

COURSE DETAIL

MARINE BIOTECHNOLOGY

Country

Japan

Host Institution

Tohoku University

Program(s)

Engineering and Science

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Biological Sciences

UCEAP Course Number

103

UCEAP Course Suffix**UCEAP Official Title**

MARINE BIOTECHNOLOGY

UCEAP Transcript Title

MARINE BIOTECH

UCEAP Quarter Units

3.00

UCEAP Semester Units

2.00

Course Description

This course examines developmental biology of fish, molecular engineering in fish, and bioinformatics using computer and web sites. The course covers fundamental issues of genetic engineering and genomics in fish, and bioinformatics necessary for future researches in the fields of marine biotechnology. Topics during the class include: embryonic development in fish; forward genetics (Mutant library, Positional cloning); reverse genetics (Knockout fish, TALEN, CRISPR/Cas9); other basic techniques essential for fish biotechnology; fish genomes; practical training using computer (BLAST search, Multiple alignment, Phylogenetic tree, PubMed, Ensembl), larval and metamorphic development; transgenic fish.

Language(s) of Instruction

English

Host Institution Course Number

ABS-APS346E

Host Institution Course Title

MARINE BIOTECHNOLOGY

Host Institution Campus

Tohoku University

Host Institution Faculty

Host Institution Degree

Host Institution Department

Agriculture

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