Organic chemistry : reactions and mechanisms

Lecturers
Kristin BARTIK (Coordinator) and Elisabeth VAN DIJK

Course mnemonic
CHIM-H406

ECTS credits
4 credits

Language(s) of instruction
English

Course period
First term

Campuses
Solbosch and Outside campus ULB

Course content

Chapter titles:

1 Reactions and Mechanisms in Organic Chemistry
2 Radical Halogenation
3 Reactions of Haloalkanes: Nucleophilic Substitutions
4 Reactions of Haloalkanes: Eliminations
5 Alcohols
6 Alkenes
7 Aldehydes and Ketones
8 Carboxylic Acids
9 Delocalized pi Systems
10 Aromatic Systems: Electrophilic Substitutions

Objectives (and/or specific learning outcomes)

Specific to the course:

- Acquire a general overview of the broad range of organic reactions which can be used to prepare molecules and molecular materials
- Understand the central role played by the chemical industry in our society.
- Get acquainted with the principles of Green Chemistry

Teaching method and learning activities

Interactive lectures with powerpoint presentations

Exercises and laboratory sessions

Contribution to the teaching profile

This teaching unit contributes to the following competences:

- In-depth knowledge and understanding of exact sciences with the specificity of their application to engineering
- Collaborate in a (multidisciplinary) team
- The flexibility and adaptability to work in an international and/or intercultural context
- An integrated insight in chemical process and materials' technology

References, bibliography and recommended reading

Organic Chemistry: Structure and Function. Vollhardt and Schore, Freeman and Co. (any of the editions !)

Organic Chemistry. Clayden, Greeves, Warren and Wothers, Oxford University Press (1st or 2nd Ed.)

Organic Chemistry. McMurry, Thomson (any edition)

Course notes

Université virtuelle

Other information

Place(s) of teaching

Solbosch and Outside campus ULB

Contact(s)

Prof. Kristin Bartik : kristin.bartik@ulb.be

Dr. Hennie (Elisabeth) Valkenier-Van Dijk : hennie.valkenier@ulb.be

Teaching Assistants

Alessia Fantoni : alessia.fantoni@ulb.be

Steven Moerkerke: steven.moerkerke@ulb.be

Evaluation method(s)

Written report, written examination and Practice work

written examination

Open question with short answer and Open question with developed answer

Determination of the mark (including the weighting of partial marks)

Written exam based on the content of **all** the teaching activities (75%).

Lab preparation, work and report (25%). This grade will be awarded individually. Lab grades are taken into account in the second session, but not automatically transferred to subsequent years.

Final grade is the weighted geometric average : (Exam Grade)$^{0.75}$ (Lab Grade)$^{0.25}$

Main language(s) of evaluation

English

Programmes

Programmes proposing this course at the Brussels School of Engineering

MA-IRMA | Master of Science in Chemical and Materials Engineering | finalité Professional/unit 1