

# 環境と生態 I

科目ナンバリング ECE-103

【Ⅶ】 選択 2単位

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## 1. 授業の概要(ねらい)

1) [Environmental ecology I and II] include a study of the environment and living organisms, and how they interact with their physical environment. Topics to be covered in the course include environmental systems, biodiversity, population ecology, community ecology, renewable and nonrenewable energy sources, sustainable cities, as well as other related themes.

2) The course will begin with basic knowledge to enable students from different backgrounds to cope with the teaching materials.

## 2. 授業の到達目標

Students are expected to be able to:

- 1) understand and explain the environmental problems and systems.
- 2) understand and explain ecological principles and sustainability.
- 3) understand and explain sustaining biodiversity.

## 3. 成績評価の方法および基準

1. Term-end written exam will be held (totally 60 points).
2. Quizzes throughout the whole course will be conducted (totally 30 points).
3. Activities and participation though classes (totally 10 points).

## 4. 教科書・参考文献

教科書

Michael Begon, Robert W. Howarth, Colin R. Townsend Essentials of Ecology 4th Wiley

参考文献

Jay H. Withgott, Matthew Laposata Essential Environment: The Science Behind the Stories 6th Pearson

## 5. 準備学修の内容

[Prior the class]

Students are highly encouraged to read the relevant chapters from the reference book in advance, to ensure the maximum benefits of the class. They should not hesitate to contact the instructor for any further explanation if needed.

[Post the class]

Students are required to read the taught subjects at home.

## 6. その他履修上の注意事項

## 7. 授業内容

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| 【第1回】  | An overview and guidance                                 |
| 【第2回】  | Environmental problems, their causes, and sustainability |
| 【第3回】  | Environmental Systems: matter, energy, systems           |
| 【第4回】  | Ecosystems and restoration ecology                       |
| 【第5回】  | Biodiversity and evolution                               |
| 【第6回】  | Biodiversity, species interactions, population control   |
| 【第7回】  | Evolution, biodiversity, population ecology              |
| 【第8回】  | Species interactions and community ecology               |
| 【第9回】  | Economics, policy, sustainable development               |
| 【第10回】 | Human population and its impact                          |
| 【第11回】 | Soil, agriculture, the future of food                    |
| 【第12回】 | Biodiversity and conservation biology                    |
| 【第13回】 | Forests, forest management, protected areas              |
| 【第14回】 | Visitor/dental ecology                                   |
| 【第15回】 | Term-end exam  |