Year of study | | | | II | | |
| Number of ECTS allocated | | | | 7 | | |
| 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 achieve basic knowledge in some selected fields of physical chemistry-equilibrium, phases, surface, colloids, kinetics and electrochemistry.*  *Students will learn to thermodynamically describe and analyze different systems.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Open system. Partial molar quantities. The chemical potential. Chemical equilibrium. Equilibrium constant. Phase equilibrium. Phase diagrams. The phase rule. Phase transition. Colligative properties. Surface occurrences. Surface tension. Adsorption. Isotherms. Colloids. Lyophilic and lyophobic. The electric double layer. The electrokinetic potential. Chemical kinetics. The rates of reaction. Reaction order. Rate laws and rate constants. Half-lives. The temperature dependence of reaction rate.** **Thermodynamics of transition state. Catalytic reactions. Electrochemistry. Electrolytes. Conductivity. Electrode potential. Electrodes. The cell potencial. Thermodynamics and electrochemistry.** | | | | | | |
| **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** | | | **10** |
| **Practical teaching** | **25** | | **Oral examination** | | | **20** |
| **Teaching colloquia** | **40** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |