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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 | Medicinal chemistry |
| Level of study | ☐Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory☒ Elective |
| Semester  | ☒ Autumn ☐Spring |
| Year of study  | 2. |
| Number of ECTS allocated | 6 |
| 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)** |
| *This course will explore the basic principles of the design and action of drugs. Concepts presented will be applied in discussing principles of drug discovery, drug development, drug/receptor interactions and structure/activity relationships.* Total synthesis of selected pharmaceutical products will also be discussed. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Biopharmaceutical properties of drug substances, pharmacological activity. Drug/receptor interactions. Drug design. Combinatorial chemistry; libraries of compounds. Molecular descriptors and topological indices; molecular modeling (molecular mechanics, force fields, geometry optimization, conformational space). (Q)SAR analysis. Search of the chemical literature. Retrosynthetic analysis. Strategies in synthesis of bioactive and pharmacologically active substances; examples of total synthesis of pharmaceutical products.  |
| **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** |