SYLLABUS

1. Course title:

Toxicology with Analytics I

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 7

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 0

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (Integrated study I and II cycle)

12. Lecturer:

Maida Šljivić Husejnović, PhD, Assoc.Prof.

13. Lecturer's e-mail:

maida.sljivic-husejnovic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

The aim of this course is to introduce the basic principles of toxicology, toxico-kinetic and dynamic aspects of poisons, classification of poisons, analysis of poisons, first aid measures and poisoning therapy.

16. Learning outcomes:

Knowledge and skills in the field of toxicology with analytics.

17. Course content:

Introduction to toxicology, history.
Definition of poison.
Relationship between dose and effect.
Division of poison.
Relationship between chemical structure and toxicity.
Toxicity factors.
Types of poisoning.
An analytical approach to poison research.
Toxicity tests. Principles of working with experimental animals.
General principles of poisoned therapy. Antidotes.
Target organs of toxicity.
Mechanisms of toxicity.
Teratogenesis, mutagenesis and carcinogenesis.
Toxicokinetics and toxicodynamics.
Health risk assessment.

18. Learning methods:

Lectures, consultations, independent work.

Lectures - through interactive lectures, students get to know the basic terms and principles of toxicology.
Consultations - through consultations, students can solve their doubts and deepen their knowledge.

19. Assessment methods:

Pre-exam activities (minimum 55, maximum 100 points):
Class participation: 0–10 points
Seminar paper: max. 10 points
Final exam: 43.5–80 points
Class participation: During lectures, students actively participate and demonstrate engagement in class activities. Student activity is assessed with 0–10 points.
Seminar paper: Students write a seminar paper based on collected literature on a given topic and defend it orally. For independent student work, a maximum of 10 points can be earned. The seminar paper is not a mandatory part of the exam but allows students to earn additional points.
Exam: Students may take the exam orally and/or in writing. The exam is conducted during the semester, after completing the scheduled course units. To pass the exam, a student must earn 43.5–80 points. Students must accumulate enough points from pre-exam activities and knowledge assessments during the semester to meet the passing criteria.
If a student does not achieve the required points in pre-exam activities, the final exam and any unpassed parts of the exam must be taken during the regular or remedial exam periods.

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) - 55-64 - meets the minimum criteria
5 (F, FX) <55 - does not meet the minimum criteria.

21. Required reading list:

Begić A. et al. Eksperimentalna toksikologija sa teoretskim osnovama, 2019.
Jokanović M. Toksikologija, 2001.
Mokranjac M. Toksikološka hemija, 2001.
Casarett. The Basic Science of Poisons, 2013.
Robert J.et al. Fundamentals of Analytical Toxicology, 2008.

22. Web sources:

23. Applicable starting from the academic year:

2023/2024.

24. Adopted in the Faculty/Academy session:

17.11.2025.