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| **Study program** Master Studies Chemistry |
| **Course title** Pharmaceutical Chemistry (H219C) |
| **Name of lecturer/lecturers** Aleksandra S. Đorđević |
| **Type of course** Elective |
| **Number of ECTS allocated** 6 |
| **Course objectives**The aim of the course is to introduce to the student to the basic concepts and selected classes of pharmaceutical chemistry compounds (antibiotics, analgesics, antihistamines, antivirals, antidepressants and cardiotonic glycosides). |
| **Course outcomes**Having finished this course successfully, a student will be able to:- recognize the chemical structure of selected groups of drugs,- explain the relationship between the chemical structure and activity of selected groups of drugs that act on therespiratory, nervous and cardiovascular systems,- to apply the acquired knowledge in the synthesis of simple organic pharmacologically active substances. |
| **SYLLABUS***Lectures*Introduction to pharmaceutical chemistry, definition and origin of drugs, classification of drugs. Functional groups and nomenclature of drugs. Analgesics. β-Lactam antibiotics. Cephalosporins. Aminoglycoside antibiotics. Macrolide antibiotics. Tetracyclines. Antibiotics of peptide structure. Antivirals. Antihistamines. Antidepressants. Cardiotonic glycosides.*Laboratory work*Derivation and analysis of selected pharmacologically active compounds. Identification and characterization(instrumental techniques) of appropriate drugs. |
| **References**1. D. Radulović, S. Vladimirov, Farmaceutska hemija I, Grafopan, Belgrade, 2005.2. S. Vladimirov, D. Živanov-Sakić, Farmaceutska hemija II, Faculty of Pharmacy, Belgrade, 2006.3. D. Cairns, Essentials of pharmaceutical chemistry, Pharmaceutical Press, London, 2012.4. T. L Lemke, DA Williams, VF Roche, SW Zito, editors. Foye's principles of medicinal chemistry. 7thed., Philadelphia, Lippincott Williams & Wilkins, 2013.5. Г.A. Мелентьeва; Л.A Антонова, Фармацевтическая химия , 2. изд., Москва : Медицина, 1993 |
| **Active teaching classes** | **Lectures** 45 | **Laboratory work** 15 |
| **Teaching mode**Lectures, laboratory exercises, consultations, seminar papers. |
| **ASSESSMENT METHODS AND CRITERIA (Max 100 points)** |
| **Pre exam duties** | **Points** | **Final exam**  | **Points** |
| Activity during lectures | 5 | Written examination | 40 |
| Practical teaching | 5 | Oral examination | - |
| Teaching colloquia | 40 |  |  |
| Seminar | 10 |  |  |