

# Plant Molecular Biology

Syllabus Number

5I366

Special Subjects

Elective 2 credit

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## 1. Course Description

This class will provide several topics on plant molecular biology, including seed germination and vegetative growth; flower development and reproductive growth; responses to environmental factors; current topics of biotechnology and plant molecular biology.

## 2. Course Objectives

This class aims to provide an understanding of the molecular mechanisms involved in growth regulation and responses to environmental factors in plants, including plant evolution and structure; plant growth and development; flowering and flower development; responses to environmental factors; plant biotechnology such as GMO.

## 3. Grading Policy

Progress report and Take-home Examination (20%), Practical Test (80%)

## 4. Textbook and Reference

Textbook

A Handout and resources will be provided throughout the course.

Reference

N/A

## 5. Requirements(Assignments)

To Be Announced.

## 6. Note

N/A

## 7. Schedule

- [1] Life cycle of plant
- [2] Gene expression and regulation
- [3] Development and morphogenesis of root
- [4] Development and morphogenesis of leaf
- [5] Seed germination and dormancy
- [6] Cross talk of phytohormone
- [7] Vegetative growth
- [8] Reproductive growth
- [9] Flowering and pollen tube guidance
- [10] Embryogenesis
- [11] Environmental response; light
- [12] Environmental response; gravity
- [13] Environmental response; low humidity and temperature
- [14] Photorespiration
- [15] Current topics in plant biology