

Introductory Biotechnology

Syllabus Number

5M141

Special Subjects

Elective 2 credit

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1. Course Description

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

You can acquire knowledge and ability of DP1 and DP2.

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