

ENV-491 Interdisciplinary project in sustainability

Student project guide

General guidelines

- You are encouraged to do your project towards the end of your Master cycle as the aim of the project is to apply knowledge and skills learned during the minor.
- The project can be carried out during the spring or autumn semester.
- You can either join a project proposed by an EPFL unit, or propose yourself a project and find minimum one EPFL supervisor.
- The academic supervision of the project is under the responsibility of an EPFL professor or an internal lecturer.
- Partnerships with the private or public sector are welcomed and encouraged.
- You can do the project alone or in a group, at the autumn or spring semester.
- You can do the project in English or in French according to agreement with your supervisor(s).
- You should plan to work ~300 hours (about 1.5 days per week) on the project as it is worth 10 ECTS.
- At the end of your project, you may be interested in applying for the [Durabilis Award](#), given to student projects that explore issues related to sustainability.

Requirements for the project

- The topic: is relevant for the minor; is related to engineering for sustainability; involves different academic disciplines and is validated by the coordinator of the minor (as of 01.08.2023: [Charlotte Vandenberghe](#)) before the semester starts.
- The project has an academic dimension and an interdisciplinary research question.

Steps to get started

At any point in the process, you can contact the coordinator [Charlotte Vandenberghe](#) for help or advice.

1. Identify a topic of interest

Some questions that may help you in identifying a project topic:

- Is there a general topic that interests you? → Search for the research labs working on this topic. The tool [graphsearch](#); [EPFL search engine](#); [ENAC affinity map](#) or [Sustainability portal](#) can help.
- Is there a course of the minor that you loved and would like to explore further? → Think of the subject you would like to further explore and contact the teacher to ask if it would be possible.
- Is there a Professor, lab or center (c.f. list below) which focus' attracts you? → Contact the Professor leading the lab or the coordinator of the center to ask if they have student projects.
- Is there an existing project from a lab, center or a MAKE project (c.f. list below) that attracts you? → Contact the person heading the project to ask if you could join the project.
- Do you have a topic of interest for an external partner (e.g. an enterprise, a public administration, an NGO)? → Discuss this option first with your EPFL supervisor before contacting the external partner
- You want to check if your topic contributes to sustainability? → contact VPT sustainability coach: michka.melo@epfl.ch

Research laboratories involved in the courses of the minor

- [Chair of Economics & Management of Innovation \(CEMI\)](#) – Prof. Michaël Aklin | CDM
- [Chemical Processes and Materials \(GR LUD\)](#) – Prof. Christian Ludwig | ENAC
- [Engineering and Technology for Human-Oriented Sustainability \(ETHOS\)](#) – Prof. Andrew Sonta | ENAC
- [Extreme Environments Research Laboratory \(EERL\)](#) – Prof. Julia Schmale | ENAC
- [Human-Environment Relations in Urban Systems \(HERUS\)](#) – Prof. Claudia R. Binder | ENAC
- [ICT for Sustainable Manufacturing Group \(ICT4SM\)](#) – Prof. Dimitrios Kyritsis | STI
- [Industrial Process and Energy Systems Engineering \(IPESE\)](#) – Prof. François Maréchal | STI
- [Laboratory for Biological Geochemistry \(LBE\)](#) – Prof. Anders Meibom & Dr. Stéphane Joost | ENAC
- [Laboratory for Processing of Advanced Composites \(LPAC\)](#) – Prof. Véronique Michaud & Dr. Yves Leterrier | STI
- [Laboratory of Atmospheric Processes and their Impacts \(LAPI\)](#) – Prof. Athanasios Nenes & Dr. Satoshi Takahama | ENAC
- [Laboratory of Environmental and Urban Economics \(LEURE\)](#) – Prof. Philippe Thalmann | ENAC
- [Laboratory of Inorganic Synthesis and Catalysis \(LSCI\)](#) – Prof. Xu Hile | SB
- [Laboratory of Molecular Microbiology \(UPBLO\)](#) – Prof. Melanie Blokesch
- [Laboratory of Molecular Simulation \(LSMO\)](#) – Prof. Berend Smit | SB
- [Laboratory of Photovoltaics and Thin-films Electronics \(PV Lab\)](#) – Prof. Christophe Ballif | STI
- [Laboratory of Sustainable and Catalytic Processing \(LPDC\)](#) – Prof. Jeremy Luterbacher | SB
- [Lipid Cell Biology Laboratory \(UPDANGELO\)](#) – Prof. Giovanni D'Angelo
- [Solar Energy and Building Physics Laboratory \(LESO-PB\)](#) – Prof. Jean-Louis Scartezzini | ENAC
- [Structural Xploration Lab \(SXL\)](#) – Prof. Corentin Fivet | ENAC
- [Urban Sociology \(LASUR\)](#) – Prof. Vincent Kaufmann | ENAC

Relevant centers

- [Centre for Climate Action and Impact \(CLIMACT\)](#) – Dr. Nicolas Tétreault
- [EssentialTech](#) – Dr. Solomzi Makohliso
- [International Risk Governance Center](#) – Marie-Valentine Florin
- [Energy Center](#) – Dr. Yasmine Calisesi Arzner
- [Ecocloud](#) – Prof. David Atienza
- [Entreprise4society](#) – Prof. Michael Aklin
- [Swiss Polar Institute](#) – Danièle Rod
- [Alpine and Polar Environmental Research center](#) – Prof. Jérôme Chappellaz
- [Smart Living Lab](#) – Martin Gonzenbach
- [Discovery Learning Laboratories](#) – Pascal Vuilliminet

Relevant interdisciplinary research projects

- [Collaborative Research on Science and Society \(CROSS\) projects](#)
- [Solutions4Sustainability](#) projects
- [ENAC Sustainability grant projects](#)

Relevant MAKE projects

- [AgriFood](#) - max.polzin@epfl.ch
- [Carbon team](#) - contact@epflcarbonteam.ch
- [Genorobotics](#) - nicolas.adam@epfl.ch
- [Re-use and Low tech in urban area](#) - rebuilt@unipoly.ch
- [Sail low tech](#) - contact@sailowtech.ch

- [Swiss Solar Boat - contact@solar-boat.ch](#)
- [Citizen activation for the rebuilt pavilion](#) – Laura Ferrarello

2. Find a supervisor

- The academic supervision of the project is under the responsibility of an EPFL professor or an internal lecturer.
- PhD students or scientific collaborators in an EPFL central unit (e.g. EPFL sustainability) and teachers at another university can act as co-supervisor if relevant.
- It is recommended to have two supervisors for group projects.
- To find supervisors, you can use [graphsearch.epfl.ch](#) by entering keywords on your topic of interest (for example “circular economy”, “carbon sequestration”, etc.) or searching by via [EPFL search engine](#).

3. Validate and register your project

- Send your project idea to the coordinator of the minor Charlotte Vandenberghe (charlotte.vandenberghe@epfl.ch) to validate it.
- Once the coordinator has validated the project idea and its supervision mode, register it on IS-Academia: enter the title of the project and name(s) of the (co-)supervisor(s).

Calendar

The project is organized around the following indicative milestones:

1. **Topic choice:** You should choose your project topic before the start of the semester.
2. **Project validation:** Before or in the two first semester weeks, the project should be validated by the supervisors as well as the coordinator of the minor.
3. **Registration:** The registration deadline on IS-Academia is the same as for all other courses (i.e. before the end of the second week after the start of the academic semester). You have to register your project in your study plan on IS-Academia.
4. **Mid-term report:** At the middle of the semester, a mid-term report or presentation should be delivered.
5. **Final report and deliverables:** The deadline for the project deliverables is one week after the end of the semester, unless agreed otherwise with the supervisor.

Past Projects

Please consult our webpage to see the list of past projects:

<https://www.epfl.ch/schools/enac/education/interdisciplinary-teaching/interdisciplinary-minors/minor-in-engineering-for-sustainability/>