SYLLABUS

1. Course title:

Pharmacokinetics and biopharmaceutics

2. Code:

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3. Cycle of study:

1

4. ECTS credits:

3

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

There are no prerequsites for studing this subject.

7. Class restrictions:

None.

8. Duration / semester:

1 7

9. Weekly contact hours:

	Semester (1)	Semester (2)
	7	7
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 cycles)

12. Lecturer:

Merima Ibišević, PhD; Assistant professor

13. Lecturer's e-mail:

merima.ibisevic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

Developing an understanding of the completeness of the processes (absorption, distribution, and elimination) that a drug undergoes after administration.Mastering the mathematical treatment of drug concentration data in the blood over time.Designing dosing regimens to ensure safe and effective pharmacotherapy.Understanding the concepts of drug bioavailability and bioequivalence.

16. Learning outcomes:

The student understands pharmacokinetic processes and the factors affecting them, comprehends the metabolic transformations of drugs and the importance of studying metabolism in drug development and use, is familiar with different models for pharmacokinetic data analysis, knows the factors influencing therapeutic response, understands the methods for assessing drug bioavailability and bioequivalence, and can understand and predict pharmacokinetic drug interactions and the resulting adverse effects during concomitant drug administration.

17. Course content:

Introduction to pharmacokinetics; Possible routes of drug administration; Factors on which drug absorption depends; Methods for testing lipophilicity and permeability of substances; Absorption of drugs; Distribution of medicines; Biotransformation; Excretion of drugs; Pharmacokinetics in children; Pharmacokinetics in the elderly; Pharmacokinetics in people with liver and kidney diseases; Pharmacokinetics in states of obesity; Toxicokinetics; Biological availability of drugs; Spatial (model-dependent) pharmacokinetic analysis - one-space and two-space model;Pharmacokinetics of repeated dosing; Creating dosing regimens and adjusting doses; Therapeutic monitoring of serum drug concentrations (TDM); Biopharmaceutical classification of drugs; Calculation of pharmacokinetic parameters; Medicines with a short half-life; Medicines with a long half-life; Clinical pharmacokinetics

18. Learning methods:

Lectures will cover the entire material specified in the curriculum. During the course, students will present seminar papers in the field of clinical pharmacokinetics.

19. Assessment methods:

Activity - through attendance at lectures, a student can earn 0-10 points
Seminar paper - by creating and defending a seminar paper, a student can win 40 points.
The final exam - the knowledge check implies the consolidation of the entire material covered. The maximum number of points that a student can get on the final exam is 50, and 30 points are required to pass.

The number of points is determined according to the following scale:
Activity 0-10 points
Seminar paper 25-40 points
Final exam 30-50 points

20. Assessment components:

10 (A)-95-100 -outstanding performance without errors or with minor errorss
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:

Saša Pilipović, Berina Pilipović, Alija Uzunović. Odabrana poglavlja iz farmakokinetike i biofarmacije. Tuzla: OFF SET, 2017.
Aida Mehmedagić. Farmakokinetika sa osnovama biofarmacije. Sarajevo: Sarajevo Publishing, 2002.

22. Web sources:

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23. Applicable starting from the academic year:

2023/2024.

24. Adopted in the Faculty/Academy session:

17.11.2025.