

Study program : PHARMACY				
Type and level of studies: Integrated academic studies, Level 1/2				
<b>Course unit: CLINICAL PHARMACY 1</b>				
<b>Teacher in charge : Assistant Professor Olivera Milovanović</b>				
Language of instruction : ENGLISH				
ECTS: 6				
Prerequisites: Enrolled in the fourth year of the study program (the seventh semester of integrated academic studies in pharmacy)				
Semester: WINTER SEMESTER				
<b>Course unit objective : Acquiring knowledge and skills of clinical pharmacy</b>				
<b>Learning outcomes of Course unit:</b>				
<ul style="list-style-type: none"> <li>• Knowledge about clinical pharmacy and their skills necessary for practical clinical work</li> <li>• Knowledge about medical treatment orientated for individual patient according to their physical and pathophysiological status</li> <li>• Knowledge about clinically important adverse drug reactions and drug-drug interactions</li> <li>• Skills of literature research and use of evidence-based medicine approach</li> <li>• Skills of making appropriate drug choices and tailoring dosage regimens according to the specific needs of patients</li> <li>• Skills of interpretation different medical and biochemical/laboratory test</li> </ul>				
<b>Course unit contents</b>				
<p><i>Theoretical classes:</i>  Introduction to the practice of clinical pharmacy - patient in focus; communication with patient and healthcare professionals; pharmacotherapy of specific population groups; basic principles of FZD; basic biochemical parameters, diagnostic methods and tests, basic principles of pharmacokinetics; therapeutic monitoring of drugs in body fluids; drug concentration curve in relation to the time of application; drug clearance; drug interactions; detection, assessment and prevention of adverse drug reactions; reporting adverse drug reactions; pharmacotherapy according to the individual needs of the patient; basic principles of pharmacogenetics; parenteral and enteral nutrition; pharmaco-economic aspects of rational pharmacotherapy; advising clinicians on prescribing medications; help with making a class form; therapeutic drug monitoring; pharmaco-economic evaluations of new drugs; the role of the clinical pharmacist in the clinical trial of drugs, critical assessment of the validity of a clinical study; rational application of pharmacotherapy in: disorders of the gastrointestinal tract, CVD, respiratory disorders, neurological and psychiatric disorders, infectious, endocrine, hematological, rheumatic, renal, malignant diseases.</p> <p><i>Practical classes:</i>  Exercises of communication with the patient and colleagues; solving clinical problems of patients belonging to specific population groups; solving tasks with clinical problems where the student should assess whether there are drugs that interact in the therapy of a certain patient; visit to the Drug Agency: national center for pharmacovigilance, determination of therapy according to the needs of a particular patient; making forms for the department; therapeutic drug monitoring - calculating the required dose of the drug; development of a monitoring plan for the therapy "Pharmacist, s care plan".</p>				
<b>Literature</b>				
<ul style="list-style-type: none"> <li>• Jankovic S. Pharmacology and Toxicology. 3th edition. Medical Faculty, University of Kragujevac, 2016.</li> <li>• DiPiro J. at all. Pharmacotherapy: a Pathophysiologic Approach. 8th edition. McGraw-Hills Companies; 2011.</li> <li>• Roger Walker и Clive Edwards, Editor. Велимир Божичков и Весна Бачић-Врца Clinical pharmacy and therapy. Zagreb, 2004.</li> <li>• Atkinson JA, Huang SM, Lertora JJJ, Markey SP. Principles of Clinical Pharmacology, 3rd ed., Academic Press, 2012.</li> <li>• Katzung B, Trevor A. Basic &amp; Clinical Pharmacology, 13th edition, McGraw-Hill Medical, 2014.</li> </ul>				
<b>Number of active teaching hours</b>				<b>Other classes</b>
Lectures:	Practice:	Other forms of classes:	Independent work:	
30	30			

<b>Teaching methods: Lectures, practice in a clinic, clinical problems solving</b>			
<b>Examination methods (maximum 100 points)</b>			
<b>Exam prerequisites</b>	<b>No. of points:</b>	<b>Final exam</b>	<b>No. of points:</b>
Student's activity during lectures	<b>30</b>	oral examination	
practical classes/tests		written examination	<b>70</b>
Seminars/homework		.....	
Project			
Other			

<b>Grading system</b>		
<b>Grade</b>	<b>No. of points</b>	<b>Description</b>
<b>10</b>	<b>95-100</b>	Excellent
<b>9</b>	<b>85 – 94</b>	Exceptionally good
<b>8</b>	<b>75 – 84</b>	Very good
<b>7</b>	<b>65 – 74</b>	Good
<b>6</b>	<b>55 – 64</b>	Passing
<b>5</b>	<b>&lt; 55</b>	Failing

**(Table 5.2) Course unit description**