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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Science and MathematicsDepartment of Chemistry |
| **GENERAL INFORMATION** |
| Study program  | **Chemistry** |
| Study Module (if applicable) | / |
| Course title | Organic chemistry II |
| Level of study | ⊗ Bachelor ☐ Master’s ☐ Doctoral |
| Type of course | ⊗ Obligatory ☐ Elective |
| Semester  | ⊗ Autumn ☐Spring |
| Year of study  | second |
| Number of ECTS allocated | 8 |
| Name of lecturer/lecturers | Niko Radulović and Polina Blagojević |
| Teaching mode |  ⊗ Lectures ☐Group tutorials ☐ Individual tutorials ☐Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| This subject deals primarily with the basic principles to understand the structure and reactivity of organic molecules. Emphasis is on substitution and elimination reactions and chemistry of the carbonyl group. Standard synthetic transformations will be discussed from a structural, stereochemical and mechanistic point of view. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Organic chemistry II is the second part in a two-part sequence in the chemistry of carbon-containing compounds. Lectures in this course will address: Nucleophilic addition to the carbonyl group; Acidity, basicity, and pKa; Using organometallic reagents to make C-C bonds; Nucleophilic substitution at the carbonyl (C=O) group; Equilibria, rates, and mechanisms (summary of mechanistic principles); Nucleophilic substitution at C=O with loss of carbonyl oxygen; Stereochemistry; Nucleophilic substitution at saturated carbon; Conformational analysis; Elimination reactions; Formation and reactions of enols and enolates; Chemoselectivity: selective reactions and protection; Alkylation of enolates; Reactions of enolates with aldehydes and ketones: the aldol reaction; Acylation at carbon; Conjugate addition; Rearrangements; Organo-main-group chemistry: sulfur and nitrogen. |
| **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** | **40** |
| **Practical teaching** | **/** | **Oral examination** | **25** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |