

# Developmental Morphogenesis

Special Subjects  
Elective 2 credit

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## 1. Course Description

In the first lecture, we will talk about the genes and the mechanism involved in the body patterning. In the second lecture, we will talk on the relevance of the evolution and each organ, the variety of morphogenesis in animal's mechanism.

## 2. Course Objectives

For example, mouse and insect are very different morphology, it has been changed during their evolution. However, you can see the original is the same organism. Variation of this morphological formation can explain the same gene may become a different via a change in their development. In this lecture, we discuss the mechanism of gene regulation and development about the body patterning. Goals are to "understanding the mechanism of genes involved in morphogenesis."

## 3. Grading Policy

Intermediate examination(50%)

Final examination(50%)

## 4. Textbook and Reference

## 5. Requirements(Assignments)

## 6. Note

## 7. Schedule

- [1] History of animal evolution and development
- [2] Gene regulating and the development
- [3] Body axis regulation for the morphological formation
- [4] Morphological change of early development
- [5] Body patterning(1)
- [6] Body patterning(2)
- [7] Sex determination
- [8] Intermediate examination
- [9] conclusion(first session)
- [10] Growth and metamorphosis
- [11] Gene regulation and morphological variation
- [12] Body patterning variation
- [13] The mechanism of new morphological changes
- [14] Animal evolution and variety
- [15] Final examination