

<b>Study program:</b> Integrated academic studies in pharmacy			
<b>Type and level of the study program:</b> integrated academic studies			
<b>Course title:</b> Forensic toxicology (PhV-FTOX)			
<b>Teacher:</b> Vladimir I. Pilija, Branislava U. Srdenović Čonić			
<b>Course status:</b> elective			
<b>ECTS Credits:</b> 3			
<b>Condition:</b> Basic toxicology; Drug analysis			
<b>Course aim</b> The main objectives of education are to introduce students to the elements of physical and psychological protection and integrity of each person, in which intertwine medicine and law. In particular, students should be familiar with chemical causes of health disabilities and methods of proof. Mastering the skills for practical application of knowledge gained in practice and in court. Development of critical thinking and skills for scientific research.			
<b>Expected outcome of the course:</b> Introducing students to the forms of natural and violent damage to health, legislative regulations in the area and ways of solving problems. The application of sophisticated technology in forensic toxicology and possibilities of application in scientific research. Application of knowledge in the profession: The art of sample identification on the spot, taking samples for toxicological expertise; Mastering the basic skills of expertise in court. Application of analysis and synthesis in the establishment of causal connection between the cause - final biological consequences (terminal cause of death).			
<b>Course description</b> <i>Theoretical education</i> 1. Brief history of forensic science. The concept of forensic medicine and its tasks. 2. Forensic expert witness and expert's report, legal regulations and principles of forensic-medical expertise. 3. Term damage to health - natural and violent. Classification of injuries, according to active noxa. 4. General and special toxicology. Definitions. Terms of poisoning. The effect of poison. The elimination of toxins. Methods of proving poisoning. Sampling for chemical and toxicological analysis. Interpretation of results. Classification of poisons: caustic poisons and poisons with resorptive action. Pesticides. Gas poisons; Cyan. Heavy metals; Convulsive poisons. Medicaments; poison gases. Poisons of organic origin. 5. Drug addiction - Opiates; Psychostimulants; Hallucinogens. 6. Ethyl, methyl and propyl alcohol as a forensic medical problem 7. Forms and nature of poisoning - happen, suicide, murder.  <i>Practical education: exercises, other forms of education, research related activities</i> 1. Getting to know the contents of toxicological laboratory of the Institute for Forensic Medicine. 2. Working in the chemical toxicological laboratory: Getting to know the capacity and performance of the gas and liquid chromatograph and UV spectrophotometers in toxicology and drug identification. 3. Sampling on the spot. Taking samples from the corpses. 4. Processing of samples - solid-liquid extraction (SPE), liquid-liquid extraction, ultrasonic extraction in the bathroom. 5. Preparation of samples for GCMS analysis - treatment and derivatization. 6. Writing the findings and opinions.			
<b>Literature</b> <i>Compulsory</i> 1. Karch SB, Drummer. Karch's Pathology of Drug Abuse. CRC Press (any edition) <i>Additional</i> -			
<b>Number of active classes</b>			Other:
Lectures: 30	Practice: 15	Other types of teaching:	
Research related activities:			
<b>Teaching methods</b> Lectures. Taking samples for analysis. Practical work with the material of Toxicology: Writing reports			
<b>Student activity assessment (maximally 100 points)</b>			
<b>Pre-exam activities</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	40	Written	30
Practices	20	Oral	
Colloquium	10	.....	
Essay			

<sup>1</sup> Written essay is not mandatory.

<sup>2</sup> If a student does not have a written essay.