SYLLABUS

1. Course title:

CLINICAL BIOCHEMISTRY

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester:

1 IX

9. Weekly contact hours:

9.1. Lectures:	5
9.2. Seminars:	0
9.3. Laboratory/Practice classes:	2

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (integrated 1st and 2nd cycle)

12. Lecturer:

dr. sc. Nahida Srabović, associate professor

13. Lecturer's e-mail:

nahida.srabovic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

Acquisition of knowledge and skills for working in a clinical-biochemical laboratory and performing internal and external quality control.

16. Learning outcomes:

Understanding the biochemical basis of human metabolism disorders and the pathophysiological mechanisms of disease onset, with a special emphasis on the clinical significance of qualitative and quantitative determination of specific biochemical parameters in biological material.
Acquired and mastered practical skills and methodological approaches in the field of clinical biochemistry applicable to the work of a modern clinical-biochemical laboratory.

17. Course content:

The role of biochemical testing and laboratory diagnostics in patient management, result interpretation, and quality control;
Carbohydrate metabolism disorders, clinical significance, and analytical methods;
Lipid metabolism disorders, clinical significance, and analytical methods;
Hereditary metabolic disorders and neonatal screening;
Plasma proteins, clinical significance, and analytical methods;
Hormones, clinical significance, and analytical methods;
Clinical enzymology;
Tumor markers, clinical significance, and analytical methods;
Water and electrolytes;
Acid-base status;
Non-protein nitrogen compounds (NPN compounds);
Trace elements.

18. Learning methods:

Interactive lectures using multimedia tools and active discussion through the analysis of clinical cases.
Work in a clinical-biochemical laboratory;
Individual and group student projects (seminar papers, presentations of clinical cases)
Consultations

Lecture and exercise materials are available to students.

19. Assessment methods:

Student knowledge assessment is carried out through pre-exam obligations and the final exam. Within the pre-exam obligations, students can earn points from activities in lectures and exercises/practicals, individual and group projects, Mid-term Exam I (Colloquim I) and Test I, which students take in the 7th or 8th week (covering material from weeks I - VII), and Mid-term Exam II (Colloquim II) and Test II, which students take in the 15th week of the semester (covering material from weeks VIII - XIV). If students achieve at least 55 points during the pre-exam obligations, they gain the right to register for the final exam grade, which they take during regular examination periods. Students at the final and retake exams only take the parts of the exam for which they did not achieve the minimum required points during previous knowledge assessments.The point value of the pre-exam obligations/ knowledge assessment is:

	min - max
- activity in exercises/practicals,	1 - 3 points
- activity in lectures,	1 - 3 points
- individual or group projects,	1 - 4 points
- test I,	18 - 30 points
- Mid-term Exam I (Colloquim I),	8 - 15 points
- test II,	18 - 30 points
- Mid-term Exam II (Colloquim II),	8 - 15 points
TOTAL	55 - 100 points

20. Assessment components:

10 (A) -95-100- outstanding performance without errors or with minor errors
9 (B) - 85-94-above the average, with some errors
8 (C) - 75-84- average, with noticeable errors
7 (D) - 65-74 generally good, but with significant shortcomings
6 (E) - 55-64- meets the minimum criteria
5 (F, FX) <55- does not meet the minimum criteria

21. Required reading list:

- Lieberman M, Marks AD, Smith C. Marks' Basic Medical Biochemistry - A Clinical Approach. Belgrade 2008.
- Srabović N, Softić A, Smajlović A. Biochemical Basis of Hereditary Metabolic Disorders. Tuzla 2020.
- Srabović N, Dautović E Smajlović A, Softić A. Carbohydrates and Fats as Metabolic Fuels in Health and Disease. Tuzla 2025.

22. Web sources:

23. Applicable starting from the academic year:

2018/19

24. Adopted in the Faculty/Academy session:

17.11.25.