

## Advanced Biotechnology

2 units (selection)

Hideaki Maseda · ASSOCIATE PROFESSOR / BIOLOGICAL FUNCTIONS, BIOLOGICAL SCIENCE AND TECHNOLOGY, EARTH AND LIFE ENVIRONMENTAL ENGINEERING

**Target** Acquire the fundamental, advanced and applied biotechnology

**Outline** Target and summary of this class is to understand applied microbiology, ecology, bioinstrumentation, food biotechnology, waste management and environmental biotechnology.

**Style** Lecture

**Keyword** *applied microbiology, food biotechnology, environmental biotechnology*

**Fundamental Lecture** “**Engineering of Biological Environment**”(0.4)

**Relational Lecture** “**Advanced enzyme engineering**”(0.4)

**Requirement** Students are required to have a good understanding of undergraduate-level biotechnology and related subjects.

**Goal**

1. To understand the outline of biotechnology
2. To understand the outline of advanced biotechnology

**Schedule**

1. Outline of microbial bioengineering
2. basic and application of microbial bioengineering
3. Outline of biotechnology
4. basic and application of biotechnology
5. Ecology
6. Microbiological Ecology
7. Bioinstrumentation
8. new Bioinstrumentation
9. Outline of Food biotechnology
10. Basic Food biotechnology
11. Utilization of Food biotechnology
12. Outline of Waste management
13. Waste management
14. Outline of Environmental biotechnology
15. Environmental biotechnology
16. Final Examination

**Evaluation Criteria** Grade will be decided by the performance on the following:  
Final Exam (100%).

**Textbook** To be introduced in the class

**Reference** To be introduced in the class

**Contents** <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216573>

**Student** Able to be taken by only specified class(es)

**Contact**

⇒ Maseda (生物棟 814, +81-88-656-7524, [maseda@bio.tokushima-u.ac.jp](mailto:maseda@bio.tokushima-u.ac.jp))

MAIL (Office Hour: Friday 16:20-17:50)

**Note** For comprehending lectures and acquisition of credits, it is necessary to do a two-hour preparation lecture and a two-hour review every school hour of two hours.