Contemporary aspects of laboratory diagnostics in forensic medicine (seminar) #12.0.

Course title ECTS code Contemporary aspects of laboratory diagnostics in forensic medicine (seminary) 12.0.0537 Name of unit administrating study Intercollegiate Faculty of Biotechnology UG-MUG Intercollegiate Faculty of Biotechnology UG-MUG Studies Intercollegiate faculty of Biotechnology UG-MUG Biotechnology UG-MUG Intercollegiate faculty of Biotechnology (GMUG) Thereaching staff Intercollegiate faculty of Grindb Negrezard Pawlowski; dr Marek Wierrowski Intercollegiate faculty of Biotechnology (GMUG) Forms of classes, the realization and number of hours Forms of classes, the realization of activities Intercollegiate faculty of GMUG) Classes Intercollegiate faculty of Biotechnology (GMUG) Intercollegiate faculty of GMUG) Intercollegiate faculty of GMUG) Corns of classes, the realization and number of hours Forms of classes Intercollegiate faculty of GMUG) Proseminar 30 hours Intercollegiate faculty of Biotechnology (GMUG) Intercollegiate faculty of GMUG) Intercollegiate faculty of GMUG) 2012022 winter semester Form and nethod of assessment and basic criteria for evolution of faculty (GMUG) Intercollegiate faculty of GMUG) - ortical inforce (Case) - polish Form and nethod of assessment and basic criteria for evolution of faculty (GMUG)		ekt współfinansowany nię Europejską w rama Europejskiego Fundus: Społecznego	
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Method of verifying required learning outcomes		
Required courses and introductory requirements		
A. Formal requirements		
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B. Prerequisites		
Biochemistry, Genetics, Molecular Biology		
Aims of education		
During the course, the student will:		
K_W01 – get to know and understand biochemical and gene	tic phenomena that have practical application in laboratory diagnostics in forensic	
medicine, get to know their significance in toxicological and g	enetic examinations for judicial and enforcement authorities;	
K_W02 – acquire deepened knowledge in the area of method	ds of detection and quantification of psychoactive substances and drugs in biological	
material, identification of biological traces, human identification		
	d terminology and notional apparatus appropriate for forensic toxicology, genetics and	
related disciplines used in forensic practice;		
	d update knowledge, and raise qualifications in laboratory work in the area of forensic	
toxicology and genetics;		
	with studies in the field of laboratory diagnostics in forensic medicine.	
Course contents		
The course covers issues concerning contemporary laborato	ry methods in forensic medicine, and in particular:	
Basic issues concerning forensic toxicology, among others	the notion of poison, reference therapeutic, toxic and lethal concentrations;	
 Basic techniques of toxicological analysis; 		
 Knowledge concerning the most frequent accidental, suicidated 	al and criminal poisonings;	
Problems concerning psychoactive substances encountered	d in the past and nowadays, including designer drugs and psychoactive substances of	
new generation;		
 Legal conditions concerning the use of stimulants (alcohol, 	narcotics);	
 Issues connected with substitutes for ethanol (methanol, iso 	propanol, ethylene glycol);	
Retrospective and prospective calculation of alcohol conce	ntration level in blood;	
 Procedures used in identification of biological traces (among 	g others, with the use of tests detecting blood stains, semen, saliva, epidermis and	
epithelium, and tests confirming presence of various biologic		
	reaction, polymorphism of STR markers localized on autosomes and sex chromosomes,	
mitochondrial DNA profiling);		
Genetic identification of sex and markers of human appeara		
Stages of DNA examination in identification of an individual		
Biostatistical calculations in forensic genetics and their sign		
Examples of application of DNA analysis in forensic genetic	S.	
Bibliography of literature		
1. S. Raszeja, W. Nasiłowski, J. Makarewicz, Medycyna sąc	dowa, Podręcznik dla studentów, PZWL, Warszawa 1990.	
2. Z. Szczerkowska, Badania biologiczne w sądowym ustala	aniu ojcowstwa, Instytut Ekspertyz Sądowych, Kraków 1998.	
3. Z. Szczerkowska, R. Pawłowski, Podstawy genetyki sądowej, Akademia Medyczna w Gdańsku, Gdańsk 2002.		
4. R. Pawłowski, T. Kupiec, W. Branicki, Ekspertyza genety	czna, str. 339-379. W: Ekspertyza sądowa, red. J. Wójcikiewicz, Wyd. Zakamycze,	
Kraków 2002.		
5. P. Kozioł, Analiza DNA w medycynie sądowej, str. 349-374. W: Biologia molekularna w medycynie, red. J. Bal, Wydawnictwo Naukowe PWN,		
Warszawa 2011.		
Z. Marek, M. Kłys, Opiniowanie sądowo-lekarskie i toksył		
7. W. Seńczuk (red.), Toksykologia współczesna, PZWL, W		
8. J. K. Piotrowski (red.), Podstawy toksykologii, WNT, War		
The learning outcomes (for the field of study and specialization)	Knowledge	
	K_W01 - Understands complex biological phenomena on the molecular level, knows	
K_W01	their significance for biotechnology and their relationships with other areas and	
K_W02	disciplines of science	
K_U06	K_W02 - Possesses deepened knowledge in the field of related scientific areas and	
K_K01	disciplines, allowing him/her to see connections and dependencies in nature, in	
К_К03	particular those essential for biotechnology	
	Skills	
	K_U06 - Uses scientific language, including specialist terminology and notional	
	apparatus proper for biotechnology and related areas and disciplines	

Social competence
 K_K01 - Knows limitations of his/her knowledge, is willing to constantly upgrade and update his/her knowledge and raise qualifications within the field of biotechnology and related scientific areas and disciplines K_K03 - Effectively plans his/her work, professional career, organizes his/her own work, in particular work in the laboratory and work concerning studies in the field of
biotechnology and related scientific areas and disciplines

k.rebala@gumed.edu.pl