Plant Propagation
(3.0 credits)

Normally Offered:  Spring every year.  By Dr. Molnar.

Pre-requisites and other registration restrictions:

01:119:101 or 01:119:115 General Biology

Format:  One 80-minute lecture plus 3-hour laboratory

Description:
Emphasis is placed on not only learning the techniques involved with the many aspects of modern plant propagation, but also the science behind the methods. Students will acquire hands-on experience in the art and science of grafting, budding, rooting of cuttings, seedage, layering, tissue culture/micropropagation, propagation medias, greenhouse environmental control, and general plant care and greenhouse management. By learning the science behind the methods, students will develop a better understanding of why certain propagation methods were successful and why some were not. This will allow students to be better able to solve problems that arise during the propagation and growing of plants.

Learning Goals:
- Learn to propagate plants by seeding, rooting cuttings, grafting, budding, and layering
- Become familiar with micropropagation/tissue culture techniques
- Be able to explain the scientific basis for these techniques and the reasons for their individual use
- Understand how the plant material including its stage of growth as well as environmental conditions affects plant propagation success

Measures of Assessment:
- Learning goals will be assessed through the use of target questions on the quizzes and on the midterm and final exams given in the course.
- Mastering the learning goals will also be demonstrated through success in the laboratory portion of the course, which will be recorded in the required laboratory notebook.
Course Website:
sakai

Topics:
- Review of plant structure and function
- Review of basic plant physiology
- Review of plant genetics including asexual and sexual modes of plant reproduction
- Planting media
- Greenhouse environmental manipulations
- Principles and practices of seed propagation
- Principles and practices of rooting of cuttings
- Plant tissue culture/micro-propagation
- Principles and practices of grafting and budding
- Layering
- Bulbs, tubers, rhizomes and their propagation
- General plant maintenance and care

Required and Recommended Course materials:

Policies for Exams, Assignments, Attendance, and Grading
- Include grade distribution/percent value of exams and assignments; any policies on missed or late assignments and make-up exams; any policies on graded attendance, recitations sections, labs, etc.
- 3-4 short quizzes throughout the semester (25% of total grade)
- Midterm exam (25% of total grade)
- Cumulative final exam (25% of total grade)
- Laboratory Notebook, plus attendance (25% of total grade)