

# Experiments in Biology

Syllabus Number

5E189

Special Subjects

Elective 1 credit

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## 1. Course Description

In this course, we will take 7 basic experiments using familiar materials and subjects. We will take it into consideration that the students wish to become teachers in the future, you will learn how to teach experiments.

## 2. Course Objectives

By learning this course, you will be able to acquire the ability to plan and manage experimental lessons at the educational site.

## 3. Grading Policy

Every experiment students will be required to submit a report and it will be evaluated. The final grade is calculated based on the total of those evaluations.

## 4. Textbook and Reference

### Textbook

Main textbook: We will distribute our own practice manual for each experiment.

Kagaku Dojin (ed.) Guidebook for safely carrying out experiments in bioscience (ISBN978-4-7598-1921-2) Kagaku Dojin

Kimura M. Simulated anatomy using a paper frog model (ISBN978-4-410-28377-2) Suken Shuppan

## 5. Requirements(Assignments)

(1) Review "Biology 1" and "Biology 2" that are taking place in the first year and reconfirm the basic knowledge of general biology.

(2) Review the textbooks used in the biology of junior and senior high schools, and review what kind of experiments were prepared and how they should be educated, and review the experimental system from the perspective of the instructor.

## 6. Note

(1) This course will be offered only for registered students of teacher training courses.

(2) This course is a compulsory course for "junior high school license (science)". If you wish only "high school license (science)", it will be a course of optional compulsory courses.

## 7. Schedule

Experimental system to realize photosynthesis

Biology and ecology to learn by "Niboshi"

Dry-laboratory: Creating a paper frog model and simulated anatomy using it

Basic procedure of observation using an optical microscope

Collection and observation of microalgae

Evolution learned with an imaginary creature "Origami Bird"

Workshop at "Science Festival for Young People"

Summary and comprehensive discussion