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|  | **Course title:**  **PHARMACEUTICAL CHEMISTRY II** | | | |
| **Level:**  **Integrated study of 1st and 2nd Cycle of Studies** | **Year:**  **III** | **Semester:**  **VI** | **ECTS credits:**  **9** | |
| **Status:**  **Obligatory** | **Number of hours weekly: 4+4+2**  **Lectures - 4**  **Laboratory classes - 4**  **Seminar paper – 2** | | **Total hours of teaching: 150** | |
| **Teaching staff:** | Corresponding professor: Prof. dr Samija Muratović  Associates:  Prof. dr Davorka Završnik  Prof. dr Selma Špirtović-Halilović  Prof. dr Elma Veljović  Amar Osmanović, MPharm | | | |
| **1. Course objectives** |  | | | |
| * 1. **Aim of the course**   Students are introduced to medicines from particular pharmacotherapy groups. Aim of methodical units is to familiarize the students with drug structures, physicochemical properties, structure-activity relationship, mechanisms of actions, and preparation methods.  **1.2. Curriculum**  **a) Lectures**  Individual drug groups are processed according to the ATC classification. Students are introduced to pharmacotherapy groups of medicines, with the study of the drugs with regard to their chemical and stereochemical characteristics. Each drug presents itself with its chemical and generic name, its structural formula, in a specific way of preparation (isolation, biosynthesis, synthesis) and personal characteristics - efficacy, pharmaceutical form and administration, mechanism of action, fate in the body, pathways of excretion, resistance, side effects, interactions with other drugs. New drugs are systematically monitored and administered. In Pharmaceutical Chemistry II CNS drugs (anesthetics, antiepileptics, analgesics, antitussives, analeptics, neuroleptics, antidepressants, anxiolytics, psychostimulants, psychedelics) VNS (sympathomimetics, sympatholytics, parasympathomimetics, parasympatholytics, antihypertensives, antistenocardics, antiarrhythmics), hormones, vitamins.  **b) Laboratory classes**  Methods of drug synthesis, Preparative, column and TLC chromatography in purification and identification of synthesized compounds, elemental analysis, determination of melting point, chemical yield reactions, Purity test, Sodium chloride purification, Synthesis of inorganic compounds-calcium carbonate, Synthesis of inorganic-organic compounds-sodium salts, Synthesis of bismuth subgallate, dicumarol, paracetamol, acetylsalicylic acid, caffeine, benzocaine.  **c) Seminar paper**  Seminar paper on a given topic, which follows the current topic is prepared by groups of students, and the presentation of the work is public – in the amphitheatre, followed by a thematic discussion. | | | | |
| **1.2. Learning outcomes** | Upon completion of this course and passing the exam the student is trained to differentiate certain groups of medicines according to the ATC classification, to understand the therapeutic indications of drugs acting on the CNS, VNS, hormones and vitamins. | | | |
| **2. Course organisation** | | | | |
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| **2.1. Structure of the course** | 1. Theoretical classes  2. Laboratory classes  3. Seminars | | | 1. 40 %  2. 40 %  3. 20 % |
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| **2.2. Evaluation** | 1. Colloquium  2. Seminar paper  3. First partial exam  4. Second partial exam | | | 1. 20 %  2. 5 %  3. 35 %  4. 40 % |
| **3. LITERATURE** |  | | | |
| Obligatory:  1. Vladimirov, S., Ţivanov-Stakić. Farmaceutska kemija I deo, Farmaceutski fakultet Beograd, 2006.  2. Vladimirov, S., Ţivanov-Stakić. Farmaceutska kemija II deo, Farmaceutski fakultet Beograd, 2006.  Additional:  1. Burger's Medicinal Chemistry and Drug Discovery. Sixth Edition, John Wiley & Sons, Inc., 2003. | | | | |
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