

## SYLLABUS

**1. Course title:**

CLINICAL PHARMACY

**2. Code:****3. Cycle of study:****4. ECTS credits:****5. Type of course:** Mandatory  Elective**6. Prerequisites:****7. Class restrictions:****8. Duration / semester:****9. Weekly contact hours:**

9.1. Lectures:

9.2. Seminars:

9.3. Laboratory/Practice classes:

**10. Faculty:**

Faculty of Pharmacy

**11. Department/study program:**

Pharmacy (integrated 1st and 2nd cycle)

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

**14. Web site:**

www.frmf.untz.ba

**15. Course aims:**

The student should acquire basic knowledge of Clinical Pharmacy and be able to implement the acquired knowledge in practice. They should understand which therapy to apply in the correct dose and with the appropriate dosing regimen, as well as improve their skills in selecting suitable therapy. The student should be able to describe the concept of evidence-based medicine/pharmacy, select and evaluate sources of drug information, and identify and explain adverse effects and interactions of specific groups of medicines. The goal is to enable the student to understand pharmaceutical practice as realized through the provision of pharmaceutical care.

**16. Learning outcomes:**

At the end of the semester/course, successful students who have continuously fulfilled their obligations throughout the teaching period will be qualified for: Safe and effective clinical application of medicines; Determination of safe and effective doses in special populations and in cases of impaired liver or kidney function; Therapeutic drug monitoring; Preparation of parenteral nutrition and cytotoxic drugs; Pharmacotherapy of the most common diseases; Comprehensive understanding of various aspects of pharmaceutical practice and preparation of a pharmaceutical care plan for patients.

**17. Course content:**

Introduction to Clinical Pharmacy; Practical Pharmacokinetics and Pharmacodynamics; Basic Clinical and Laboratory Data in Monitoring Drug Response; Finding Reliable Information on Medicines and Therapies; Levels of Evidence in Pharmacy; Pharmacotherapy in Special Patient Groups (geriatrics, pediatrics, patients with hepatic and renal impairment, pregnant and breastfeeding women); Drug Safety, Adverse Effects, Interactions, and Pharmacovigilance; Preparation of Cytotoxic Therapy; Parenteral Nutrition; Clinical Pharmacy in the Treatment of Specific Disorders: Gastrointestinal Disorders; Cardiovascular Disorders; Hematological Disorders; Respiratory Disorders; Rheumatic Disorders; Neurological and Psychological Disorders; Infections; Malignant Diseases and Drug Application; Eye and Ear Disorders; Skin Disorders; Endocrine Disorders; Gynecological Disorders; Urological Disorders; Pain and Fever; Self-Medication; Practical Aspects of Providing Pharmaceutical Care; Pharmacoeconomic Aspects of Rational Pharmacotherapy.

**18. Learning methods:**

Lectures, exercises, seminar papers,  
- lectures and student presentations  
- group work, discussion,  
- case studies in groups

**19. Assessment methods:**

Knowledge assessment and skill acquisition are carried out through continuous evaluation, quizzes, midterm exams, and a final exam. Written forms of assessment are used in exams, including tests, essays, and tests with short-answer questions. During each form of assessment, the student earns a certain number of points. To pass a test or midterm exam, the student must achieve at least 60% of the total points. If the maximum grade corresponds to 100 points, the components of evaluation and their respective weightings, as well as the formation of the final grade, are presented as follows:

Attendance and participation in class:

- Lectures: 5%
- Practical exercises: 5%

Seminars: 10%

colloquium: 10%

Midterm Exam I: 20%

Midterm Exam II: 20%

Final Exam: 30%

To receive a passing grade, the student must achieve a minimum of 55 cumulative points.

**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:**

R. Walker, C. Whittlesea, Clinical Pharmacy and Therapeutics, Churcill Livingstone, 2007., 4th edition. M. A. Koda-Kimble, L. Y. Young, Applied Therapeutics and Clinical Use of Drugs, Lippincott Williams & Wilkins, 2008. 10th edition

**22. Web sources:****23. Applicable starting from the academic year:**

2018/2019.

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

17.11.25.