

SYLLABUS

1. Course title:

Pharmaceutical technology I

2. Code:

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3. Cycle of study:

1

4. ECTS credits:

8

5. Type of course: Mandatory Elective**6. Prerequisites:**

There are no prerequisites for studying this subject.

7. Class restrictions:

None.

8. Duration / semester:

1

7

9. Weekly contact hours:

Semester (1)

7

Semester (2)

7

9.1. Lectures:

4

9.2. Seminars:

0

9.3. Laboratory/Practice classes:

3

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:

The aim of teaching of Pharmaceutical Technology I is to acquaint students with the basic principles of formulation of medicinal preparations and to acquire knowledge about the latest technological procedures for the production and testing of medicinal forms.

16. Learning outcomes:

Students will acquire knowledge of basic technological operations and excipients most commonly used in production processes. They will also gain knowledge and skills in the development and manufacture of various pharmaceutical formulations, methods for testing their quality, and the proper procedures for packaging, labeling, and storage.

17. Course content:

Definitions and classifications of medicinal dosage forms. Basic technological operations. Physical and physicochemical principles (solubility, density, surface tension, rheology). Excipients in the preparation of dosage forms and their classification. Isotonicity, isoionia, and buffers. Basics of biopharmacy. Solutions (liquid preparations for oral administration, syrups, liquid preparations for topical application). Medicinal forms obtained by extraction from drugs. Disperse systems (emulsions, suspensions). Semisolid dosage forms (ointments, creams, pastes) and patches. Dosage forms for nasal and ear administration. Solid dosage forms (soaps, rectal and vaginal preparations). Powders, granules, pellets (production, testing). Microparticulate systems (micro- and nanoparticles, liposomes). Therapeutic systems.

18. Learning methods:

Lectures will cover the entire material specified in the curriculum. Student attendance at lectures is mandatory. Lecture materials will be made available to students. Experimental exercises will be conducted in two cycles, each concluding with a colloquium. Experimental exercises generally follow the corresponding lecture units. During lectures, students will also participate in workshops where they will discuss recipes, dose adjustments, and various formulations in groups

19. Assessment methods:

Activity - through attendance at lectures and exercises, a student can earn 0-10 points.

I and II colloquium - are done as part of laboratory exercises, and include the theory and recipes covered in the exercises. Colloquies carry a maximum of 10 points each.

Practical exam - students practically prepare master's and office papers, and the practical exam carries a maximum of 20 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 exam is held in writing and/or orally.

The number of points is determined according to the following scale:

Activity 0-10

I colloquium 6-10 points

II colloquium 6-10 points

Practical exam 13-20 points

Final exam 30-50 points

20. Assessment components:

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:

G. Vuleta. Farmaceutska tehnologija I, Beograd, 2012.
Sabira Hadžović. Farmaceutska tehnologija: Industrijska farmacija, Sarajevo, 2005.
Romana Senjković. Osnovi oblikovanja lijekova, Školska knjiga, Zagreb. 1994.

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.