SYLLABUS

1. Course title:

ORGANIC CHEMISTRY II

2. Code:

3. Cycle of study:

1

4. ECTS credits:

7

5. Type of course:

(•) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 4

9. Weekly contact hours:

9.1. Lectures:	4
9.2. Seminars:	0
9.3. Laboratory/Practice classes:	3

10. Faculty:

Faculty of Technology

11. Department/study program:

Chemical Engineering and Technologies

12. Lecturer:

Dr.sc. Jasmin Suljagić, Assistant professor

13. Lecturer's e-mail:

jasmin.suljagic @untz.ba

14. Web site:

www.tf.untz.ba

15. Course aims:

Successful work in any segment of chemical technology is unthinkable today without knowing and understanding the basics of natural sciences, especially organic chemistry. Laboratory exercises enable students through practical and independent work to master the basic laboratory procedures of qualitative and quantitative organic analysis. The acquired knowledge will be used by students in solving specific problems of chemical and technological disciplines, as well as problems related to the management of technological processes.

16. Learning outcomes:

After successfully mastering the course students will be able to:
- prepare a report from the completed activities in the laboratory,
- describe and calculate basic chemical problems
- categorize important inorganic and organic compounds and their application to improve chemical-technological processes
- establish the importance of applying chemical knowledge and their association with specific requirements in chemical technology processes,
- follows instruction from teaching subjects that include the structure, properties, the formation and reaction of various organic compounds

17. Course content:

- Aldehydes and ketones (properties and synthesis, nucleophilic additions to carbonyl groups, aldol reactions).
- Carboxylic acids and their derivatives.
- Synthesis and reaction of ß-dicarbonyl compounds.
- Amines (amine structure, synthesis and amine reactions, basic heterocyclic amines and biologically significant amines: vitamin B6).
- Heterocyclic compounds (nomenclature, agents, properties, synthesis, reactions).
- Electrocyclic and cycloadic reactions.
- Carbohydrates: monosaccharide structure and nomenclature.
- Monosaccharide reactions; Structure and stereochemistry of aldose.
- Alkaloid (division, properties, application).
- Lipids (basic structures and their role in regulating biological processes: fatty acids and triglycerides; phospholipids).
- Steroids: cholesterol, steroid hormones; Vitamin D; prostaglandins.
- Amino acids and proteins.
- Nucleosides, nucleotides and nucleic acids.

18. Learning methods:

The most important learning methods in the subject are:
- lectures with the use of multimedia resources, active learning techniques and with active participation and discussion of students;
- practical exercises and active experimentation;
- solving problem tasks.

19. Assessment methods:

Activity - for activity in lectures and exercises students can obtain 0-5 points.
Colloquium: colloquium of experimental work which consists of a theoretical basis and conducted experimental exercises. For the colloquium student can obtain a maximum of 15 points, the minimum number of points that a student must achieve is 5.
Colloquium and completion of the experimental work is a prerequisite for obtaining a signature.
Written assessment during the semester (Test I and II) - Test I and Test II include problem-solving tasks. The maximum number of points on each test is 15th
Final exam - assessment implies the unification of the entire matter handled.
In order to pass the courses, student must achieve a minimum of 51 points, of which a minimum of 25 points on the final exam.

20. Assessment components:

Rating exam is based on the total number of points a student has obtained by completing pre-exam requirements and exams, according to the quality of the acquired knowledge and skillsand contains a maximum of 100 points. It is determined according to the following scale:

Obligations	Points
Presence in classes	0-5
Experimental work	5-15
Test I	0-15
Test II	0-15
Final Exam	25-50

21. Required reading list:

1. Pine,S.H., (1994), Organska hemija, Zagreb, Školska knjiga,.
2. Volhardt, K.P C., Schore, N. E., (2004), Organska hemija, Beograd, Data Status.
3. Budimir, J., Kubiček, R., Marić, S. (2004), Osnovi preparativne organske hemije, Tuzla, Univerzitet

22. Web sources:

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session: