

# Introductory Biotechnology

Syllabus Number

5M141

Special Subjects

Elective

2 credit

UCHIDA, Kenichi

## 1. Course Description

This course introduces the trends in the bioscience field. The lectures in omnibus style provide various topics in biosciences.

This course relate to diplomatic policy 1 and 2.

## 2. Course Objectives

The themes of the lectures include the basics of transgenic plants, the development of drugs using techniques of biotechnology, structural biology, and molecule design and so on.

## 3. Grading Policy

The grading is evaluated based on an examination or a report given by each teacher. We will give feedback upon returning the report or the examination.

## 4. Textbook and Reference

Textbook

No fixed textbook. Prints will be distributed.

## 5. Requirements(Assignments)

This lecture is omnibus style.

## 6. Note

## 7. Schedule

- [1] Basic knowledge about Genetically modified plants. (Dr.Asahina)
- [2] Structural Biology and Molecular Design (Dr.Uchida)
- [3] The world of neuroscience (Dr.Uchino)
- [4] Mass spectrometry-Application to food science. (Dr.Enomoto)
- [5] Diagnostic agent kit using novel biotechnology (Dr.Kajitani)
- [6] Basic principle of DNA analysis technology (Dr.Koga)
- [7] Creation of bioactive substances by biosynthetic engineering (Dr.Sakuda)
- [8] Photo-response of plants – A strategy to survive in a place where it is placed (Dr.Shinomura)
- [9] Microorganisms having special functions ~The cruel struggle for existence in the microbial world~ (Dr.Takahashi)
- [10] Basic genetics (Dr.Takayama)
- [11] Visualization of biological phenomenon -live imaging of brain function- (Dr.Hirasawa)
- [12] Plant secondary metabolites and its applications (Dr.Miyamoto)
- [13] Global Warming and Science (Dr.Yanagihara)
- [14] Medical engineering and biomaterials (Dr.Yoshinari)
- [15] Conclusion