CH-629

Frontiers in Sustainable Chemical Synthesis

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Cursus	Sem.	Type
Chemistry and Chemical Engineering		Opt.

Language of teaching	English
Credits	2
Session	
Exam	Oral presentation
Workload	60h
Hours	**46**
Lecture	10
Practical work	36
Number of positions	**9**

Frequency

Every 2 years

Remark

Spring 2025

Summary

The students will become familiar with the most recent progress in sustainable synthetic chemistry, covering a broad rang of topics such as catalysis, heterocyclic chemistry, stereoselective synthesis and new synthetic tools.

Content

A thorough knowledge and understanding of chemical transformations is essential for the synthetic chemist. In this course series, the student will become familiar with the recent methodological developments in chemistry. With the tools of modern chemistry, they will be
able to design new efficient, economical and environmentally friendly reactions and synthesis. Every student will be assigned a specific tapie of research. He will be expected to make a thorough literature research on his subject, including pioneering works, state of the art and most recent developments. He will present his results to the class and the instructor and organize a short exercise session on the tapie for the class. This training will empowered the student with all the tools of modern chemistry, which will be highly useful for his potential career as a process or medicinal chemist in industry, as well as an independent group leader in academia. A broad range of tapies will be
covered, including catalysis, heterocyclic chemistry, stereoselective synthesis and new synthetic tools.

Keywords

Organometallic Chemistry, Organic Chemistry, Catalysis, Synthesis Efficiency, Sustainable Chemistry

Learning Prerequisites

Important concepts to start the course

Master EPFL or Equivalent

Learning Outcomes

By the end of the course, the student must be able to:

- Perform an independent literature search and present and discuss the results
- Take into consideration of the frontiers of research in synthetic chemistry

Assessment methods

Oral presentation (exposé)

Resources

Moodle Link

- https://go.epfl.ch/CH-629