

Biosystems dynamics

Syllabus Number

5J262

Special Subjects

Elective 2 credit

HIRASAWA, Takae

1. Course Description

In the former part of this course, current topics in animal physiology were lectured. In the latter part, group discussions and group work on animal physiology will be taken place. Through group discussions and group work, students will learn to discuss with each other and come up with answers. This course will be given by Ota, Uchino, and Hirasawa. In this course, students will acquire knowledge and skills related to DP1, DP2, and DP4.

2. Course Objectives

The goals of this lecture are as follows;

- 1) a deeper understanding of animal physiology related to neuroscience, animal development, and animal reproduction.
- 2) to acquire thinking, dialogue, and self-expression abilities.

3. Grading Policy

The final grade will be based on review reports in each lecture (20 points), attitude toward group discussions and works (20 points), and presentation of mock lecture (60 points). A score of 60 points or more (out of 100 points) is passed. Students with attendance rates of less than 60% (less than 9 lectures) will not qualify for the evaluation.

4. Textbook and Reference

Textbook

Distribute the print if necessary.

5. Requirements(Assignments)

I recommend that students review Cell Biology, Developmental Biology, Basic Neuroscience, or animal physiology.

In the lecture part, students should do self-study about the contents related to each topic before the lecture. Themes for each group discussion will be set before the lecture, students should research them. In the group work, lecture time will be mainly used for discussion with group and faculty member, thus outside lecture time will be needed to create presentation materials of mock lecture.

6. Note

I recommend to take this course for students who wish to have an animal research laboratory in graduation research.

Because a name tag will be needed for group discussions, please bring it your own.

7. Schedule

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| [1] | Introduction to this course |
| [2] | Genetically modified mouse |
| [3] | Perception in animals |
| [4] | Current topics of neuroscience |
| [5] | Effects of environment in animal reproduction |
| [6] | Reproductive behavior in animals |
| [7] | Group discussion 1: Neuroscience |
| [8] | Group discussion 2: Animal development |
| [9] | Group discussion 3: Animal reproduction |
| [10] | Group work 1: Theme setting of mock lecture |
| [11] | Group work 2: Discussions for the presentation of mock lecture |
| [12] | Group work 3: Creation of the presentation materials for mock lecture |
| [13] | Mock lecture 1 |
| [14] | Mock lecture 2 |
| [15] | Summary |