COURSE OUTLINE

Course Number OHT 219 **Course Title** Plant Propagation **Credits** 3

Lecture Hours 2 **Lab Hours** 2 **Course Duration** 14 weeks

Catalog Description: Principles and techniques involved in propagation of greenhouse crops, woody plants, turfgrass, and plants for interior landscape.

Prerequisite: OHT 101 or permission of program coordinator

Required Text:
Plant Propagation: Principles and Practices 9th Edition
Authors: Hartmann, Kester, Davies and Geneve

Suggested References:
Manual of Woody Landscape Plants by Dirr
Wyman's Gardening Encyclopedia
The Complete Book of Propagation by Clarke and Toogood
Herbaceous Perennial Plants by Armitage

Supplemental Technology Materials:
BlackBoard, Zoom, IPPS Student Membership

Suggested Supplies:
Hand Pruners
Potato Peeler
Knife for Grafting
Small Jar or Cup

Course Objectives:

1. To acquaint the students with the principles of anatomy and physiology behind propagation techniques.
2. To provide the students with the techniques for both sexual and asexual propagation of woody and herbaceous material.
3. To gain valuable hands-on experience in the production of a crop through practice is seed, cuttings, grafting, budding and layering.
4. To provide students with knowledge on basic propagating structures, media and fertilization, and mist systems.
5. To understand the principles of aseptic micropropagation.
6. To understand the importance and nature of seed dormancy, the physical requirements required to break it.

Behavioral Objectives:

1. Produce container grown crops under greenhouse conditions.
2. Design a shade structure and a mist system.
3. Apply the proper amount of fertilizer at the appropriate time.
4. Propagate woody and herbaceous plants from seeds.
5. Propagate woody and herbaceous plants from cuttings.
6. Be familiar with grafting, budding, and layering techniques.
7. Perform cultural requirements necessary in plant production.

Revision date 9/1/21 **Course Coordinator:** Amy Ricco, 609-570-3372, riccoa@mccc.edu

Lecture Instructor: Professor Amy Ricco
Office Number: MS 124
Phone Number: 609-570-3372
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Lab Instructor: Larry Kuser
Phone Number: 609-468-0743
E-Mail Address: larry@fernbrookfarms.com

Grading: Grades are based on the following system.

Midterm Exam	150 points
Final Exam	150 points
Lecture Quizzes	100 points
Article Summaries	100 points
Lab Reports	300 points
Total	800 points

Mercer's Grading System:

A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	70-76
D	60-69
F	0-59

Explanation of the Points System:

Assessment Activities

Exams – Exams are based on lecture material with the midterm based on the first half of the class, and the final based on the second half of the class.The plan is to have these exams in person during our lab time, but if those plans need to change due to COVID-19, we will move them to a remote platform.

Lecture Quizzes – Quizzes will be given during our remote lecture time each week and will cover material from the previous lecture. Each quiz is worth 10 points and the lowest quiz grade will be dropped at the end of the semester.

Lab Reports – A detailed lab notebook must be kept for the duration of the semester. This lab notebook should be a summary of the lab activities for each lab. **You should include information specific to how you propagated plants during lab; conditions that propagated plants are kept under; conclusions made during lab; information given during lab; observations; results etc.**

Article Summaries – You are to identify 10 articles related to the field of Plant Propagation and write a brief summary for each of the 10 articles on a 5" x 7" card.

Attendance – Attendance will be taken in lecture and lab each meeting. Your attendance in both lecture and lab is directly correlated to your success in the course.

Lab Dress Code – You **must** wear sturdy foot wear to lab. This means no open-toe shoes, sandals or flip-flops.

Blackboard – All lectures and quizzes will be available for you on Blackboard.

Zoom – All remote lectures will take place via Zoom. A link for these reoccurring meetings will be provided for you via BlackBoard.

Statement of Academic Integrity
"Any student who a) knowingly represents the work of others as his/her own. B) uses or obtains unauthorized assistance in the execution of any academic work, or c) gives fraudulent assistance to another student is guilty of cheating. Violators will be penalized in accordance with established college policies and procedures." – If you are caught cheating in this course, you will receive a 0 for the assignment, and you will be turned into the Academic Integrity Committee.

Accessibility
Mercer County Community College recognizes disability as an aspect of diversity. This class has been designed to meet the diverse needs of all learners. Please feel free to schedule an appointment with me to discuss your unique learning needs.

If you feel that you will require academic accommodations, please contact Arlene Stinson stinsona@mccc.edu or visit https://www.mccc.edu/student_services_needs.shtml for information about obtaining academic accommodations in the remote environment.

Mercer County Community College is in full compliance with both the ADA and section 504 of the Rehabilitation Act.

Tentative Schedule:

Week 1: Lecture: Course Introduction; Unit #1 - Introduction to Plant Propagation
Lab: Worker Protection Training; Using References, Media Preparation
Chapter 1

Week 2: Lecture: Quiz #1; Unit #2 - Biological and Environmental Aspects of Plant Propagation
Lab: Field Trip to Fernbrook Nursery, Taking Woody Cuttings
Chapters 2 and 3

Week 3: Lecture: Quiz #2; Unit #2 - Biological and Environmental Aspects of Plant Propagation Continued
Lab: Hormone Preparation and Sticking Cuttings
Chapters 2 and 3

Week 4: Lecture: Quiz #3; Unit #3 - Propagation by Cuttings
Lab: Herbaceous Cuttings
Chapters 9 and 10

Week 5: Lecture: Quiz #4; Unit #3 - Propagation by Cuttings Continued
Lab: Field Trip TBD
Chapters 9 and 10

Week 6: Lecture: Quiz #5; Unit #4 - Budding and Grafting
Lab: Field Trip TBD
Chapters 11, 12 and 13

Week 7: Lecture: Quiz #6; Unit #4 - Budding and Grafting Continued
Lab: Seed Collecting
Chapters 11, 12 and 13

Week 8: Lecture: Unit #5 - Propagation by Seed
Lab: Midterm (October 26th)
No readings

Week 9: Lecture: Unit #5 – Propagation by Seed Continued
Lab: Field Trip TBD
Chapters 4, 5, 6, 7 and 8

Week 10: Lecture: Quiz #7; Unit #5 - Propagation by Seed Continued
Lab: Grafting Techniques
Chapters 4, 5, 6, 7 and 8

Week 11: Lecture: Quiz #8; Unit #6 - Micropropagation
Lab: Tissue Culture
Chapters 17 and 18

Week 12: Lecture: Quiz #9; Unit #6 - Micropropagation Continued
Lab: Perennials, Bulbs and Hardwoods
Chapters 17 and 18

Week 13: Lecture: Quiz #10; Unit #7 - Propagation through Layering
Lab: Evaluation/Cuttings Results
Chapters 14, 15, and 16

Week 14: Lecture: Quiz #11; Unit #8 - Biotechnology; Final Exam Review
Lab: Lab Reports Due/Sharing
No Readings

Final Exam TBD