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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 | Advanced organic chemistry |
| Level of study | ☐Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory☒ Elective |
| Semester  | ☐ Autumn ☒Spring |
| Year of study  | 2. |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Polina D. Blagojević |
| Teaching mode | ☒Lectures ☐Group tutorials ☒ Individual tutorials☒Laboratory work ☐ Project work ☒ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *The aim of the course is to introduce the basics principles of the physical organic chemistry, i.e. the application of structure and theory to the study of organic reaction mechanisms: stereochemical features including conformation and stereoelectronic effects; reaction dynamics, isotope effects and molecular orbital theory applied to pericyclic and photochemical reactions; and special reactive intermediates including carbenes, carbanions, and free radicals.* *Upon completion of this course, students should have been able to predict outcome of organic reactions, suggest reasonable reaction mechanisms and apply gained knowledge in planning of organic synthesis.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| This course will include the following general topics: 1) an introduction to frontier molecular theory; 2) stereoelectronic effects; 3) conformational analysis; 4) acidity concepts; 5) olefin addition reactions; 6) pericyclic and cycloaddition reactions; 7) electrophiles; 8) enolates; 9) aldol reaction; 10) organocatalysis; 11) functional group classification and 12) reactive intermediates.   |
| **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 + student presentations** | **10+10** | **Written examination** | **30** |
| **Practical teaching** | **10** | **Oral examination** | **10** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |