Subject	Aquatic Plant Ecology (水圏植物生態学)	Day/Period	1st quarter Tue./1st~2nd	Object	AMB/JYPE
Instructor	M. Aoki (Professor)	Categories	Specialized Subjects	Preferable Participants	2nd-year & JYPE students
Position	Faculty of Agriculture (Graduate School of Agricultural Science)			Credits	2
				Semester	5
Subject Numbering	ABS-APS343E			Language Used in Course	English

1. Class subject
The ecology of giant kelp forests

2. Object and summary of class
This course provides the basic knowledge about the community ecology of marine kelps through the readings of some chapters related to the ecological topics in the book 'The biology and ecology of giant kelp forests' by Schiel & Foster (2015).

3. Keywords
Kelp forest, Sea urchin, Barren, Grazing, Population dynamics, Production, Rocky subtidal ecosystem, Phase shift Global warming

4. Goal of study
The goal is to understand the structure and function of marine kelp communities through the study of the ecology of giant kelp forests.

5. Contents and progress schedule of class
   (1) Introduction
   (2) The abiotic environment-1: Substratum and sedimentation
   (3) The abiotic environment-2: Temperature, light and nutrient
   (4) The abiotic environment-3: Water motion
   (5) Dispersal and connectivity of populations-1: Demography and metapopulations
   (6) Dispersal and connectivity of populations-2: Reproductive output and source of propagules
   (7) Dispersal and connectivity of populations-3: Spore dispersal and recruitment windows
   (8) Session review-1
   (9) Grazing in kelp communities-1: Kelp-sea urchin interactions
   (10) Grazing in kelp communities-2: Reversion of barrens to kelp habitat
   (11) Grazing in kelp communities-3: Other grazers in giant kelp communities
   (12) Predation and trophic cascades-1: Fish predation on grazers
   (13) Predation and trophic cascades-2: Lobster predation on grazers
   (14) Predation and trophic cascades-3: Sea otter predation on grazers
   (15) Session review-2

6. Preparation
   Read the relevant chapters in the textbook in advance.

7. Record and evaluation method
   Report and attendance

8. Textbook and references
   Reference texts:
   Schiel DR and Foster MS (2015) The biology and ecology of giant kelp forests. University of California Press

9. Self study
   Review is required.

10. Practical business

11. In addition
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