SYLLABUS

1. Course title:

STEREOCHEMISTRY OF DRUGS

2. Code:

3. Cycle of study:

1

4. ECTS credits:

3

5. Type of course:

○ Mandatory ◉ Elective

6. Prerequisites:

none

7. Class restrictions:

Pharmacy students

8. Duration / semester:

1 4

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 cycles)

12. Lecturer:

dr.sc.Snježana Marić, Associated Professor

13. Lecturer's e-mail:

snjezana.maric@untz.ba

14. Web site:

www.untz.ba

15. Course aims:

Students will be introduced to the 3D forms of molecules and their chemical and physical properties, as well as the mechanism and reaction rate as well as the meanings of contemporary stereochemistry nomenclature. After determining the basis of the stereochemistry, special attention will be paid to the stereochemistry of natural compounds and chiral compounds of the potential active ingredients of the drugs. Students will understand the importance of enantioselective and diastereo-selective reactions in drug synthesis.

16. Learning outcomes:

The students are expected to understand the functioning of drugs, molecular mechanisms based on the knowledge of the stereochemical interactions of the active substance with the receptors. Likewise, methods will be known for obtaining enantiomeric pure compounds.

17. Course content:

Introduction to stereochemistry of drugs , graphical presentation of non-planar molecules (three-dimensional molecules, chirality), stereoisomers, enantiomers, diastereomers (chiral drug enantiomers), configurations, relative and absolute configurations (heteroatoms as centers of chirality), symmetry, elements and symmetry operations, conformations of cyclic and acyclic compounds (atropoisomery, prochirality), stereoisomer separation methods (separation of enantiomers, preparation of enantiomeric pure compounds), stereochemistry of organic reaction , drug interactions with biological matrices (stereoselective organic synthesis)

18. Learning methods:

Lectures, seminars, consultations

19. Assessment methods:

Test I, Test II, Final Exam.
The final mark consists of: attendance and active participation in lectures (lectures and exercises), passed tests and final exam.

20. Assessment components:

Number of points scored	mark (BiH)	(ECTS mark)
< 55	5	F
55 – 65	6	E
65– 75	7	D
75 – 85	8	C
85– 95	9	B
95- 100	10	A

21. Required reading list:

1. Ernest L. Eliel, Samuel H. Wilen, Michael P. Doyle, Basic Organic Stereochemistry, John Wiley & Sons, (2001).
2. S. H. Pine, Organska kemija, Školska knjiga Zagreb (1994) (prijevod)
3. N.Raos, S. Raić-Malić, M. Mintas, Lijekovi u prostoru-farmakofori i receptori, Školska knjiga,2004

22. Web sources:

23. Applicable starting from the academic year:

2012/2013

24. Adopted in the Faculty/Academy session: