SYLLABUS

1. Course title:

GENERAL CHEMISTRY WITH STOICHIOMETRY

2. Code:

3. Cycle of study:

1

4. ECTS credits:

9

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

None

7. Class restrictions:

None

8. Duration / semester:

1 1

9. Weekly contact hours:

9.1. Lectures:	4
9.2. Seminars:	2
9.3. Laboratory/Practice classes:	2

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (integrated first and second cycle of study)

12. Lecturer:

dr.sc. Aida Crnkić, full professor

13. Lecturer's e-mail:

aida.crnkic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

One of the main goals is to train students in a systematic way to learn basic chemical laws and phenomena as well as stoichiometric calculations. The level of knowledge required of students is adapted to the capabilities of first-year students.

16. Learning outcomes:

After listening to and successfully passing the course, students should be able to perform stoichiometric calculations and master the basic chemical laws that they can apply in other areas of chemistry and pharmacy.

17. Course content:

Natural sciences and chemistry, Stoichiometric laws, Dalton's atomic theory, Avogadro's theory, Molar quantities, Mole and chemical formula, Calculation using chemical equations, Electronic configuration and a periodic table of elements, periodicity of properties of elements. Structure of atoms, models of atoms, quantum-mechanical model of an atom. Chemical bond, intermolecular and intramolecular. Solutions. Concentration. Chemical reactions, redox reactions, and oxidation number of electrolysis. Speed of chemical reaction and chemical balance. Balance in electrolyte solutions, pH-value of solutions, body fluids electrolytes, hydrolysis, reactions of acids and bases, biological buffer systems. Energy changes in chemical reactions.

18. Learning methods:

Lectures and exercises are conducted using active learning techniques, with active participation and discussion by students. Student activity during lectures and exercises is recorded. Laboratory and classroom exercises are also included.

19. Assessment methods:

Knowledge assessment is conducted through two colloquia, two tests, and a final exam.
Colloquia: 10 points
Tests during the course: 40 points (Test I – 20 points; Test II – 20 points)
Seminar work / activity: 5 points
Final exam: 45 points

20. Assessment components:

< 55,00 5 F
55,00 – 64,00 6 E
65,00 – 74,00 7 D
75,00 – 84,00 8 C
85,00 – 94,00 9 B
95,00 – 100 10 A

21. Required reading list:

Aida Crnkić; Osnove opšte hemije, Univerzitet u Tuzli 2008.
Filipović,Lipanović; Opća i anorganska kemija I dio,Školska knjiga Zagreb,1995.
Milan Sikirica, Stehiometrija,Školska knjiga Zagreb,1995.

22. Web sources:

23. Applicable starting from the academic year:

2023/2024.

24. Adopted in the Faculty/Academy session:

17.11.2025.