CLINICAL COURSE I: CLINICAL BIOCHEMISTRY I	
GENERAL INFORMATION	
Course coordinator	Asst. Prof. Vatroslav Šerić, MMedBiochem, PhD
Assistant/Associate	Assoc. Prof.Željko Debeljak, MMedBiochem, PhD Asst. Prof. Dario Mandić, MMedBiochem, PhD ć Maja Lukić, MMedBiochem Tihana Pavošević, MMedBiochem Tara Rolić, MMedBiochem
Study Programme	Undergraduate University Study of Medical Laboratory Diagnostics
Status of the course	mandatory
Year of study, semester	2nd year; 3rd semester
ECTS	**3**
Workload (hours)	Lectures: 5; Seminars: 5; Exercises: 30
Expected number of students	30 - 35
COURSE DESCRIPTION	
Course objectives	
Familiarize students with the general principles of establishing and maintaining quality in the medical laboratory. Familiarize students with the analytical procedures for the analysis of bodily fluids using different methods.	
Course requirements and required competences	
There are no specific requirements for this course except those defined in the study program curriculum.	
Learning outcomes relevant to the study program	
1.2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 3.1, 3.2	
Expected learning outcomes at the course level	
After attending lectures and exercises, self-learning and successfully passing the exam, the students will be able to: 1. explain the principles of quality assurance in the medical laboratory. 2. interpret the external quality control system of medical laboratories. 3. explain the method of performing procedures in the maintenance of measurement instruments in the laboratory. 4. apply gas chromatography, mass spectrometry, nephelometry and microscopic techniques in laboratory diagnostics. 5. analyze ejaculate, CSF and other bodily fluids. 6. explain the obtained lab results.	
Course content	
Lectures: Quality assurance and laboratory accreditation; External quality control; Development and validation of analytical procedures; Introduction to analytical toxicology. **Seminars:** Maintenance of measuring instruments. Introduction to chromatographic methods. **Exercises**: Introduction to analytical toxicology. Gas chromatography coupled to mass detection. Immunonephelometry. Liquid chromatography; Analysis of special bodily fluids; Ejaculate analysis; CSF analysis. Monitoring drug therapy. External quality control.	
Form of instruction	
Lectures; seminars; exercises.	
Student obligations	

Attending all forms of instruction is mandatory, and the student must sit for all exams. A student can be excused from 30% of every form of instruction. Missed exercises must be compensated by sitting for an exam.

Monitoring student learning *(*Interconnectedness of learning outcomes, teaching methods and grading*)*

Type of exam: written exam.

Curricular activities	ECTS	Learning outcome	Student participation	Assessment methods	Points	
					Min.	Max.
Attendance (lectures, seminars, exercises)	0.25 1.25	1-3 4-6	Class attendance, Active participation in seminars; Completed exercise and an accepted paper	Records	1 4 15	5 15 30
Final exam	1.5	1-6	Preparation for the final exam	Written exam	30	50
Total	**3**				**50**	**100**

Evaluation of the written part of the final exam:

Percentage of correctly solved tasks (%)	Points
60.00-64.99	30
65.00-69.99	33
70.00-74.99	36
75.00-79.99	39
80.00-84.99	41
85.00-89.99	43
90.00-94.99	47
95.00-100	50

Formulation of the final grade:
Points achieved in class are combined with points achieved on the final exam. The grading shall be carried out by using absolute distribution, i.e. shall be based on the final achievement and compared to the numerical system as follows: A – excellent (5): 80-100 points; B – very good (4): 70-79.99 points; C – good (3): 60-69.99 points; D – sufficient (2): 50-59.99 points.

Mandatory reading (available in the library or in other mediums)

Title	Number of copies in the library	Availability in other mediums
Topić, E., Primorac, D., Janković, S., Štefanović M. et al. Medicinska biokemija i laboratorijska medicina u kliničkoj praksi [Medical Biochemistry and Laboratory Medicine in Clinical Practice]. Medicinska naklada, Zagreb, 2018	7	
Čvorišćec D., Čepelak, I. Štrausova medicinska biokemija [Štraus Textbook of Medical Biochemistry], Medicinska naklada, Zagreb, 2009	7	

Additional reading
1. Sertić J. et al. Katalog dijagnostičkih laboratorijskih pretraga [Catalogue of Diagnostic Laboratory Tests], Zagreb, 2008 2. Janković S., Eterović D.: Fizikalne osnove i klinički aspekti medicinske dijagnostike [Physical Bases and Clinical Aspects of Medical Diagnostics]. Medicinska naklada, Zagreb, 2002 3. Čepelak I., Štraus B., Dodig S., Labar B. Medicinsko biokemijske smjernice [Medical Biochemistry Guidelines], Medicinska naklada, Zagreb, 2004, selected chapters
Quality monitoring methods ensuring the acquisition of competences upon completion
An anonymous, quantitative, standardized student survey on the course and the work of professors conducted by the Quality Assurance Office of the Faculty of Medicine Osijek.