Module Code	18349044	Course Term
Course Subject Name	**Bioresource and Bioenvironment Experiment and Practice 1**	Autumn Semester
Course Tutor	**Tse Ka Fai William**	
Credit	1	Taught Day
Schools	School of Agriculture	Intensive
Taught Year	The 3rd year	
Campus	Ito campus	
Subject Area	Experiment and Practice	
Course Subject Classification	Fieldwork Practice Subjects	
Course Requirements	None	
Course Requirement (Pre-requisite)	Basic Laboratory Experiments in Natural Science	

Course Outline

In this course, students will learn experimental techniques and their fundamentals of cellular and molecular biology related to bioresource and bioenvironmental sciences.

key words

cell biology, molecular biology, experiment

Study Objectives (General)

Students are expected to understand background of experiments on molecular and cellular biology, including RNA preparation, cDNA synthesis, PCR, and tissue staining with antibodies.

Study Objectives (Specific)

A. Students will gain fundamental skills of experiments on molecular and cellular biology.
B. Students will develop skills in critical thinking and research design

Course Plan

1. Introduction of basic laboratory equipment, and how to make chemical solution
2. Cell death staining
3. Whole-mount in-situ hybridization
4. Immunocytochemistry staining
5. Primer design and total RNA extraction
6. RNA quality and cDNA synthesis
7. Polymerase chain reaction (PCR) and gel electrophoresis
8. Western blotting

Course Approaches	Experiments and Practice
Textbooks	Teaching material will be given in classes
Reference Books	Bioresource and Bioenvironment Experiments and Practice Laboratory Manual, Ed. by Int. Undergraduate Program in Bioresource and Bioenvironment, Kyushu University (2012)
Study consultation (office hour)	Office Hours: By email or appointment Email: kftse@agr.kyushu-u.ac.jp
Exams/Results Evaluation Method	1.Reports (50%) 2. Class participation (50%)
Others	Full attendance is required in this intensive course