SYLLABUS

1. Course title:

BIOCHEMISTRY OF DRUGS

2. Code:

3. Cycle of study:

1

4. ECTS credits:

4

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester:

1 9

9. Weekly contact hours:

9.1. Lectures: 2

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 1

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 aims of the course are the acquisition of principles, concepts, theoretical and practical knowledge in the field of biochemistry of drugs relevant for clinical application

16. Learning outcomes:

It is expected that the student acquires knowledge and understands biochemical basics of:
- ADME concept
- How do the physical and chemical properties of drugs affect their biological effectiveness
- Mechanisms of transmembrane drug passage through membranes
- Recognize the basic interactions of drugs with macromolecules and their influence on the therapeutic effect
- Understand the biochemical basis of drug action
- Recognize the path of drug metabolism/biotransformation, the enzymes that participate in the path and their influence on the therapeutic effect of the drug

17. Course content:

- Physical and chemical properties of drugs.
- Transmembrane passage of the drug.
- Interaction of drugs with macromolecules.
- Metabolic drug-drug, drug-chemical, drug-food, drug-alcohol interactions
- Biochemistry of drug action: general and special part.
- Biochemistry of drug action - examples
- ADME concept
- Reactions of the first stage of biotransformation.
- Reactions of the second stage of biotransformation (conjugation).
- Introduction to pharmacogenomics. Personalized pharmacy and medicine.

18. Learning methods:

The most important learning methods in the course include:
- Lectures with the use of multimedia tools, active learning techniques and with active participation and discussions of students;
- Laboratory exercises;
- Preparation and presentation of group and individual seminar papers.
- Consultations.

The working material from the lectures will be available to students.

19. Assessment methods:

Knowledge is tested through a colloquium and two partial exams.
The colloquium is taken after the cycle of experimental exercises has been completed.
1st partial exam is performed in the 8th week of classes, and the 2nd partial in the 15th week. Partial exams are taken in writing, as well as the colloquium. Minimum points for passing the partial exams is 18.5 (max 35) and the colloquium is 11 (max 20). For continuous activity in lectures and exercises students can get a maximum of 5 points for theoretical classes and 5 points for exercises. When all the criteria are added up, the maximum number of points is 100.
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.
The final exam and remedial exams imply passing the parts of the exam that were not passed partially. All students have the right to take the final exam and make-up exams.
If the student is not satisfied with the grade, he can respond orally to improve the grade.

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. Mujagić Z, Mujagić H. Biohemija lijekova. Zlata Mujagić i Hamza Mujagić, Tuzla, 2012.
2. Lieberman M, Marks A, Smith C. Marksove osnove medicinske biohemije – klinički pristup. Data Status, Beograd, 2008.

22. Web sources:

23. Applicable starting from the academic year:

2018/19

24. Adopted in the Faculty/Academy session:

17.11.25.