



HRVATSKO  
KATOLICKO  
SVEUČILIŠTE  
ZAGREB  
UNIVERSITAS  
STUDIORUM  
CATHOLICA  
CROATICA  
ZAGREBIA

# Detailed Course Syllabus

**Academic year:**

2025/2026

**Semester:**

Summer semester

**Study Program:**

Sestrinstvo (I) (elective)  
Komunikologija (R)  
(elective)

**Year of study:**

1

## I. BASIC COURSE INFORMATION

**Name:** Laboratory medicine: from sample to laboratory test results**Abbreviation:** IZBP272**ECTS:** 4**Code:** 280422**Prerequisites:** No*Total Course Workload***Teaching Mode****Total Hours**

Lecture

30

Seminar

5

Methodology exercise

15

**Class Time and Place:** HKS - according to the published schedule

## II. TEACHING STAFF

*Course Holder***Name and Surname:** Leniček Krleža Jasna**Academic Degree:****Professional Title:** naslovni docent**Contact E-mail:**[jlenicekrleza@zvu.hr](mailto:jlenicekrleza@zvu.hr)**Telephone:****Office Hours:** According to the published schedule*Course Assistant*

## III. DETAILED COURSE INFORMATION

**Teaching Language:** English

<b>Course Description</b>	<p>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.</p> <p>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.</p> <p>The seminars for this elective course are designed to take place within the laboratory, where laboratory samples will be analyzed. Additionally, seminars will include independent student work in a 10-minute presentation on a topic covered in the lectures.</p>	
<b>Educational Outcomes</b>	<ol style="list-style-type: none"> <li>1. Describe the diagnostic approach and diagnostic workup of the patient.</li> <li>2. Explain biological variations and their impact on the biochemical composition of body fluids.</li> <li>3. Relate the type of container to the sample for laboratory testing.</li> <li>4. Compile a list of all potential preanalytical errors.</li> <li>5. Demonstrate patient preparation for individual laboratory tests.</li> <li>6. Distinguish preanalytical error and/or interference from pathological findings.</li> <li>7. Categorize laboratory tests according to urgency.</li> <li>8. Compare the results obtained with reference intervals, critical values, and the patient's health status.</li> <li>9. Analyze the results obtained on POC devices.</li> </ol>	
<i>Textbooks and Materials</i>		
<b>Required</b>	<p>Topić E. i sur. Medicinska biokemija i laboratorijska medicina ukliničkoj praksi. Medicinska naklada, Zagreb, 2018.</p>	
<b>Supplementary</b>	<ol style="list-style-type: none"> <li>1. Lenicek Krleza J, Dorotic A, Grzunov A, Maradin M. Croatian Society of Medical Biochemistry and Laboratory Medicine. Capillary blood sampling: national recommendations for the Croatian Society of Medical Biochemistry and Laboratory Medicine. <i>Biochem Med (Zagreb)</i> 2015;25(3):335-58.</li> <li>2. Simundic et al. Recommendation for venous blood sampling. <i>Clin Chem Lab Med</i> 2018;56(12):2015-38. doi: 10.1515/cclm-2018-0602.</li> <li>3. Lenicek Krleza J, Honovic L, Vlastic 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.</li> </ol>	
<i>Examination and Grading</i>		
<b>To Be Passed DA</b>	<b>Exclusively Continuous Assessment NE</b>	<b>Included in Average Grade DA</b>
<b>Prerequisites to Obtain Signature and Take Final Exam</b>	<ol style="list-style-type: none"> <li>1. Regular class attendance (at least 80% attendance)</li> <li>2. Properly completed seminar obligations</li> </ol>	
<b>Examination Manner</b>	<p>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 result 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.</p>	
<b>Grading Manner</b>	<p>Continuous evaluation of student work through:</p> <ol style="list-style-type: none"> <li>1. Teaching activities: 10-minute seminar presentation</li> <li>2. Final exam (written)</li> </ol>	
<b>Detailed Overview of Grading within ECTS</b>		

VRSTA AKTIVNOSTI	ECTS BODOVI - koeficijent opterećenja studenta	UDIO OCJENE (%)
Class Attendance	1.2	0
Seminar Presentation	0.8	30
<b>Total in Class</b>	<b>2</b>	<b>30</b>
Final Exam	2	70
<b>TOTAL ECTS (Classes + Final Exam)</b>	<b>4</b>	<b>100</b>

**Exam period dates:** 03.06.2026; 10.06.2026; 01.07.2026

#### IV. WEEKLY CLASS SCHEDULE

*[Metodičke vježbe]*

#	Topic
1	Examples from practice: how to recognize interferences
2	Examples from practice: the most common interferences in different types of samples
3	Examples from practice: corrective actions in case of interferences
4	Examples from practice: POCT and rapid tests
5	Practical examples: how to recognize a pre-analytical error

*[Predavanja]*

#	Topic
1	Diagnostic approach to the patient
2	Biological variations
3	Types of containers, sample stability and transport conditions to the laboratory
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