

BIO-506

Lab immersion in industry

Profs divers *

Cursus	Sem.	Type
Life Sciences Engineering	MA1, MA2, MA3, MA4	Opt.

Language of teaching	English
Credits	22
Withdrawal Session	Unauthorized Winter, Summer
Semester Exam	Fall During the semester
Workload	660h
Weeks	14
Hours	22 weekly
Project	22 weekly
Number of positions	

Il n'est pas autorisé de se retirer de cette matière après le délai d'inscription.

Summary

Engaging in a hands-on wetlab and/ or computational project in life sciences engineering, students develop skills in experimentation and data analysis.

Content

The research project is carried out full time during one semester in a company located in Switzerland or abroad.

Learning Outcomes

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

- Conduct experiments relevant to the specific problem
- Implement appropriate technologies to address the scientific problem
- Optimize experimental protocols
- Develop expertise in a specific research area
- Analyze and interpret data from wetlab and computational experiments
- Plan experiments to test hypotheses based on results
- Manage an individual research project

Transversal skills

- Use a work methodology appropriate to the task.
- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Assess progress against the plan, and adapt the plan as appropriate.
- Continue to work through difficulties or initial failure to find optimal solutions.
- Demonstrate the capacity for critical thinking
- Keep appropriate documentation for group meetings.
- Take feedback (critique) and respond in an appropriate manner.
- Write a scientific or technical report.

Expected student activities

Registration procedure

1. Find a research project in the field of life sciences engineering in a company located in Switzerland or abroad. Non-research activities are not allowed.
2. Find an EPFL supervising professor who will follow and grade the work.
3. Submit the signed form to the SV section for approval via the LSE support platform. You cannot start the lab immersion before its approval.

Remarks

- To complete the Master within two years, it is recommended to do the lab immersion in industry during the third semester (fall), i.e after validation of SHS group in first (fall) and second (spring) semester.
- The optional lab immersion in industry can be done in conjunction with the mandatory industry internship. The lab immersion in industry does not replace the industry internship.
- Only one 22 ECTS lab immersion outside EPFL is allowed (either in industry or in academia, not both).
- If you choose the lab immersion in industry, the Master thesis must be done in academia.
- No more than 30 ECTS can be taken from lab immersions-semester projects (including a minor project). For students who take iGEM lab or iGEM no more than 24 ECTS can be taken from lab immersions-semester projects.
- Students with a Bachelor degree from another university must earn at least 90 ECTS at EPFL. Therefore, they can spend outside EPFL: either the 22 ECTS lab immersion or the Master thesis project, but not both.

Assessment methods

Continuous control: two scientific reports

Report deadlines

- 1st report mid-term (week 7)
- 2nd report end of semester (week 14)
- Failure to submit a report, or late submission, can result in a 'non-acquis' (NA), i.e., non-award of the ECTS

Assessment procedure

1. Both reports (pdf) are signed by the student and head of host laboratory
2. The student submits the signed reports to the EPFL supervising professor
3. The EPFL supervising professor will evaluate the reports and transmits the result (pass-fail) to the SV section (master.lse@epfl.ch) within one week after the deadlines
4. The head of the host laboratory completes the confidential evaluation form and sends it to the SV section (master.lse@epfl.ch) within two weeks after submission of the second report