Course number		U-LAS70 10002 SE50								
Course title (and course title in English)	Issues (地球環境問題) Instructor's name, job title,					Graduate School of Agriculture Professor,Daniel Epron				
Group	Seminars	s in Liberal Arts	and Sciences	Numb	er of credits	2		Number of weekly time blocks		1
Class style semin (Fac		nar e-to-face course)	Year/sem	esters	2025 • First ser			Quota (Freshman)		5 (15)
Target year	Mainly	y 1st year students	Eligible stude	ents F	For all majors			ys and riods	Mon.5	
Classroom	3A, Yoshida-South Campus Academic Center Bldg. North Wing Language of instruction English									
Keyword	Climate change / Land degradation / Deforestation / Resource depletion / Biodiversity loss									

# [Overview and purpose of the course]

Several environmental problems preoccupy peoples around the world. They result from conflicts between natural and human systems, affect our daily life and compromise our future. This seminar will explore how several environmental issues are addressed at the regional, national or international level, and how ecology and environmental science are used as a basis for addressing and tackling these issues.

# [Course objectives]

Upon successful completion of this seminar, students will (i) have a basic scientific understanding of the major environmental issues, and will be able (ii) to critically assess these issues and (iii) to develop decision-making skills for proposing sustainable options for the future.

# [Course schedule and contents)]

The course will be based on in-depth analyses of several case studies that will be related to either:

- Climate change: vulnerability, adaptation and mitigation
- Heat waves and urban heat islands
- Air pollution: ozone in the troposphere
- Air pollution: input of nitrogen from the atmosphere to the biosphere
- Water pollution: eutrophication of aquatic ecosystems and scarcity of fresh water resources
- Water pollution: pesticides and endocrine disruptor
- Land degradation and restoration
- Deforestation
- Resource depletion: overfishing and fishing allowance
- Habitat fragmentation and endangered species

The first class will be an introduction and overview of course content. We will review the major environmental issues through reading a scientific paper. Students will work either alone or in small teams on one of these subjects they will select. They will have to read in depth relevant scientific papers, first provided by the instructor and then found by the students. Students will prepare oral presentations based on the paper 's content to the group at the next class as a starting point for a discussion. For all subjects that will be analyzed simultaneously, the guideline of the course will be (i) problem definition, (ii) quantification of impacts, (iii) vulnerability assessment and (iv) identification of appropriate solutions to solve it.

### ILAS Seminar-E2:Global Environmental Issues (地球環境問題)(2)

- (1) Introduction and selection of case studies [1 week]
- (2) Problem definition [2-3 weeks]
- (3) Quantification of impacts [3-4 weeks]
- (4) Vulnerability assessment[3-4 weeks]
- (5) Identification of appropriate solutions [3-4 weeks]
- (6) Final restitution [1week]
- (7) Feedback [1week]

Total:14 classes and 1 feedback

## [Course requirements]

None

## [Evaluation methods and policy]

Grading: Class participation (20%, students are expected to actively participate in discussion), oral presentation (40% during the class hours), written report (40%).

In no case will English language proficiency be a criterion for evaluating students.

Class attendance is expected: students who are absent more than three times without sound reasons (documented unavoidable absence) will not be credited.

#### [Textbooks]

No textbooks; reading materials will be distributed before the class (uploaded on PandA).

#### [References, etc.]

### (References, etc.)

Reference books will be suggested to each student according to the subject she/he select and her/him interest

## [Study outside of class (preparation and review)]

Students are expected to read the distributed articles, to find additional information and to prepare oral presentations. Works on project outside of class hours is expected (about three hours between two classes).

## [Other information (office hours, etc.)]

Students are encouraged to ask questions and to make comments during the class.

Students are welcome to arrange appointments by email, even outside the official office hour, for questions and discussion