

**Course name:** The elements of organic chemistry for biology students (USOS Code: B-B.013Eng)

**ECTS:** 5

**No. of hours:** 60 (30 lectures + 30 classes)

**Course coordinator:** Dr hab. Anna Matuszewska, prof. UMCS

**Prerequisites:** Completed course in General chemistry with elements of analytical and physical chemistry

**Course description:** The structure and properties of organic compounds. Molecular symmetry and asymmetry, isomerism. Classification and nomenclature. Mechanisms of major reactions of organic compounds: substitution, addition, elimination. Main groups of organic compounds: hydrocarbons, alcohols, phenols, amines, aldehydes, ketones, carboxylic acids, heterocyclic compounds. Polymers. Main chemical constituents of living organisms: lipids, amino acids and proteins, mono- and polysaccharides, nucleic acids.

**Recommended literature:** McMurry J. Organic chemistry. Books/cole Cengage Learning, 2012; Hart H., Craine L.E., Hart D.J., Hadad Ch.M. Organic Chemistry: A Short Course 2009; McMurry J. Organic Chemistry with Biological Applications. Cengage Learning, 2011.