

Section of Chemistry & Chemical Engineering

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Ecole Polytechnique Fédérale de Lausanne

- > 10'000 students (600 in chemistry and chemical engineering)
- > 350 professors (40 in chemistry and chemical engineering)
- > 4'000 scientific collaborators
- 25 master programs (MSc) and 21 doctoral school programs (PhD)
- Ranked as one of the best universities in Europe
- One of the most international schools in the world (116 nationalities!)

An international campus brings many advantages, but also challenges

Respect and Equal Opportunities for everybody!

https://www.epfl.ch/about/respect/



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https://www.epfl.ch/about/equality/



EPFL - Organization





School of Basic Sciences - Organization



The School of Basic Sciences is responsible for teaching **Mathematics**, **Physics and Chemistry** for all the EPFL schools and the University of Lausanne



Chemistry/Chemical Engineering





Chemistry/Chemical Engineering



BCH Building

CH Building





Welcome to EPFL

Sion Campus







FR EN

ISIC - Institute of Chemistry and Chemical Engineering

https://isic.epfl.ch/





ISIC Research







Analytical Chemistry

Chemical Biology

Chemical Engineering



Computational Chemistry



Inorganic Chemistry



Organic Chemistry



Physical Chemistry



With a longstanding strategic vision towards sustainability

Renewable Energy

EPFL

ISIC in the News

GPT-3 transforms chemical research



Improving high-temperature stability of





New imaging technique "sees" virus move in unprecedented detail



perovskite solar cells



New AI model transforms research on metalorganic frameworks

"Grätzel" solar cells achieve a new record



Better understanding of cellular metabolism with the help of Al

Bacteria generate electricity from wastewater



New PET-like plastic made directly from waste biomass









SCGC – Section of Chemistry and Chemical Engineering

- 100 new students admitted in 1st year (140 in total)
- 200 bachelor and 130 master students
- 50-70 BSc and 50-70 MSc degrees awarded annually
- 48 professors and senior scientists (MER), >20 adjunct lecturers
- 400 course ECTS credits taught per year
- 240 PhD students and 80 BSc and MSc students working as teaching assistants.



Study Plan





M1 & M2 Chemical Engineering & Biotechnology

- Block 1: Compulsory courses
 10 credits
- Group 2: Optional courses

• Theme A: Energy

- Theme B: Biotechnology
- Theme C: Material and Food Engineering
- Others (maximum 12 credits, contact section)
- Block 3 : « Lab & projects »
 - Chemical engineering product design
 - Chemical engineering lab & project
 - Process development
 - SHS

Voluntary laboratory internships are possible by contacting research groups, but these are not credited.

22 credits

28 credits



Motivated students can apply to replace a classic TP by the manufacturing of the product they designed.

14

They are judged in part on how their product performs.





M3 & M4 Chemical Engineering & Biotechnology

Semester 3

- Internship in industry (6 months)
- Minor

30 creditspass/fail30 creditsgraded

Semester 4, Master Thesis

- Master project in ISIC lab (not possible if you took the Minor)
- Master project in another lab under responsibility of ISIC professor (not possible if you took the Minor)
- Master project in industry under responsibility of ISIC professor (not possible if you took internship)



M1 & M2 Molecular and Biological Chemistry

- Block 1: Choice of 3 modules

- Analytical and bioanalytical chemistry
- Biological chemistry & biophysics
- Computational chemistry
- Inorganic chemistry
- Organic chemistry
- Physical chemistry
- Group 2: Optional courses
 - Molecular and supramolecular science
 - Physical and analytical chemistry
 - Material science
 - Food science
 - Other
- Block 3: « Projects »

24 credits

12 credits

24 credits



M1 & M2 Molecular and Biological Chemistry

- Block 3: « Projects »

- Project in molecular sciences Ia, 6 credits
 - o In ISIC research lab, 1 day/week in autumn semester
 - Participation in interdisciplinary project, upon approval by the section
- Project in molecular sciences lb, 12 credits
 - In ISIC research lab, 2 days/week in spring semester or 28 day block during summer break
 - Participation in interdisciplinary project, upon approval by the section
- SHS

Voluntary laboratory internships are possible by contacting research groups, but these are not credited.



M1 & M2 Molecular and Biological Chemistry

Interdisciplinary "MAKE projects"

https://www.epfl.ch/education/educational-initiatives/discovery-learning-program-2/interdisciplinary-projects/





M3 & M4 Molecular and Biological Chemistry

Semester 3

- Project 2 30 credits pass/fail
 - In ISIC research lab (4 months)
 - In another lab under responsibility of ISIC professor (4 months)
 - In industry under responsibility of ISIC professor (6 months)
- Minor

30 credits graded

Semester 4, Master Thesis

- Master project in ISIC lab
- Master project in another lab under responsibility of ISIC professor
- Master project in industry under responsibility of ISIC professor (not possible if Project 2 done in industry)







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