

SYLLABUS

1. Course title:

Design and synthesis 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:

Students of the Faculty of Pharmacy

8. Duration / semester:

1

V

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:

General

12. Lecturer:

dr.sc. Melita Huremovic, assistant professor

13. Lecturer's e-mail:

melita.huremovic@untz.ba

14. Web site:

www.untz.ba

15. Course aims:

Introducing students with mechanisms of organic reactions, reaction types characteristic of appropriate functional groups and intermediates that occur in organic synthesis and pharmaceuticals. Especially students will be introduced to certain drug synthesis, their application, and the mechanism of obtaining the same.

16. Learning outcomes:

At the end of the semester, successful students, who continued to perform their duties throughout the teaching period, will be able to independently perform the basic experimental operations of synthesizing and identifying ways to obtain biologically active compounds.

17. Course content:

- The purpose of synthesis, synthesis principles, retrosynthetic approach, anelation reaction
- Drugs (Forms of Medicines, Composition, Generic Medicines, AT-Classification)
- Synthesis of Fexofenadine Hydrochloride (Synthetic Mechanisms, Identification and Characterization, Complexation)
- Synthesis of drugs that affect the blood and cardiovascular system (acetylsalicylic acid / aspirin, ticlopidine, clopidogrel, dipyridamole, receptor inhibitors (tirofiban).
- Synthesis of Amlodipine besilate (mechanism of synthesis, identification and characterization)
- Synthesis of carbamazepine (explanation of different ways of synthesis, identification, characterization and complexation)
- Synthesis of drugs with CNS activity
- Synthesis of Antibiotic (beta-lactam, cephalosporins, carbapenems, tetracyclines, linkozamides, chloramphenicol, etc.)

18. Learning methods:

Lectures
 Experimental exercises
 Individual seminar papers

19. Assessment methods:

The exam was written (Test)
 The exam rating is based on the criteria presented in the table

Knowledge assessment - criteria

	Maximum number of points	Points for passage
Regularity of teaching attendance	10	7
Activity on teaching	10	7
Seminar paper	30	15
Test	50	25
Total	100	54

20. Assessment components:

Evaluation Number of points scored	Evaluation	
	(BiH)	(ECTS score)
< 53	5	F
54 – 63	6	E
64 – 73	7	D
74 – 83	8	C
84– 93	9	B
94– 100	10	A

21. Required reading list:

1. Arsenijević R.S Organska hemija, Partenon, 2001
2. Volhardt C. Shore E. Organska hemija, (translated) Nauka, Beograd, 2004
3. Carey A. F., Organic Chemistry, fourth edition, Virginia 2000
4. Morrison & Boyd, Organic Chemistry, Prant

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

2012/2013

24. Adopted in the Faculty/Academy session: