Code	T19903		
Class name	Life science		
Semester	1st	Lecture target	1
Unit Classification	Elective	Unit count	2
Charge teacher	KAJIWARA Tadahiko		
Category	Basic educational subjects		
Class style	Lecture		
Class time	Intensive course		
NO.	Ac11019x		

Professional career-experiencec

☐ a course taught by a teacher with practical experience

On practical contents related to class

Languag

☐ using languages other than Japanese

Active learning elements

☐ problem-solving-learning in cooperation with external organizations based on agreements

☐ discussion,debate

? ■ group work

☐ presentation

☐ practical training,fieldwork

Class outline,goal

This is a liberal arts subject which is necessary for understanding relationship between life and nature and living things, regardless the humanities and science. In this class, students can understand life phenomena from a scientific point of view and deepen their understanding of recent

Class plan

1. Introduction 1. ; Thinking scientifically about various natural phenomena.
2. Introduction 2. ; Thinking scientifically about various natural phenomena.
3. Life 1.; Cells.
4. Life 2.; Role of life-related substances.
5. Life 3.; How life is controlled.
6. Molecular biology 1. ; Gene expression.
7. Molecular biology 2. ; Protein synthesis and transport.
8. Human immunity 1. ; Immune system.
9. Human immunity 2. ; Antibody diversity.
10. plant. ; Role and usage of plants.
11. Plant biological defense. ; How plants protect themselves.

12. Ecosystem control. ; Communication between organisms through odors.
13. Biotechnology 1. ; Wisdom of old life as biotechnology.
14. Biotechnology 2. ; Bio food and Bioethanol.
15. Biotechnology 3. ; Bio pesticides to replace chemical pesticides.

Grading method

・Get into the habit of thinking about life and natural phenomena with an awareness of problems.

Assigned books

Materials will be distributed at each class.

Classroom equipment

Nothing special.

Advice on preparation and review

Preparation:　Review documentation (at least 15 minutes)
Review: Complete the task each time (at least 15 minutes).

Class rules

In order to deepen the understanding of the lecture contents, not only handouts but also PowerPoint materials will be used.

Grading Criteria

Short test (20%)
report (80%)

Feedback method

Review the short test results and questions to clarify the problems. After that, the progress of the lecture is examined.

Note

Let's learn about the relationship with life sciences in everyday life. If you have any questions, please ask me with ease.

Office hour

After class.

Improvements from the results of the previous year's class evaluation questionnaire

After explaining the contents of the previous lecture more easily, start each lecture.