# SYLLABUS

**1. Course title:**

TOXICOLOGY WITH ANALYTICS I

**2. Code:**

**3. Cycle of study:**

1

**4. ECTS credits:**

6

**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: | 2 |

**10. Faculty:**

Faculty of Pharmacy

**11. Department/study program:**

Pharmacy (integrated 1st and 2nd cycle)

**12. Lecturer:**

dr sci. Maida Šljivić Husejnović, assoc. profesor

**13. Lecturer's e-mail:**

maida.sljivic-husejnović@untz.ba

**14. Web site:**

www.frmf.untz.ba

**15. Course aims:**

Introduce students to the basic principles of toxicology, toxicokinetic and dynamic aspects of poisons, classification of poisons, poison analytics, measures for providing assistance, and poisoning therapy.

**16. Learning outcomes:**

Possession of knowledge and skills in the field of toxicology with analytics.

**17. Course content:**

Introduction to toxicology, history.
Definition of poison.
Dose-response relationship.
Classification of poisons.
Relationship between chemical structure and toxicity.
Factors influencing toxicity.
Types of poisoning.
Analytical approach to poison investigation.
Toxicity testing. Principles of working with experimental animals.
General principles of poisoning therapy. Antidotes.
Target organs of toxicity.
Mechanisms of toxicity.
Teratogenesis, mutagenesis, and carcinogenesis.
Toxicokinetics and toxicodynamics.
Health risk assessment.

**18. Learning methods:**

Lectures, consultations, practical labrotory work.

Lectures - Students are required to attend lectures and actively participate in them.
Consultations - Through consultations, students can clarify doubts and deepen their acquired knowledge.
Practical laboratory work - Students are required to complete a specified number of practical laboratory work and pass colloquium.

**19. Assessment methods:**

Pre-exam activities (minimum 55, maximum 100 points)

Student's activity - 0-10 points
Practical exam - 11-20 points
Colloquium - maximum 10 points
Final exam - 32.5-60 points

Student's activity : During practical laboratory work and/or lectures, students actively participate and demonstrate engagement. Student's activity is assessed with 0-10 points.

Colloquium : In the test, students can score a total of 10 points allocated for the material covered from practical laboratory work. The test is conducted in writing, and students accumulate points for grade registration.

Exam: Students can take the exam orally and/or in writing. The exam is taken during the semester, after completing the designated teaching units. To pass the exam, students need to score 32.5-60 points. Students need to achieve a total number of points from the planned activities and knowledge assessments during the semester that meet the criteria for a passing grade.

If a student does not earn enough points for grade registration in the pre-exam activities, the final exam and any failed parts of the exam are taken in the regular and remedial exam sessions.

**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:**

2018/2019

**24. Adopted in the Faculty/Academy session:**

17.11.25.