




3 credits

30.0 h + 15.0 h

Q1

Teacher(s)	Elias Benjamin ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	<ul style="list-style-type: none"> <li>- Fundamentals: emphasis on structure and reactivity relationships, acids and bases, carbanions and carbocations, kinetic and thermodynamic considerations of organic reactions.</li> <li>- Systematic study of reaction mechanism in Organic Chemistry.</li> <li>- Pericyclic reactions (Woodward-Hoffmann rules) and photochemical reactions.</li> <li>- Nucleophilic and electrophilic substitution of aromatic compounds: mechanistic investigations</li> <li>- Oxidation and reduction in Organic Chemistry.</li> </ul>
Aims	<p><b>Contribution of the course to the program objectives</b> B1.1, B1.3, B3.1, B6.2, B7.1</p> <p><b>Specific learning outcomes of the course</b></p> <p>At the end of the course, the student will be able to:</p> <ul style="list-style-type: none"> <li>· describe the electrons migration within an organic molecule (inductive and conjugation effects) as well as during a chemical reaction between two given compounds</li> <li>· establish relations between molecular and spatial structures of organic molecules and some properties, in particular, their reactivity and acidity/basicity ;</li> <li>· predict and explain the expected result for the main types of organic reactions, including their mechanism, catalyst and solvent effect</li> <li>· apply theory to everyday life</li> </ul> <p>-----</p> <p><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></p>
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	<p>Chapter I : Fundamentals: chemical bonds, molecular and supramolecular interactions</p> <p>Chapter II : Acidity and basicity in Organic Chemistry</p> <p>Chapter III : Pericyclic reactions and Woodward-Hoffmann rules</p> <p>Chapter IV : Aromaticity : electrophilic and nucleophilic substitution of aromatic compounds</p> <p>Chapter V : Oxidation and reduction in Organic Chemistry</p>
Inline resources	Icampus
Bibliography	<p>Support : notes prises au cours et transparents déposés sur icampus</p> <p>Livres de référence (conseillés) :</p> <ul style="list-style-type: none"> <li>- Chimie Organique (Clayden, Greeves, Warren et Wothers - De Boeck)</li> <li>- Chimie Organique : généralités, études des grandes fonctions et méthodes spectroscopiques (Rabasso - De Boeck)</li> <li>- Organic Chemistry (P.Y. Bruice - Pierson International Edition)</li> </ul>
Faculty or entity in charge	AGRO

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Aims
Master [60] in Biology	<a href="#">BIOL2M1</a>	3		
Master [120] in Biochemistry and Molecular and Cell Biology	<a href="#">BBMC2M</a>	3		
Bachelor in Bioengineering	<a href="#">BIR1BA</a>	3		
Minor in Chemistry	<a href="#">LCHIM100I</a>	3		