SYLLABUS

1. Course title:

Methodology of research with biostatistics

2. Code:

3. Cycle of study:

1

4. ECTS credits:

2

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 IX

9. Weekly contact hours:

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

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (integrated 1st and 2nd cycle))

12. Lecturer:

Ph.D. Aida Smajlović, full professor

13. Lecturer's e-mail:

aida.smajlovic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

For students to become familiar with the design of health research, the technique of writing a thesis, citing references, publishing scientific work, categorizing publications and databases of scientific journals.

16. Learning outcomes:

Acquisition of knowledge and understanding of research methodology, starting with designing the research problem and the basic research idea, setting the hypothesis and goals, choosing the best sampling method for the chosen design and estimating the sample size, recognizing the main sources of errors in health research, testing hypotheses using appropriate statistical tests, applying ethical principles in every step of health research, correct presentation of results, discussion and conclusions, correct writing of references.

17. Course content:

-Introduction to research methodology
- Selection of relevant research topics based on contemporary literature
-Data analysis
- Research subject, hypotheses and research goals
- Hypothesis testing
-Types of research
-Research validity: Systematic and random errors
-Experimental design: pair research, cross-sectional study and cohort research
- Selection of statistical tests
-The structure of a scientific article
- Categorization of publications
- Writing references
-Scientific journals, databases of journals and scientific meetings
- Designing research with seminar work
-Analysis of seminar papers

18. Learning methods:

Lectures, seminar papers
Teaching subjects. The research methodology of biostatistics has a fund of 30 hours of theoretical teaching and seminars.
Students are obliged to attend lectures and participate actively in them through discussion.
Seminar work is mandatory as a team project.

19. Assessment methods:

Knowledge verification will be done through pre-examination tasks and the final exam. The pre-examination obligations consist of regular attendance and lecture activities, test and seminar work. The test is carried out in the 13th week of classes and includes the material, which is covered during the semester at the lecture. During 14th and 15th weeks of the semester, the student is required to do a seminar work independently or as a group project. The final exam is taken on the regular exam dates and includes the test that the student did not pass as part of the pre-exam obligations, i.e. did not achieve the required minimum points. A student who passes the test (minimum 41), achieves the appropriate number of points from the seminar work (minimum 9 points) and the appropriate number of points based on regular attendance of classes and class activities (minimum 2.5 points for both bases), which is a total of 55-100 points within the framework of the pre-examination obligations acquires the right to enter a grade on the first regular exam period.

Point value of knowledge checks (min-max):

Regular class attendance	2.5-5
Class activity	2.5-5
Test	41-75
Seminar paper	9-15
TOTAL	55-100

20. Assessment components:

< 55	5 (F, FX) - does not meet the minimum criteria
55-64	6 (E) - meets the minimum criteria
65-74	7 (D) - generally good, but with significant shortcomings
75-84	8 (C) - average, with noticeable errors
85-94	9 (B) - above the average, with some errors
95-100	10 (A) - outstanding performance without errors or with minor errors

21. Required reading list:

1. Marušić M. Uvod u znanstveni rad u medicini, Medicinska naklada, Zagreb
2. Komić J, Bokonjić D, Rančić N. Odabrani metodi statističke analize za biomedicinska istraživanja, Medicinski fakultet, Univerzitet u Banjoj Luci, Grafomark, Laktaši, 2018

22. Web sources:

23. Applicable starting from the academic year:

2023/2024.

24. Adopted in the Faculty/Academy session:

17.11.2025.