SYLLABUS

1. Course title:

ORGANIC CHEMISTRY I

2. Code:

3. Cycle of study:

1

4. ECTS credits:

6

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 3

9. Weekly contact hours:

9.1. Lectures: 2

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 2

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. The aim of this course is to provide students with basic theoretical and practical knowledge of organic reaction and processes that are the basis for understanding and application in the chemical and technology profession. Organic chemistry processes the structure and chemical reactivity of organic compounds, which is the basis for many applications.

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:

- The history of organic chemistry development, the distribution of organic compounds and the main characteristics of organic compounds.
- Structure and binding in organic molecules, hybridization.
- Hydrocarbons (alkanes, sources and uses, physical properties of alkane).
- Hydrocarbons (alkenes and cycloalkenes).
- Geometry of alkene isomers, CIP rules. Elimination reactions (E1, E2 and E1cB reactions).
- Electrophilic additions to alkenes, ozonolysis
- Hydrocarbons (alkynes and cycloalkynes-physical-chemical properties).
- Stereochemistry (isomers and stereoisomers, enantiomers and chiral molecules, diastereomers).
- Nucleophilic substitutions and elimination of alkyl halides.
- Aromatic compounds, benzene, reaction of aromatic compounds.
- Radical reactions (halogenation of alkanes, alkene polymerization, polymers).
- Alcohols and ethers (structure, properties, reaction synthesis, oxidation and reduction, organometallic compounds).

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. K.Peter, C.Volhardt, Neil E.Schore, Organska hemija, Data Status, Beograd, 2004.
2. Pine,S.H., (1994), Organska hemija, Zagreb, Školska knjiga,.
3. J.Budimir, R.Kubiček, S.Marić: Osnovi preparativne organske hemije, Univerzitet u Tuzli

22. Web sources:

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session: