



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 about its challenges.

Teacher in charge of the course:

DESMYTTRE Hélène (Junia, Université Catholique de Lille)

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. 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** and give them the opportunity to **explore adaptation and mitigation strategies**, and **how to take actions at different levels**.

The course will focus on 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 calculate a **carbon footprint** and how to reduce it?
- What are the **specificities** by sector: example of Agriculture?
- How can we **act** at different levels: individual & collective?
- How to counter **climate-sceptic arguments** and **inaction**?

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:

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

- 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/levers that could be implemented at different scales to adapt and mitigation climate change, and the current objectives.

WORKLOAD

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

Form	Number of hours	Comments
Face-to-face, in-class, on-site learning	12 hours	■ Fundamentals of the climate system, understanding the causes of climate change ■ Analysis of the impacts of climate change
Activities in class	21 hours	■ Numerous interactive workshops ■ Debates & presentations ■ Exercises with climate data ■ Case studies activities
Group or individual oral presentation	6 hours	■ Short students' presentations ■ Group work oral presentation
Approximate personal work / homework	6 hours	Group work to prepare the final presentation
Student total workload	45 hours	(including 39 hours of class + 6 hours of personal work)

EDUCATIONAL METHODS

The course will include various interactive teaching modalities:

- Lectures.
- Workshops – including serious games format, debates, ...
- Group works.
- Activities (climate data analysis, carbon footprint calculation, case studies...).
- Discussions.

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 Platform.
- Scientific literature on climate change.
- “La fresque du Climat”.
- “2 tonnes”.
- “Les ateliers de l’Adaptation au Changement Climatique”.

ASSESSMENT

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

This syllabus is based on information available at the time of publication (October 2025). Changes may occur.

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