SYLLABUS

1. Course title:

Molecular-biochemical methods in pharmacy

2. Code:

3. Cycle of study:

2

4. ECTS credits:

3

5. Type of course:

○ Mandatory ◉ Elective

6. Prerequisites:

no

7. Class restrictions:

no

8. Duration / semester:

1 1

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 I and II Cycles)

12. Lecturer:

Adaleta Softić, associate professor

13. Lecturer's e-mail:

adaleta.mulaomerovic@untz.ba

14. Web site:

(max. 50 characters)

15. Course aims:

During the course, student should master the knowledge of modern and at the same time, basic molecular-biochemical techniques.

16. Learning outcomes:

Based on the acquired knowledge of this subject, students will be able to easily acquire more complex content on the professional subjects, which are followed at the senior years of the Faculty of Pharmacy.

17. Course content:

Manipulation with Nucleic Acids: Basic Techniques. Restriction enzymes: a tool in clinical trials. Principles and Medical Applications of Polymerase Chain Reaction (PCR) Methods. Electrophoresis DNA. Southern blotting as a diagnostic method. Capillary Electrophoresis DNA: Biomedical Application. Single Strand Conformation Polymorphism (SSCP) analysis. Quantification of mRNA using Real Time RT-PCR. Quantitative DNA sequence analysis by PCR method. Gene Exposure Testing. Comparative genomic hybridization in clinical and medical research. Fluorescence in situ Hybridization (FISH). CDNA microarray (cDNA microarray). Protein electrophoresis. Blotting protein. Capillary electrophoresis of proteins. Protein Microarray Technology. Monoclonal and polyclonal antibodies. Chromatographic methods. Cell culture. Cryopreservation: conservation of bioresistance at ultra low temperatures. Microscopic methods in protein and nucleic acid analysis.

18. Learning methods:

Lectures; In addition, all students will jointly participate in the discussion on the presented topic.

19. Assessment methods:

From the theoretical part, students will work with two written tests to round off the correct answer, supplement the sentences or clarify the schemas.
The minimum score on both tests is 24. The maximum number of points a student can earn on both tests is 40.
For student engagement / activity, the student can achieve a total of 10 points. The minimum number of points that a student needs to achieve is the third
For attendance in classes a student can earn a total of 10 points. The minimum number of points that a student needs to achieve is 3.

20. Assessment components:

0-53 Five (5)	«Not satisfied» «F»
54-63 Six (6)	«Sufficient» «E»
64-73 Seven (7)	«Good» «D»
74-83 Eight (8)	«Very good» «C»
84-93 Nine (9)	«Extraordinary» «B»
94-100 Ten (10)	«Excellent» «A»

21. Required reading list:

1. Adaleta Softić, Authorized Lectures
2. John M Walker, Ralph Rapley. (2008): Molecular Biomethods. Humana Press

22. Web sources:

23. Applicable starting from the academic year:

2012/13

24. Adopted in the Faculty/Academy session: