

<b>Study Programme:</b> Master Academic Studies of Forensics			
<b>Course Unit Title:</b> Analytics of Pharmaceuticals and Drugs			
<b>Course Unit Code:</b> FH-02			
<b>Name of Lecturer(s):</b> Dr. Daniela V. Šojić Merkulov			
<b>Type and Level of Studies:</b> Master Academic Degree			
<b>Course Status (compulsory/elective):</b> Elective			
<b>Semester (winter/summer):</b> Summer			
<b>Language of instruction:</b> English			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> Face-to-face			
<b>Number of ECTS Allocated:</b> 6			
<b>Prerequisites:</b> None			
<b>Course Aims:</b> Acquiring of theoretical and practical knowledge in the field of pharmaceutical and drug analysis. Training of students to apply a modern and adequate method for identification and quantification of pharmaceuticals and drugs using appropriate analytical technique.			
<b>Learning Outcomes:</b> After the successful completion of this course, the student is able to: 1. Explain the influence of pharmaceuticals and drugs on human environment and human health; 2. Provide a modern and adequate procedure for the identification and quantification of pharmaceuticals (antidepressants, sedatives, hypnotics, anti-epileptics, analgesics, etc.) and drugs; 3. Apply acquired knowledge from the field of chromatographic methods in solving unknown analytical problems; 4. Accurately and clearly analyzes and interprets experimental results obtained by applying the appropriate analytical technique.			
<b>Syllabus:</b> <i>Theory</i> Pharmaceuticals and drugs in general. Types of pharmaceuticals and drugs. Use/abuse of pharmaceuticals and drugs. Antidepressants, sedatives, hypnotics, anti-epileptics, analgesics, etc. Structures, sources, properties, toxicity, bioaccumulation of pharmaceuticals and drugs. Application of GC–MS in the screening of pharmaceuticals and drugs in biological samples. LC–MS in forensic toxicology. <i>Practice</i> Application of liquid and gas chromatography for qualitative and quantitative analysis of various pharmaceuticals and drugs.			
<b>Required Reading:</b> 1. W. G. Eckert, Introduction to Forensic Sciences, 2nd Ed, CRC, 1997. 2. J. Yinon, Advances in Forensic Applications of Mass Spectrometry, CRC, 2004.  Additional Literature: 1. D. V. Šojić Merkulov, presentations of lectures 2. Electronic databases			
<b>Weekly Contact Hours:</b> 75		<b>Lectures:</b> 30	
<b>Practical work:</b> 30+15			
<b>Teaching Methods:</b> Lectures, laboratory exercises, library work, searching for suitable electronic databases, seminar work and consultations.			
<b>Knowledge Assessment (maximum of 100 points):</b>			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Active class participation	10	written exam	20
Practical work	20	oral exam	20
Seminar(s)	30		