SYLLABUS

1. Course title:

CHEMISTRY OF MACROMOLECULES

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 5

9. Weekly contact hours:

9.1. Lectures: 3

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. Zahida Ademović, assoc. prof.

13. Lecturer's e-mail:

zahida.ademovic@untz.ba

14. Web site:

www.tf.untz.ba

15. Course aims:

The aim of this course is to enable students to master the basic principles and fundamental knowledge in the field of organic chemistry in order to understand the profession which is studied. The knowledge acquired will be used by students in solving specific problems of chemical and technological disciplines, as well as problems related to the planning and implementation of the management of technological processes, particularly in the field of reaction polymerization.

16. Learning outcomes:

After finishing the course, students will be able to identify, analyze and solve problems of varying complexity, individual or in team, using professional literature in the scientific field of macromolecular chemistry, follow further courses that include subjects of the structure, properties, synthesis and reactions of different macromolecular compounds.

17. Course content:

1. Basic concepts and definitions, nomenclature
2. The molecular structure of polymers, macromolecules formula
3. Molar mass, molar mass distribution, molar mass determination
4. Polymerization reactions
5. Radical polymerization
6. Anionic polymerization
7. Cationic polymerization
8. Coordination Polymerization
9. Polycondensation
10. Copolymerization
11. Polymerization in homogeneous medium
12. Polymerization in heterogeneous medium
13. Reactions on macromolecules

18. Learning methods:

Lectures - through interactive lectures introduce students to the basic concepts and principles of synthesis reactions of various macromolecules and through practical examples and problems explain reaction mechanisms.
Experimental - through practical experiments, students will demonstrate the level of acquired knowledge through lectures and acquire skills for practical and scientific and research work.
Consultation - through consultations, students can deepen the knowledge acquired in classes.

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. S.M. Jovanović, J. Djonlagić: Hemija makromolekula, TMF Beograd, 2004
2. Z. Janović, Polimerizacije i polimeri, Izdanja kemije u industriji, Zagreb 1997
3. H.G. Elias, Macromolecules, Wiley 2009

22. Web sources:

23. Applicable starting from the academic year:

2015/2016

24. Adopted in the Faculty/Academy session: