Detailed Course Syllabus

Academic year: 2026/2027	**Semester:** Summer semester
Year of study: 1	**Study Program:** Sestrinstvo (I) (elective) (Prijediplomski) Komunikologija (R) (elective) (Prijediplomski)

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: jlenicekkrleza@zvu.hr	**Telephone:**
Office Hours: According to the published schedule	
Course Assistant	

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 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.
Educational Outcomes	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	Topić E. i sur. Medicinska biokemija i laboratorijska medicina ukliničkoj praksi. Medicinska naklada, Zagreb, 2018.
Supplementary	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. Biochem Med (Zagreb) 2015;25(3):335-58. 2. Simundic at al. Recommendation for venous blood sampling. Clin Chem Lab Med 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. BiochemMed (Zagreb) 2019;29(2):020502.
Examination and Grading	

To Be Passed DA	**Exclusively Continuous Assessment** NE	**Included in Average Grade** DA

Prerequisites to Obtain Signature and Take Final Exam	1. Regular class attendance (at least 80% attendance) 2. Properly completed seminar obligations
Examination 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 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.
Grading Manner	Continuous evaluation of student work through: 1. Teaching activities: 10-minute seminar presentation 2. Final exam (written)
Detailed Overview of Grading within ECTS	

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

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