

3.0 credits

30.0 h + 15.0 h

1q

Teacher(s) :	Elias Benjamin ;
Language :	Français
Place of the course	Louvain-la-Neuve
Inline resources:	Icampus
Prerequisites :	- LCHM1111 'General Chemistry I'; - LCHM1141 'Organic Chemistry I'; - LCHM1211 'General Chemistry II'; - LCHM1241A 'Organic Chemistry II';
Main themes :	- Fundamentals: emphasis on structure and reactivity relationships, acids and bases, carbanions and carbocations, kinetic and thermodynamic considerations of organic reactions. - Systematic study of reaction mechanism in Organic Chemistry. - Pericyclic reactions (Woodward-Hoffmann rules) and photochemical reactions. - Nucleophilic and electrophilic substitution of aromatic compounds: mechanistic investigations - Oxidation and reduction in Organic Chemistry.
Aims :	Contribution of the course to the program objectives B1.1, B1.3, B3.1, B6.2, B7.1 Specific learning outcomes of the course At the end of the course, the student will be able to: <ul style="list-style-type: none"> · describe the electrons migration within an organic molecule (inductive and conjugation effects) as well as during a chemical reaction between two given compounds · establish relations between molecular and spatial structures of organic molecules and some properties, in particular, their reactivity and acidity/basicity ; · predict and explain the expected result for the main types of organic reactions, including their mechanism, catalyst and solvent effect · apply theory to everyday life <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>
Evaluation methods :	Students are evaluated through a final oral examination, which includes problem solving, theory and general knowledge of Organic Chemistry.
Teaching methods :	The course is based on lectures and exercises-based learning.
Content :	Chapter I : Fundamentals: chemical bonds, molecular and supramolecular interactions Chapter II : Acidity and basicity in Organic Chemistry Chapter III : Pericyclic reactions and Woodward-Hoffmann rules Chapter IV : Aromaticity : electrophilic and nucleophilic substitution of aromatic compounds Chapter V : Oxidation and reduction in Organic Chemistry
Bibliography :	The slides presented during the lectures and the exercises are available on i-campus. Recommended reference books: - Organic Chemistry (Clayden, Greeves, Warren and Wothers - De Boeck) - Chimie Organique : généralités, études des grandes fonctions et méthodes spectroscopiques (Rabasso - De Boeck) - Organic Chemistry (P.Y. Bruice - Pierson International Edition)
Cycle and year of study :	> Master [60] in Biology > Bachelor in Bioengineering > Master [120] in Biochemistry and Molecular and Cell Biology > Bachelor in Biology
Faculty or entity in charge:	AGRO

