Syllabus – Elective Course

Course title:

Understanding the challenges of climate change

Credits:

6 ECTS credits

Teaching language:

English

Target students:

Undergraduate students from all study areas with an interest in learning about climate change (causes, consequences, and solutions) and discussing the many challenges it poses.

Teacher in charge of the course:

AMAND Aymeric (Sandbag Climate Campaign ASBL & European Climate Pact)

COURSE PRESENTATION

Prerequisite:

To take this course, the students should have a good university level and should normally have completed at least one semester at university. Students should have a minimum scientific background. They must have some ability to work as a group and be able to communicate easily in English at a standard university level. In other respects, the course is intended to serve a mix of profiles and learning backgrounds for a more diverse international learning experience.

CONTENT:

Climate change is one of the main challenges we are facing worldwide. This course will provide students with a better **understanding of the causes and consequences of climate change**, as well as an overview and discussion on **adaptation and mitigation strategies**.

Topics to be covered will include the following questions:

- How does the **Climate System** work? What are the **phenomena** behind Climate Change? What are the **causes**/who is responsible for?
- What are the **evidences** of Climate Change? What can we already **observe**?
- What are the **climate projections** for 2050 – 2100 horizons? How are climate projections **modelled**?
- What are the expected **impacts** of climate change?
- What are the possible **mitigation and adaptation strategies**? How can we **act**? What are the current **objectives**?

The study of the impacts of climate change as well as of possible adaptation and mitigation strategies will mostly rely on examples at the **European level**. They will be illustrated with specific case studies highlighting challenges in **carbon-intensive sectors (energy, food, and transport)**.

Join this course, as having a thorough understanding of the causes and consequences of climate change is a first step to raise awareness and make a change!

Learning Outcomes:

At the end of the course, the students should be able to:

- Understand the main causes and consequences of climate change
- Communicate and explain the causes and consequences of climate change to various audiences → Be an ambassador to raise awareness
- Provide arguments on the evidence of climate change and stress the urgency to act at all levels
- To read and analyse climatic data
- Describe the main strategies that could be implemented at different scales to adapt and mitigation climate change, and the current objectives
- Debate and decipher the news on the subject

WORKLOAD

French contact hours = 60 minutes (in some countries/institutions, 1 contact hour = 45-50 minutes)

Climate Change:

Form:	**Number of hours**	**Comments**
Face-to-face lectures, in-class, on-site learning	24 hours	1. Fundamentals of the climate system, understanding the causes of climate change 2. Analysis of the impacts of climate change 3. Adaptation and mitigation strategies, politics and policies of climate change 4. Climate change communication 5. Local and individual actions
Activities in class	9 hours	1. Two interactive workshops 2. EU simulation game 3. Debates & presentations 4. Exercises with climate data
Visit	6 hours	Academic related site visits
Approximate personal work / homework	7 hours	Including group project preparation
Student total workload	**46 hours**	

EDUCATIONAL METHODS

The course will include various interactive teaching modalities:

- Lectures
- Innovative activities – including game formats (climate collage), debates, …
- Group work
- Activities (climate data analysis, carbon footprint calculation, EU simulation game, …)
- Discussions
- Visit and/or professional expertise sharing: a couple visits and/or lectures from **important local/EU actors** will be proposed.

RESOURCES

All course materials will be supplied in class. References may be made to the following resources:

- Data and reports from IPCC
- Climate data from Météo-France and the DRIAS Plateform
- Scientific literature on climate change
- EU legislation, EU official documents and studies

ASSESSMENT

Climate Change:

Form	**Number**	**Comments**
Individual presentations (40%)	2	Short individual presentations on given topics
Group work (40%)	1	Group presentation covering multiple aspects of course
Others (student participation…) (20%)		Attendance, participation, and contribution to group discussion

This syllabus is based on information available at the time of publication (March 2024). Changes may occur.

For updated information about course content, please contact us: lilleprograms@univ-catholille.fr