SYLLABUS

1. Course title:

INFORMATICS

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 1

9. Weekly contact hours:

9.1. Lectures:	2
9.2. Seminars:	0
9.3. Laboratory/Practice classes:	1

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (integrated first and second cycle of study)

12. Lecturer:

Ph.D Damir Demirović, associate professor

13. Lecturer's e-mail:

damir.demirovic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

Introducing students to the theoretical foundations of Informatics, the specifics of Pharmaceutical Informatics, mastering practical knowledge in the field of Applied Information and Communication Technology (ICT), and computer data processing in pharmacy.

16. Learning outcomes:

At the end of the semester/course, successful students who have consistently fulfilled their obligations throughout the entire teaching period should be able to: understand the importance of Informatics as an interdisciplinary modern science, grasp the role and significance of pharmaceutical informatics, utilize modern methods for data collection in pharmacy, use computer systems based on PC technology, process data in a Windows environment (both online and offline), analyze data using MS Office tools, utilize the internet for learning and discovering new knowledge, and utilize telecommunication systems in pharmacy.

17. Course content:

Introduction to Informatics and Pharmacoinformatics, Information Theory, Computer Technology and Computer Development (Hardware, System, and Application Software), Processing of Medical Data (Data Sources in Pharmacy), Classification Systems (ICD, ATC), DRG Classification Systems, Databases and Application Software in Pharmacy, Health Information Systems, Information Systems in Pharmacy, IT in Drug Production and Distribution, Management and Administration, IT and Patient Safety, Computer Networks in Pharmacy, Information Technology Protection in Pharmacy and Archiving Pharmaceutical Data, Internet and Telepharmacy (Online Pharmacies), Integration of Pharmacy into E-Health Systems.

18. Learning methods:

- Theoretical multimedia lectures
- Laboratory (computer) exercises on PC computers
- Consultations with professors and assistants for students

19. Assessment methods:

After half of the classes have been conducted (mid-semester), a partial exam in the form of a test is organized. The test consists of open-ended questions: (list, define, explain, write a formula, calculate, etc.). The scoring of answers depends on the number of questions on the test, ranging from 7 to 15 questions, and the test is worth a total of 35 points.
At the end of the classes (end of the semester) in an officially announced timeframe, a final exam in the form of a test (also open-ended) is organized, containing between 10-20 questions and worth a total of 50 points.
A test that is not signed by the student is not scored. Any behavior that disrupts the regularity of the exam (whispering, cheating, using "electronic bugs," etc.) is penalized by confiscating the test, and that test is not scored. Students who disrupt the class with their behavior during the course will be asked to leave the class, and their attendance points will be reduced by 5 points. Students can miss theoretical classes for a maximum of 6 hours, or 20%, while absences from experimental exercises will not be tolerated. Students are required to justify their missed classes adequately and make up for experimental exercises in agreement with the subject assistants. If a student has unexcused absences beyond these limits, they will not receive a signature in their index, nor will they be able to take the final exam. Students who miss the exam are required to provide a valid excuse within 7 days from the date of the exam, after which they are allowed to make up for the missed exam. A student who fails the exam in the final term will take a makeup exam. If a student passes the exam and wants a higher grade, they can take a makeup exam under the following conditions: they must cancel the points from the previous exam and have maximum points from pre-exam obligations (regular attendance/activities in lectures and exercises).

20. Assessment components:

Student Responsibilities	Points	Minimum for Passing
Attendance/Activity in Lectures	5	3
Attendance/Activity in Exercises	10	8
Partial Exam (Test)	35	18
Final Exam (Test)	50	26
TOTAL	100	55

To pass the exam, a student must achieve a minimum of 55 points (for grade 6-E), 65 points (for grade 7-D), 75 points (for grade 8-C), 85 points (for grade 9-B), and 95 points (for grade 10-A).

21. Required reading list:

1. I. Mašić, Z. Riđanović, H.Pandža, Z.Mašić (2010). Medical Informatics, Second Edition, Avicena Sarajevo.
2. M.Pavlić,(1996) Razvoj informacijskih sustava - projektiranje i praktična iskustva, Znak Zagreb
3. The materials from lectures and exercises.

22. Web sources:

23. Applicable starting from the academic year:

2023/2024.

24. Adopted in the Faculty/Academy session:

17.11.2025.