

Course number	U-LAS70 10002 SE50				
Course title (and course title in English)	ILAS Seminar-E2 :Climate change impacts on the humanosphere (気候変動が生存圏に与える影響) ILAS Seminar-E2 :Climate change impacts on the humanosphere	Instructor's name, job title, and department of affiliation	Research Institute for Sustainable Humanosphere Professor,Luce , Hubert		
Group	Seminars in Liberal Arts and Sciences	Number of credits	2	Number of weekly time blocks	1
Class style	seminar (Face-to-face course)	Year/semesters	2025 ・ Second semester	Quota (Freshman)	5 (5)
Target year	Mainly 1st year students	Eligible students	For all majors	Days and periods	Fri.5
Classroom	23, Yoshida-South Campus Bldg. No. 1			Language of instruction	English
Keyword	Climate change / environmental impacts / socio-economic impacts				

[Overview and purpose of the course]

This seminar will provide an overview of our knowledge of current climate change, its causes, and its observed and potential environmental and socio-economic impacts. Within the framework of the Sustainable Development Goals (SDG13: Climate Action) of the United Nations, possible strategies to either adapt to or mitigate climate change will be presented and discussed. The lecture is partly based on information from the reports of the Intergovernmental Panel on Climate Change (IPCC) and used in popular scientific works.

[Course objectives]

Students will gain an in-depth understanding of the issue of climate change and its causes in relation to our development model, which is essentially based on the use of non-renewable fossil fuels and raw materials. They will be able to discuss the issue in English from an informed point of view. This will be done through individual or group projects to focus on a particular aspect covered during the sessions. “ Real time ” discussions will be organized around the themes addressed by the Conference Of Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC), held every year in November.

[Course schedule and contents]

1. (Weeks 1-3)
Introduction: The anthropogenic causes of the current climate change
 - The increasing impact of human activities on the environment.
 - The fossil fuels: Sources of considerable progress, why have they become a problem?
2. (Week 4-5)
An in-depth description of the physical mechanisms responsible for climate change.
3. (Weeks 6-8)
Environmental impacts
 - Extreme weather events: floods, droughts, storms, ...
 - Oceans and cryosphere: sea level rise, acidification, ice melt, ...
 - Biosphere: Species migration, habitat loss, extinctions, ...
 - lands: degradation, wildfires, permafrost melting, ...

4. (Week 9)

The potentially most affected regions by the climate change:

- The polar regions
- The coastal regions
- The semi-arid regions

5. (Weeks 10-11)

Socio-economic impacts

- Agricultural disruption and freshwater issues
- Health risks
- Economic losses
- Livelihood, migration, conflicts

6. (Weeks 12-14)

Discussion sessions

- Solutions to climate change?
- How to define responsibilities?
- Adaptation, mitigation, loss and damage.
- The complex issue of “ energy transition ”

7. (Week 15)

Final examination.

8. (Week 16)

Feedback.

[Course requirements]

This seminar does not require prior knowledge on the topic and is mainly based on graphics and documents to interpret.

[Evaluation methods and policy]

Evaluation will be:

Active participation in class: 40 pts

Assignments/projects at home: 30 pts

Final examination: 30 pts

[Textbooks]

Not used. Slide handouts will be distributed.

[References, etc.]

(**References, etc.**)

Mainly, Intergovernmental Panel on Climate Change (IPCC) reports.

[Study outside of class (preparation and review)]

Materials (pdf files) will be made available before class.

Students are encouraged to study the materials before and after each class in order to assimilate technical or uncommon words.

Depending on the topic, the study of the materials and the preparation of the report for the evaluation may

take several hours per week.

[Other information (office hours, etc.)]

Materials (pdf files) are available on the Kulasis website. Email communication is available for questions outside of class time.