Course Unit Descriptor

**Study Programme:** Bachelor Academic Studies in Environmental Protection – Environmental Protection Analyst

**Course Unit Title:** Organic Chemistry II

**Course Unit Code:** OZZS-601-II

**Name of Lecturer(s):** Assistant professor Marina Savić

**Type and Level of Studies:** Bachelor of Science Degree

**Course Status (compulsory/elective):** compulsory

**Semester (winter/summer):** Winter

**Language of instruction:** English

**Mode of course unit delivery (face-to-face/distance learning):** Face-to-face

**Number of ECTS Allocated:** 5

**Prerequisites:** none

**Course Aims:**

Developing the ability to understand the connection between the structure of organic compounds and their reactivity in the chemical reactions. Developing the ability to understand and to interpret the transformations of selected classes of organic compounds in solving theoretical or practical problems in organic chemistry. Developing practical skills for safe work in a laboratory.

**Learning Outcomes:**

After a successfully mastered course, the student is able to: demonstrate acquired knowledge of characteristic transformations in organic molecules; on simple examples demonstrates the knowledge of the basic principles and rules of chemical transformations of organic compounds; demonstrates the acquired knowledge of the characteristic reactions of selected classes of organic compounds; uses simple molecular organic molecule models to show their spatial structure.

**Syllabus:**

*Theory*

The nature of organic reactions. Reactivity of major classes of organic compounds: alkanes, alkylhalogenides, alcohols, alkenes, polymers and alkynes, aromatic compounds, aldehydes and ketones, amines, heterocycles, carboxylic acids and their functional derivatives, carbohydrates, aminoacids.

*Practice*

Experimental performance of individual operations in organic laboratory. Examination of chemical properties of major classes of organic compounds.

**Required Reading:**

1. K.P.C. Vollhardt, N.E. Schore: Organic chemistry: Structure and Function, 5th Edition, W.H. Freeman and Comp., 2007.

2. J. McMurry: Fundamentals of Organic Chemistry, 7th Edition, Brooks/Cole Publishing Comp. 2010.

| **Weekly Contact Hours:** 4 | **Lectures:** 2 | **Practical work:** 2 |
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**Teaching Methods:** Lectures, laboratory work

**Knowledge Assessment (maximum of 100 points):** 100

| **Pre-exam obligations** | points | **Final exam** | points |
|---|---|---|---|
| Active class participation | 5 | Written exam | 40 |
| Practical work | 15 | | |
| Preliminary exam(s) | 20 | Oral exam | 10 |
| Seminar(s) | 10 | | |