

11:776:310 PLANT PROPAGATION

Spring Semester – 2010 (Thursdays 10:55 – 12:15; Fridays 12:35 – 3:35)

Instructor: Thomas Molnar molnar@aesop.rutgers.edu 732-932-9711 ext. 117
Room 164 - Foran Hall

T.A.: Stephen Miller smiller8@eden.rutgers.edu

Hours: By appointment only

Text: Plant Propagation – Principles and Practices. Hartman, Kester, Davies, and Genveve, 7th Edition, 2002.

Grading Basis:

1) *Quizzes	25%
2) Mid-term examination	25%
4) Laboratory notebook and <u>attendance</u>	25%
5) Final exam	25%

***Four quizzes will be given that cover Lecture and Lab information**

Make up quizzes will not normally be given!

Mid-Term Exam: **March 12** – based on material covered in lecture, labs, and assigned text readings.

Final Exam: **May 7** 9:00 to 11:00 AM - comprehensive exam based on all materials covered in lecture and labs.

Lab notebook: **Due May 7** (25% of grade, including attendance/makeup of each lab)

Objective of Course: 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.

11:776:310 Plant Propagation Tentative Schedule*- Spring 2010

* Lab exercises are dependant on many factors (plant material, growth, weather, etc.) and the schedule may be changed accordingly.

- Jan. 21:** Lecture #1: Introduction to Plant Propagation
Jan. 22: Lab #1: Hardwood evergreen cuttings
- Jan. 28:** Lecture #2: Plant Biology Basics: a review
Jan. 29: Lab #2: **Quiz 1**; Planting media review; Hardwood evergreen cuttings
- Feb. 4:** Lecture #3: Tissue Culture, Guest Lecture Dr. C. Chin*****FORAN Rm 191b**
Feb. 5: Lab #3: Tissue Culture lab –*****FORAN Rm 104**
- Feb. 11:** Lecture # 4: Tissue Culture, Guest Lecture Dr. C. Chin *****FORAN Rm 191b**
Feb. 12: Lab # 4: Tissue Culture lab *****FORAN Rm 104**
- Feb. 18:** Lecture # 5: Rooting of Cuttings: Principles and Practices
Feb. 19: Lab #5: Side veneer grafting
- Feb. 25:** Lecture # 6: Rooting of Cuttings: Principles and Practices, cont.
Feb. 26: Lab # 6: **Quiz 2**, Seed nut germination; Air layering, Jelly roll technique
- Mar. 4:** Lecture # 7: Layering Principles and Practices; Grafting practice with hazelnut whips
Mar. 5: Lab # 7: Grafting/budding
- Mar. 11:** Lecture # 8: **Mid-term Exam**
Mar. 12: Lab # 8: Floriculture open lab, Guest Instructor Nicki Graf
- Mar. 13-21:***Spring Break*.....
- Mar. 25:** Lecture # 9: Grafting and Budding Principles and Practices
Mar. 26: Lab # 9: seeds; examine tissue cultures
- Apr. 1:** Lecture # 10: Grafting and Budding Techniques
Apr. 2: Lab #10: Tissue Culture Lab – subculture plantlets - FORAN Rm 104
- Apr. 8:** Lecture # 11: Seeds and seed culture
Apr. 9: Lab # 11: **Quiz 3**; Pot up Lab #5 and move to mist bench; apple graft maintenance; transplant vegetable seedlings, etc.
- Apr. 15:** Lecture # 12: Nut trees and their propagation; grafting techniques video
Apr. 16: Lab # 12: Evaluate, collect data and transplant plants from labs 1, 2, and 6.
- Apr. 22:** Lecture # 13: Bulb propagation
Apr. 23: Lab # 13: Nursery Tour – Rare Finds Nursery, Jackson, NJ
- Apr. 29:** Lecture # 14: **Quiz 4**; Review of Laboratory Studies; Finish evaluations
Apr. 29: Lab # 14: **LAB NOTEBOOK DUE**; Field tour of research greenhouse and HF3.
Take your plants home!!!
- May 7:** **Final Exam – 9 AM Floriculture Greenhouse (lab notebook due)**