



УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ  
UNIVERSITY OF BANJA LUKA  
ПРИРОДНО-МАТЕМАТИЧКИ ФАКУЛТЕТ  
FACULTY OF NATURAL SCIENCES AND MATHEMATICS



CHEMISTRY DEPARTMENT

FIRST CYCLE OF STUDY

Chemistry/Chemistry Education

Course name	<b>Organic Synthesis</b>			
Course code	Course status	Semester	Hours of instruction	ECTS
1C16HOS1118	elective	VII	2+2	5
Teacher(s)	<b>Prof. Milica Balaban PhD</b>			

Prerequisite course(s)	Entry requirements
Organic Chemistry 1 and Organic Chemistry 2	Passed exams

**Course goals**

The aim of the course *Organic synthesis* is to acquaint students with the most important synthetic reactions, as well as the basic principles of systematic study and approach to organic synthesis.

**Learning outcomes**

The student explains and performs more complex, multistage reactions of synthesis of organic compounds. Also, the student has completely mastered all the basic and some advanced experimental techniques in organic chemistry.

**Course content**

Halogenation.  
Reactions of organometallic compounds.  
Aldol condensation.  
Aromatic substitutions.  
Alkylation and acylation.  
Reductions. Oxidations.  
Diels-Alder reaction.  
Exercises: Experimental exercises include performing the synthesis of 3-5 (depending on the complexity of the synthetic pathway) selected preparations, their purification and characterization.

**Teaching methods**

Lectures, practical exercises

**Books and other learning materials**

Vogel's textbook of Practical Organic Chemistry, Fifth Edition, Longman and Wiley, New York, 1989.  
M. Balaban: **Osnove eksperimentalne organske hemije**, Univerzitet u Banjoj Luci, Banja Luka, 2018.  
Ž. Čeković: **Principi organske sinteze**, Naučna knjiga, Beograd, 1992.  
Ž. Čeković: **Eksperimentalna organska hemija**, Aparati-metode-sinteze, Hemijski fakultet, Beograd, 1995.  
Z. Ferjančić, F. Bihelović: **Preparativna organska hemija**, Univerzitet u Beogradu, Hemijski fakultet, Beograd, 2012.

**Course activities and grading method**

The activity and the colloquium refer to the exercises that are a condition for taking the final exam.  
The results of these tests are included in the final grade only if they exceed 50% of the points provided for a given form of test during the semester.

Activity and colloquium	20	Test	20
		Final exam	60

**Additional course notes**

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Name of the teacher who prepared this form Milica Balaban