

Subject	Introduction to Fisheries Science (水産科学概論)	Day/Period	Fri./2nd	Object	AMB/JYPE
Instructor (Post)	M. Ikeda (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 <b>Introduction to Fisheries Science</b>					
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 <b>Topics on marine ecology and oceanography</b> 1. "The ecology of floating seaweeds" (M. Aoki) 2. "Distributional pattern of seaweeds" (H. Suzuki) 3. "How to know the fish age" (S. Katayama) 4. "How to know the fish migration" (S. Katayama) 5. "Benthos adapted to marine environments" (W. Sato-Okoshi) 6. "Coastal ecosystem dynamics and fisheries resources" (T. Fujii) 7. "Plankton in the ocean" (G. Nishitani) <b>Topics on physiology, biochemistry and genetics of aquatic organisms</b> 8. "Immunity in marine invertebrates" (T. Unuma) 9. "Manipulation of reproduction in bivalve mollusks" (T. Unuma) 10. "Food chemistry of fish and shellfish" (T. Nakano) 11. "Probiotics and bioactive substances in fish" (T. Nakano) 12. "Genetic conservation and sustainable use of resources in aquatic organisms" (M. Nakajima) 13. "Biological sequence comparison methods" (Y. Sakai) 14. "Evolution and fisheries resources" (M. Ikeda) 15. "Molecular phylogenetics: Tools and applications" (C. Ames)					
6. Preparation Refer to recent topics in each field.					
7. Record and evaluation method Attendance and paper. Papers in which the contents of each lecture are organized should be directly submitted to the "Classroom" by the next lecture. The final report should be submitted within a week of the final lecture.					
8. Textbook and references No textbook. References (books, articles, videos) will be provided					
9. Self-study Summarize the content of each class promptly.					
10. Practical business					
11. In addition Questions, comments, and requests should be sent to the representative instructor, Prof. Ikeda: minoru.ikeda.a6@tohoku.ac.jp					