SYLLABUS

1. Course title:

Analytical methods in pharmacy

2. Code:

3. Cycle of study:

3

4. ECTS credits:

15

5. Type of course:

○ Mandatory ◉ Elective

6. Prerequisites:

(max. 110 characters)

7. Class restrictions:

(max. 150 characters)

8. Duration / semester:

1 3

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:

Pharmaceutical sciences

12. Lecturer:

Maida Šljivić Husejnović, PhD, Ass.Prof.

13. Lecturer's e-mail:

maida.sljivic-husejnovic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

Acquisition of general and specific knowledge in the field of biopharmaceutical quality testing of drugs and analytical methods in pharmacy.

16. Learning outcomes:

Students who have continuously fulfilled their obligations throughout the entire teaching period will be qualified to apply the acquired knowledge in the field of biopharmaceutical evaluation of drugs, development, validation, and application of analytical methods in pharmacy, as well as in scientific research work.

17. Course content:

1. Impurities and degradation products in active pharmaceutical substances, pharmaceutical products, and methods for their testing.
2. Analytics of drug/toxin metabolites and biomarkers of pathophysiological conditions.
3. Screening methodology in toxicology.
4. Work techniques and application of spectrochemical methods in drug analysis.
5. Application of electrophoresis in pharmaceutical practice.
6. Correlation between qualitative and quantitative indicators in spectrochemical analysis of drugs.
7. Biopharmaceutical quality testing of drugs.
8. Development and validation of new analytical methods for pharmaceutical analysis.

18. Learning methods:

Lectures, consultations, independent seminar work, independent search and discussion of relevant scientific literature.

Lectures - Students are required to attend lectures and actively participate in them.
Consultations - Through consultations, students can resolve doubts and deepen their acquired knowledge.
Seminar work - Students write a seminar paper based on collected literature on a given topic and defend it orally.

19. Assessment methods:

After attending the lectures, the student orally defends the seminar paper on a given topic, and the final grade is formed based on the number of points earned.

Pre-exam activities (min 54, max 100 points):

- Activity during lectures - 0-5 points
- Regular attendance - 0-5 points
- Written seminar paper - 38-70 points
- Oral presentation of the seminar paper - max 20 points

Activity during lectures: The student actively participates in lectures and/or exercises and shows engagement in the work. The student's activity is evaluated with 0-5 points.
Regular attendance: The student's regular attendance is evaluated with 0-5 points.
Seminar paper: Students write a seminar paper based on collected literature on a given topic in the form of a seminar paper and a review article. The student must achieve 38-70 points from the written part of the seminar paper.
The student orally presents the seminar paper after receiving a passing grade for the written part. In the oral presentation, the student collects points for the final grade and can achieve a maximum of 20 points. The student must earn a total number of points from the prescribed activities and knowledge checks during the semester that meets the criteria for a passing grade.
If the student does not earn enough points from the pre-exam activities to receive a grade, the final exam and unpassed parts of the exam are taken during the regular and additional exams.

20. Assessment components:

A student's performance is continuously monitored throughout the course and is expressed in points.

The final grade of a student after all planned forms of assessment is evaluated and graded as follows:
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) - 54-64 - meets the minimum criteria
5 (F, FX) <54 - does not meet the minimum criteria.

21. Required reading list:

Handbook of Modern Pharmaceutical Analysis, Ahuja S, Scypinski S, 2011
Pharmaceutical Analysis:A textbook for Pharmacy Students and Pharmaceutical Chemists, Watson DG, 2012
Essentials of Pharmaceutical Analysis, Akash & Rehman,2022
Professor's lectures

22. Web sources:

https://pubmed.ncbi.nlm.nih.gov/

23. Applicable starting from the academic year:

2012/13.

24. Adopted in the Faculty/Academy session:

10.05.2024.