Subject	Introduction to Fisheries Science （水産科学概論）	Day/Period	Fri./2nd	Object	AMB/JYPE
Instructor (Post)	T. Unuma (Prof.) et al.	Categories	Specialized Subjects	Preferable Participants	2nd-year & JYPE students
Position	Faculty of Agriculture (Graduate School of Agricultural Science)			Credits	2
				Semester	4
Subject Numbering	ABS-APS255E			Language Used in Course	English

1. Class subject
Introduction to Fisheries Science

2. Object and summary of class
This course provides an overview of fisheries science. Students will learn the fundamentals of fisheries science as it relates broadly to marine biology, from molecules to ecosystems.

3. Keywords
Fisheries science, fundamentals, overview

4. Goal of study
The goal is to understand the fundamentals of fisheries science from ecology, physiology, genetics, molecular biology and evolution, and to appreciate fisheries science as it relates to applied marine biology.

5. Contents and progress schedule of class
The following lectures will be given, but the order is yet to be determined.
1. “How to cultivate quality sea urchins” (T. Unuma)
2. “Reproductive physiology of bivalves” (K. Nagasawa)
3. “How to know the fish age” (S. Katayama)
4. “How to know the fish migration” (S. Katayama)
5. “Ecology of herbivorous crustaceans” (M. Aoki)
6. “Ecology of floating seaweeds” (M. Aoki)
7. “Food chemistry of fish and shellfish” (T. Nakano)
8. “Probiotics and bioactive substances in fish" (T. Nakano)
9. “Southern ocean research and Antarctic environment” (W. Sato-Okoshi)
10. “Plankton in the ocean” (G. Nishitani)
11. “Flatfish metamorphosis and aquaculture” (H. Yokoi)
12. “Genetic conservation and sustainable use of resources in aquatic organisms” (M. Nakajima)
13. "Evolution and fisheries resources" (M. Ikeda)
14. "Coastal ecosystem dynamics and fisheries resources" (T. Fujii)
15. “Molecular phylogenetics: Tools and applications” (C. Ames)

6. Preparation
None in particular.

7. Record end evaluation method
Evaluation will be based on the quality of the reports submitted in response to the lectures given by the instructor.

8. Textbook and references
None in particular.

9. Self-study
tudent should review the lecture contents thoroughly using the handouts.

10. Practical business

11. In addition
If students have questions about a lecture, they can ask the instructor by e-mail or visit his/her office after asking for his/her availability in advance.
E-mail: tatsuya.unuma.b8@tohoku.ac.jp (T. Unuma).