

4.0 credits

30.0 h + 15.0 h

2q

Teacher(s) :	Demoustier Sophie ; Elias Benjamin ;
Language :	Français
Place of the course	Louvain-la-Neuve
Prerequisites :	FSAB 1301 (Chemistry 1) or a similar course FSAB 1302 (Chemistry 2) or a similar course
Main themes :	The course is divided in two parts. The first part (1.2 ECTS) deals with "generalities" required for a good comprehension of the reactivity, namely the way that organic compounds react in given conditions, or the reasons why they do not react; the second part (2.8 ECTS) describes the chemical behaviour of the main organic compounds, illustrating the relationships between the structure and the reactivity, starting from the basic concept of functional group. The lessons will be frequently illustrated with examples from other disciplines such as materials science and life sciences.
Aims :	This course mainly aims at providing the basis of organic chemistry required to deal with other more specialized fields. At the end of their classes, students are expected to be able : 1. To establish relationships between molecular and spatial structures of molecules and some properties, in particular, their reactivity; 2. To predict, understand and explain the expected results of the main types of organic reactions, linking them with their mechanism <i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i>
Teaching methods :	Lectures and exercises-based learning.
Content :	Part 1 : General organic chemistry 1.1 Structure and chemical bonds within organic molecules 1.2 Molecular geometry 1.3 Stereochemistry 1.4 Electronic structure of molecules 1.5 Function and structure of the main functional groups 1.6 Reactions and their mechanism (concept of reactional mechanism, reactional intermediates, thermodynamics and kinetics, electronic aspect, stereochemical aspect) Part 2 : Reactivity of different classes of organic compounds through selected examples among the following reactions : 2.1 Nucleophilic reactions on aliphatic carbons 2.2 Electrophilic and radical addition on alkenes 2.3 Elimination reactions of alkyl halides and alcohols 2.4 Addition and substitution on aromatic compounds 2.5 Oxidation and reduction reactions
Cycle and year of study :	> Bachelor in Engineering > Master [120] in Biomedical Engineering
Faculty or entity in charge:	FYKI