

DEVELOPMENTAL GENETICS OF PLANTS
BIOLOGY 244
Fall 2007

Michael Schläppi

MW 4:00 PM - 5:15 PM

In this section of BIOL 244 we will discuss aspects of plant developmental genetics. All material is based on primary literature. The first lecture will start with a general introduction to the three topics I will cover during the next five weeks: cold acclimation, vernalization, and flower development. First, I will present cold acclimation as an environmental signal that changes the genetic program of many plants as preparation for winter. Next, I will address vernalization as an environmental cue leading to an epigenetic, developmental switch (vegetative to reproductive development). And last, I will discuss the developmental/genetic changes during flower development that lead to the transformation of vegetative structures into reproductive organs. The learning outcomes for this section are as follows: students will understand the addressed genetic and epigenetic concepts of plant development; students will have a theoretical understanding of the experimental approaches and techniques used to address scientific questions of plant development; students will be able to formulate critical questions regarding the lecture contents and assigned reading material.

SYLLABUS (subject to change)

| Week | Date | Lecture Topic | Reading List |
|-------------|-------------|-------------------------------------|---------------------|
| 1 | Sept. 10 | Introduction/Cold acclimation | 1 |
| 1 | Sept. 12 | Cold acclimation | 1 |
| 2 | Sept. 17 | Cold acclimation | 1 |
| 2 | Sept. 19 | Vernalization | 2 |
| 3 | Sept. 24 | Vernalization | 2 |
| 3 | Sept. 26 | Vernalization | 2 |
| 4 | Oct. 1 | Flower development | 3 |
| 4 | Oct. 3 | Flower development | 3 |
| 5 | Oct. 8 | Flower development | 3 |
| 5 | Oct. 10 | EXAM I (including weeks 1-2) | 1-3 |