PENS-231

Adventure on Planet B

Duran Sala Marc, Garcia Tello Pablo, Hendrick Martin Pierre E, Manoli Gabriele

Cursus	Sem.	Type
Projeter ensemble ENAC	BA4	Opt.

Language of teaching	English
Credits	4
Withdrawal	Unauthorized
Session	Summer
Semester	Spring
Exam	During the semester
Workload	120h
Weeks	
Hours	**48 weekly**
Courses	4 weekly
Exercises	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

This course will take students on a cosmic journey and then back to Earth to reflect on planetary challenges and their solutions.

Content

Are you ready to embark on a journey that will challenge your knowledge, skills and abilities to the next level? During this course you will (hypothetically) travel to an exoplanet (Planet B) where genetically modified fungi are used as construction materials. During the mission, something unexpected will happen (a fungi invasion!) and you will have to find a solution by pushing the boundaries of traditional thinking. To tackle this challenge you are going to work in interdisciplinary teams, bring all your knowledge and expertise in natural sciences, engineering, and design together and collect the learnings for the trip back to Planet Earth - where other invasive species exist... Your mission will start at CERN IdeaSquare in Geneva and will continue at EPFL.

Keywords

Planetary centric design, planetary boundaries, ecological overshoot, species competition, sustainability, territorial planning

Learning Prerequisites

Required courses

N/A

Recommended courses

N/A

Learning Outcomes

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

- Elaborate quantitative and qualitative assumptions and orders of magnitude estimations
- Transpose knowledge across disciplines and contexts
- Identify questions and hypothesis in high levels of uncertainty

- Negotiate with peers on complex problems and decisions
- Reason on complex processes, interactions, and trade-offs

Transversal skills

- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Communicate effectively with professionals from other disciplines.
- Communicate effectively, being understood, including across different languages and cultures.
- Identify the different roles that are involved in well-functioning teams and assume different roles, including leadership roles.
- Negotiate effectively within the group.
- Take responsibility for environmental impacts of her/ his actions and decisions.
- Demonstrate a capacity for creativity.

Teaching methods

Short presentations, teamwork, and discussion

Assessment methods

A final 'output' based on the students' mission, research, and enquiry will be assessed.

Resources

Moodle Link

- https://go.epfl.ch/PENS-231