SYLLABUS

1. Course title:

Pharmacogenomics

2. Code:

3. Cycle of study:

1

4. ECTS credits:

2

5. Type of course:

○ Mandatory ◉ Elective

6. Prerequisites:

none

7. Class restrictions:

none

8. Duration / semester:

1 8

9. Weekly contact hours:

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

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (integrated 1st and 2nd cycle)

12. Lecturer:

dr. sc. Esmeralda Dautović, assistant professor

13. Lecturer's e-mail:

esmeralda.dautovic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

The aim of the course is to acquire principles, concepts and practical knowledge from the field of pharmacogenomics relevant for clinical application.

16. Learning outcomes:

After passing the exam, the student will be able to:

1. Describe and define the basic principles of pharmacogenomics;
2. Assess the impact of genetic variants on pharmacokinetics and pharmacodynamics;
3. Describe the social, ethical and legislative aspect of pharmacogenetic research;
4. Identify key sources and relevant databases for pharmacogenomics;
5. Know basic molecular diagnostic methods in pharmacogenomics

17. Course content:

- Introduction to pharmacogenomics
- Genetic foundations and development of pharmacogenomics
- Molecular diagnostic methods in pharmacogenomics
- Pharmacogenetics of enzymes responsible for drug metabolism/biotransformation
- Pharmacogenomics and drug transport
- Pharmacodynamics and pharmacogenomics
- Clinical application of pharmacogenomics (cardiovascular diseases, hematological and tumor diseases, diseases of the central nervous system, infectious diseases, respiratory diseases
- Social, ethical and legislative aspects of pharmacogenetics/pharmacogenomics
- Toxicogenomics

18. Learning methods:

Lectures, seminars, consultations, workshops, independent assignments

19. Assessment methods:

Quality monitoring that ensures the acquisition of exit competencies:
Continuous monitoring of the student's work in lectures, seminars and during project assignments, writing essays, solving examples from clinical practice, evaluating presentations and tests.
The verification of theoretical knowledge will be done through a partial exam during classes, as well as a final, remedial and additional remedial exam.
As part of the pre-examination requirements, students prepare an individual or group seminar paper that will cover a certain topic from the content of the course and will be specially valorized. The seminar paper is submitted in written form to the subject teacher for review and evaluation, and then it can be presented orally. All students of the group participate in the preparation and presentation of the group seminar work, whose participation is valued individually.
The final exam is written and/or oral. All students have the right to take the final exam. At the final exam, students take an unpassed partial exam/test.
Tests on all forms of knowledge are recognized as a cumulative exam if the achieved result is positive after each individual test and amounts to at least 55% of the total expected and/or required knowledge and skills.
In order to pass the course, the student must obtain a minimum of 55 cumulative points.

Student obligations / minimum and maximum number of points:

Attendance and activity: 5-10 points
Seminar paper (on a given topic): 12-20 points
Partial exam/Test (analysis and solution of clinical problems and theoretical part): 38-70 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:

1. Authorized lectures
2. Mujagić Z., Mujagić H. , Biohemija lijekova, Tuzla, 2012

22. Web sources:

23. Applicable starting from the academic year:

2023/2024

24. Adopted in the Faculty/Academy session:

17.11.2025