

# UE Heterocyclic chemistry



- > **Teaching language(s):** English
- > **Open to exchange students:** Yes

## Presentation

### Description

It is recognized that a large number of bioactive compounds are cyclic molecules containing one or several heteroatoms (N, O, S, ...). In this course, the chemical properties of the most representative 6- and 5-membered rings and the major methods used for their synthesis will be reviewed. Especially, methods using organometallic chemistry will be discussed. Nomenclature rules will also be explained and exemplified.

Details:

- I. Introduction General presentation and definitions
- II. Nomenclature Rules
- III. Structures of Heterocycles Structure-reactivity relationships
- IV. Common Reaction Types in Aromatic Heterocyclic Chemistry Electrophilic substitution, Nucleophilic substitution, Organometallic Heterocyclic Chemistry
- V. General Strategies for Heterocycle Synthesis
- VI. Typical reactivity and Synthesis of 6-membered rings Pyridine, Benzopyridines, Diazines
- VII. Typical reactivity and Synthesis of 5-membered rings Pyrrole, Furan, Thiophene, Azoles and their Benzofused analogs
- VIII. Reactivity of Purines A combination of the 6- and 5-membered rings reactivity

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## Course parts

UE Heterocyclic chemistry - CM	Lectures (CM)	27h
UE Heterocyclic chemistry - TD	Tutorials (TD)	3h

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## Recommended prerequisites

Prerequisites:

Organic chemistry and Benzene chemistry (bachelor program, CHI501 and CHI601). Some basics in organometallic chemistry will be appreciated.

**Period :** Semester 9

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## Skills

Skills:

Knowledge of the typical reactivity and synthesis methods of the most representative rings using classical and modern heterocyclic chemistry.

## Useful info

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### Contacts

Program director

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### Place

➤ Grenoble

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### Campus

➤ Grenoble - University campus