BIO-511 **IGEM lab**

McCabe Brian

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

Language of teaching	English
Credits	6
Withdrawal	Unauthorized
Session	Winter, Summer
Semester	Fall
Exam	During the semester
Workload	180h
Weeks	14
Hours	**6 weekly**
Labs	6 weekly
Number of positions	

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

Remark

Inscription sur dossier d'application, merci de vous inscrire sur ISA qu'après avoir reçu l'accord de la section. iGEM lab can only be taken by students who validated iGEM as a bachelor project

Summary

An interdisciplinary EPFL student team will design and build genetic circuits with novel functionalities. Students learn to develop a project and carry it out to completion in a concrete manner. Their creativity and critical thinking are highly encouraged.

Content

The team will model and ultimately build the proposed genetically engineered machine in the wet-lab portion of the project during the summer.

Learning Outcomes

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

- Discuss the definition of synthetic biology and how this discipline enables the engineering of biological systems
- Develop a project/idea and generate a roadmap on how to execute this project
- Conduct independent experiments in a research lab
- Organize themselves to finish a research project
- Present and defend a research project in front of a panel of international judges
- Operate in a multidisciplinary group having acquired both leadership and team spirit-oriented skills
- Assess / Evaluate project and to contribute to this project in creative fashion
- Discuss synthetic biology, clarifying its pros and cons

Transversal skills

- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Set objectives and design an action plan to reach those objectives.
- Communicate effectively with professionals from other disciplines.

- Give feedback (critique) in an appropriate fashion.
- Demonstrate a capacity for creativity.
- Demonstrate the capacity for critical thinking
- Make an oral presentation.
- Write a scientific or technical report.

Assessment methods

Written report and oral presentation.