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:  
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
E-Mail Address: riccoa@mccc.edu

Lab Instructor: Larry Kuser
Phone Number: 609-468-0743
E-Mail Address: larry@fernbrookfarms.com

Grading:
Grades are based on the following system.

<table>
<thead>
<tr>
<th>Assessment Activities</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Exam</td>
<td>150</td>
</tr>
<tr>
<td>Final Exam</td>
<td>150</td>
</tr>
<tr>
<td>Lecture Quizzes</td>
<td>100</td>
</tr>
<tr>
<td>Article Summaries</td>
<td>100</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>800</strong></td>
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</table>

Mercer's Grading System:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>A</td>
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<tr>
<td>A-</td>
<td>90-92</td>
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<td>B+</td>
<td>87-89</td>
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<td>B</td>
<td>83-86</td>
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<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>70-76</td>
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<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>0-59</td>
</tr>
</tbody>
</table>

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