

<b>EMERGENCY MEDICINE AND EMERGENCIES IN LABORATORY MEDICINE</b>	
<b>GENERAL INFORMATION</b>	
Course teacher	Asst. Prof. Dubravka Mihaljević, MD, PhD
Associates	Prof. Silvio Mihaljević, MD, PhD Prof. Jure Mirat, MD, PhD Prof. Robert Steiner, MD, PhD Assoc. Prof. Ines Bilić Ćurčić, MD, PhD Assoc. Prof. Suzana Mimica, MD, PhD Assoc. Prof. Ljiljana Perić, MD, PhD Asst. Prof. Vlatka Periša, MD, PhD Asst. Prof. Vatroslav Šerić, MMedBiochem, PhD Ivana Tolj, MD
Study programme	University Graduate Study of Medical Laboratory Diagnostics
Course status	mandatory
Year of study, semester	1 <sup>st</sup> year, 2 <sup>nd</sup> semester
ECTS credits	5
Form of teaching (number of classes)	Lectures: 30; Seminars: 10; Elaboratory excercises: 20
Expected number of students attending the course	20
<b>COURSE DESCRIPTION</b>	
<b>Course objectives</b>	
Developing ability of critical decision-making in the most common emergencies. Broadening the students' knowledge; synthesizing the acquired knowledge by studying presentations of patient cases, thinking critically and making decisions independently about the optimal procedures to be applied in complex critical conditions, while also taking into account the efficiency and risks of certain medical procedures.	
<b>Course entry requirements and competencies needed for the course</b>	
Completed courses at the Undergraduate Study Programme of Medical Laboratory Diagnostics or equivalent bachelor's degree (baccalaureate)	
<b>Learning outcomes at study programme level</b>	
<b>1.1, 1.2, 2.1, 2.2, 2.3, 2.5, 2.6, 2.7, 3.1, 3.2</b>	
<b>Expected learning outcomes at course level</b>	
After attending lectures, seminars, exercises, independent study, and passing the exam, students will be able to: <ol style="list-style-type: none"> <li>1. explain what emergency conditions are in cardiology, pediatrics, neurology, hematology, gastroenterology, gynecology, pulmonology, rheumatology, and clinical immunology.</li> <li>2. act correctly in solving urgent, critical situations.</li> <li>3. valorize the guidelines for dealing with emergency situations in medicine.</li> <li>4. independently perform emergency laboratory tests.</li> <li>5. organize the work of the emergency laboratory.</li> <li>6. assess the benefit and risk of individual therapeutic procedures, taking into account local possibilities.</li> </ol>	
<b>Course content is designed in detail according to the number of classes</b>	
<b>Lectures:</b> Medical biochemical diagnostic procedures of an emergency patient. The role of laboratory diagnostics in defining acute inflammatory conditions. Techniques for taking samples in certain situations. Laboratory aspects of acute kidney injury. Biochemical-laboratory aspects of hemodialysis and threatening situations. The role of laboratory diagnostics in diseases of addiction, opiates and drugs. Biochemical - laboratory aspect of acute leukemias. Laboratory aspects of	

platelet disorders and clinical correlates. Laboratory aspects of anemia. Laboratory markers of heart failure. Laboratory aspects of fibrinolytic therapy and hazards. The role of laboratory diagnostics in adequate monitoring of anticoagulation therapy. Laboratory aspects of antiplatelet therapy. Laboratory diagnostics in the most common acute poisonings. The role and possibilities of the laboratory in the emergency diagnosis of acute poisoning. Clinical laboratory correlates of acute liver damage. Laboratory aspects of acute hepatitis.

**Seminars:** Laboratory aspects of acute inflammatory conditions. Laboratory aspects of acute inflammation of the urinary tract. The role of laboratory diagnostics in alcohol intoxication. Cardioselective markers ACS.

**Laboratory exercises:** Emergencies in laboratory diagnostics: emergency tests related to the heart, pancreas, liver, gall bladder, lungs, kidney. Emergency examinations related to neurological conditions, Emergency examinations related to conditions in pediatrics. Urgent tests related to the condition of intoxicated patients.

#### Forms of teaching

Lectures; seminars; clinical laboratory practicums; independent assignments.

#### Students' responsibilities

Attendance is obligatory throughout all course forms, and the student has to attend all the exams. Student absence of up to 30% is considered acceptable in each teaching form. Practical work and seminars that were not completed have to be taken in the form of colloquiums.

#### Monitoring students' work (*Connecting learning outcomes, teaching methods and evaluation*)

Teaching activity	ECTS	Learning outcome	Student activity	Evaluation methods	Grade points	
					Min.	Max.
Attending classes lectures	0.5	1-6	Attendance,	Attendance records	2	10
Seminars	0.5		Seminar paper	Writing and presenting seminar paper	8	20
Entry colloquium and completed clinical practicums.	1	4,5	Studying for entry colloquium	Entry colloquium-practical part of the exam	4	10
			Clinical practicums	Completed clinical practicums	6	10
Final exam	2.5	1-6	Studying for final exam	Written exam	12	20
				Oral exam	18	30
<b>Total</b>	<b>5</b>				<b>50</b>	<b>100</b>

#### Evaluation of written part of final exam

Percentage of correct answers (%)	Grade points
96.00-100	20
90.00-95.00	18
80.00-89.00	16
71.00-79.00	14

60.00-70.00

12

*Evaluation of oral part of final exam:*

<b>Answear</b>	<b>Grade points</b>
answer fulfils minimal criteria	18
average answer with clearly identifiable errors	22
very good answer with minor errors	26
excellent answer	30

*Formulating the final grade:*

Grade points achieved in classes are combined with points achieved in the final exam. Grading in the ECTS system involves absolute grading and represents one's final achievement. Grades are numerically expressed as follows: A – excellent (5): 80-100 grade points ; B – very good (4): 70-79.99 grade points; C – good (3): 60-69.99 grade points; D – sufficient (2): 50-59.99 grade points

#### **Assigned reading (available in the library and in other media)**

Title	Number of copies in the library	Availability in other media
<i>E. Topić, D. Primorac, S. Janković, M. Štefanović i sur. Medicinska biokemija i laboratorijska medicina u kliničkoj praksi. Medicinska naklada, Zagreb, 2018.</i>	8	
Čepelak I, Štraus B, Dodig S, Labar B. Medicinsko-biokemijske smjernice, Medicinska naklada, Zagreb, 2009.	9	

#### **Further reading**

Selected scientific and professional papers.

#### **Quality assurance methods that ensure the acquisition of exit competencies**

Anonymous, quantitative, standardised students' opinion survey on the course and teacher's work, carried out by the Quality Assurance Office of the Faculty of Medicine in Osijek.