



Detailed Course Syllabus

Academic Year	2025/2026	Semester	Summer
Study Program	University undergraduate nursing program	Specialization/ Major in	regular remarkable
		Year of Study	1

I. BASIC COURSE INFORMATION

Name	Laboratory medicine: from sample to laboratory test results		
Abbreviation	IZBP272	Code	280422
Status	Active	ECTS	4
Prerequisites	No prerequisites		
Total Course Workload			
Teaching Mode	Total Hours	Teaching Mode	Total Hours
Lectures	30	Exercises	15
Class Time and Place	CUC according to published timetable		

II. TEACHING STAFF

Course Holder

Name and Surname	Jasna Lenicek Krleza		
Academic Degree	PhD	Professional Title	Assistant professor
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Office Hours	According to published timetable Office		

Course Collaborator

Name and Surname			
Academic Degree		Professional Title	
Contact E-mail		Telephone	
Office Hours	According to published timetable Office		

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III. DETAILED COURSE INFORMATION

Teaching Language		English	
Course Description	The elective course aims to familiarize students with all potential sources of errors that affect the accuracy of laboratory test results, whether performed in a laboratory or on POC devices.		
	Through lectures, students will learn the fundamentals of proper patient preparation, correct sampling techniques, appropriate sample transport, result interpretation, recognition of interferences, and corrective actions when interferences are present.		
	The seminars for this elective course designed to take place within the laboratory, where laboratory samples will analyzed. Additionally, seminars will include independent student work in a 10-minute presentation on a topic covered in the lectures.		
Expected Educational Outcomes	<ol style="list-style-type: none"> 1. Describe the diagnostic approach and diagnostic workup of the patient. 2. Explain biological variations and their impact on the biochemical composition of body fluids. 3. Relate the type of container to the sample for laboratory testing. 4. Compile a list of all potential preanalytical errors. 5. Demonstrate patient preparation for individual laboratory tests. 6. Distinguish preanalytical error and/or interference from pathological findings. 7. Categorize laboratory tests according to urgency. 8. Compare the results obtained with reference intervals, critical values, and the patient's health status. 9. Analyze the results obtained on POC devices. 		
	Textbooks and Materials		
Required	1. Topić E. i sur. Medicinska biokemija i laboratorijska medicina u kliničkoj praksi. [Medical Biochemistry and Laboratory Medicine in Clinical Practice] Medicinska naklada, Zagreb, 2025.		
Supplementary	<ol style="list-style-type: none"> 1. Lenicek Krleza J, Dorotic A, Grzunov A, Maradin M. Croatian Society of Medical Biochemistry and Laboratory Medicine. Capillary blood sampling: national recommendations on behalf of the Croatian Society of Medical Biochemistry and Laboratory Medicine. <i>Biochem Med (Zagreb)</i> 2015;25(3):335-58. 2. Simundic at al. Recommendation for venous blood sampling. <i>Clin Chem Lab Med</i> 2018;56(12):2015-38. doi: 10.1515/cclm-2018-0602. 3. Lenicek Krleza J, Honovic L, Vlasic Tanaskovic J, Podolar S, Rimac V, Jokic A, Post-analytical laboratory work: national recommendations from the Working Group for Post-analytics on behalf of the Croatian Society of Medical Biochemistry and Laboratory Medicine. <i>BiochemMed (Zagreb)</i> 2019;29(2):020502. 		
Examination and Grading			
To Be Passed	Yes	Exclusively Continuous Assessment	Included in Average Grade Yes
Prerequisites to Obtain Signature and Take Final Exam	<ol style="list-style-type: none"> 1. Regular class attendance (at least 80% attendance) 2. Properly completed seminar obligations 		
Examination Manner	Written exam. The scores for the written exam are: 60-69% (40 points) 70-79% (50 points) 80-89% (60 points)		

90% and above (70 points)

Grading Manner

Continuous evaluation of student work in addition to regular class attendance (which is a requirement for taking the exam), adding points for active participation in seminars and the results of the written exam results in an overall grade as follows:

sufficient (2): 60-69 points

good (3): 70-79 points

very good (4): 80-89 points

excellent (5): 90-100 points

Detailed Overview of Grading within ECTS

ACTIVITY TYPE	ECTS Student Workload Coefficient	GRADE PERCENTAGE (%)
Class Attendance	1.5	0
Seminar Presentation	0,8	30
Total in Class	2,3	30
Final Exam	1,7	70
TOTAL ECTS (Classes + Final Exam)	4	100

Midterm Exam

Dates

Final Exam

Dates

According to published timetable

IV. WEEKLY CLASS SCHEDULE

Lectures

Week	Topic
1.	Diagnostic approach to the patient
2.	Biological variations
3.	Patient preparation for laboratory tests
4.	Types of samples for laboratory tests
5.	Potential sources of errors during sampling
6.	Types of containers, sample stability and transport conditions to the laboratory
7.	Classification of laboratory tests according to urgency, complexity, and assessment of the function of individual organs or organ systems
8.	Algorithms of tests in individual disease states
9.	Interferences – endogenous and exogenous influences on laboratory test results

10.	Overview of laboratory test results (reference values, critical values)
11.	Point of Care Testing (POCT): from device selection, sampling to analysis and interpretation of results

Seminars and Methodological exercises

Week	Topic
1.	10-minute presentation by the student on the agreed lecture topic - the beginning of each seminar; Practical examples: how to recognize a pre-analytical error
2.	Examples from practice: how to recognize interferences
3.	Examples from practice: the most common interferences in different types of samples
4.	Examples from practice: corrective actions in case of interference
5.	Examples from practice: POCT and rapid tests