

BIO200LA

Add

Natural Science A

Shinsuke UNO

Class code etc

Outline and objectives

The UN 2030 Agenda for Sustainable Development, or Sustainable Development Goals (SDGs) have come to be recognized as common tasks for the human society, which is, in a way, a manifestation of the severity of various problems we as a species are faced with. In light of this current situation, this course focuses on the concept of "sustainability" so as to provide students with an opportunity to learn about basic scientific aspects of environmental problems and also to learn about relevant social issues in an attempt to provide a view from a wider perspective.

Goal

This course is designed to teach about ecological and social issues. Therefore, the course objectives are 1) to understand basic scientific concepts required to comprehend various environmental problems, 2) to understand social problems related to the environmental problems dealt with in this course, and 3) to form personal perspective and opinion about the current state of human society by understanding the interrelated nature of the environmental and socioeconomic problems.

Default language used in class

英語 / English

Method(s) (学期の途中で変更になる場合には、別途提示します。 /If the Method(s) is changed, we will announce the details of any changes.)

Although this course deals with various topics from the perspective of "sustainability", the course is divided roughly into two parts. In the first part, students will learn about the basic features of ecosystem and biodiversity, that is to say, the natural world that surrounds us and provides us with essential resources. The second part will focus on environmental and social problems related to agriculture (food production) and use of other natural resources in order to explore our personal involvement in these issues.

The course will be taught mainly in lecture-style classes, however, there will also be opportunities for students to actively participate in class through, for example, group activities and discussion. In addition to in-class interactions, students will utilize the learning assistance system (Hoppii) to express their opinions/reactions and to submit questions regarding the materials presented in each class so as to help the instructor to grasp students' progress as well as to address their concerns, as needed. Note that, if the university's action policy level is set to 2, in principle, this class will be taught online via zoom. Details will be announced via the "Hosei portal to pick up information (Hoppii)".

Active learning in class (Group discussion, Debate.etc.)

あり / Yes

Fieldwork in class

なし / No

Schedule

Week 1 : Understanding sustainability and basic features of ecosystem

As an introduction to the course, the concept of sustainability and the basic features of ecosystem will be discussed.

Week 2 : Atmospheric changes and their consequences

In light of the ongoing "climate crisis", the composition of the Earth's atmosphere and consequences of atmospheric changes will be discussed.

Week 3 : Water cycle and the use of water resource

Water will be focused as an essential matter for sustaining life and ecosystem, and the water cycle and use of water resource will be discussed.

Week 4 : Energy supply

Energy supply in ecosystem and energy issue in the human society will be discussed.

Week 5 : What is "soil"?

The importance of soil in an ecosystem will be discussed in relation to ongoing environmental problems

Week 6 : What is biodiversity and why is it important?

Basic features and current state of biodiversity will be discussed in relation to its importance for the human society.

Week 7 : Applied ecology for sustainable resource management

Group activity is used to integrate the concepts learned in the previous lectures and apply them to ecological problem solving.

Week 8 : Ecological issues of modern agriculture

Positive and negative impacts of agricultural modernization will be discussed.

Week 9 : Food production and environmental conservation

Approaches to achieving food security without degrading environment will be discussed with concrete examples.

Week 10 : Is resource development sustainable?

Focusing on mineral resources, issues related to demand and supply of natural resources will be discussed.

Week 11 : Consequences of "unwanted" development

Environmental and social problems caused by "development" in the developing world will be discussed.

Week 12 : Understanding multi-stakeholder problem solving

Group work will be used to integrate the concepts learned in the previous lectures and apply them to socio-ecological problem solving.

Week 13 : Toward a sustainable society

Alternative models that may help build a sustainable society will be discussed.

Week 14 : What is happening in the global environment and where do we go from here?

The course contents will be reviewed to grasp the current state of the global environment, and future prospects will be discussed.

Work to be done outside of class (preparation, etc.)

Students are expected to review contents of individual lectures, thoroughly read distributed reading materials, and utilize the online learning support system as needed. Standard amount of time to be spent for this purpose are two hours each for preparation and review.

Textbooks

None. Reading materials will be distributed as needed.

References

To be announced as needed.

Grading criteria

Student performance will be graded based on quizzes (40 %), a final assignment (40 %), and participation (20%). Quizzes will be used to evaluate understanding of course materials (Course objectives 1 and 2). The final assignment will be an opportunity for students to demonstrate their understanding of the course material by presenting their personal analysis/opinion about the current state of human society (Course objective 3). Participation will be used to evaluate student performance in each class and in-class activities.

Changes following student comments

Although it is not always possible to strike a good balance between lecture and active student participation, additional efforts will be made to make the course more participatory.

Equipment student needs to prepare

Students will need to secure access to Hoppii.

Students will also need to be able to participate in online class, as needed.

PC site	Hosei University Center for Higher Education Development and Support HP (SYLLABUS.PDF)	Help	About Numbering code
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