Course Outline – OHT 101 Plant Science
Revised Date – 9/2019

Course Number   Course Name   Credits
OHT 101    Plant Science   3

Lecture Hours    Lab Hours   Course Duration
2     2    14 weeks

Required Text
Introductory Plant Biology, Stern

Recommended Text
Photographic Atlas of the Botany Laboratory, Castner

Supplemental Materials
Blackboard

Course Description
Introduction to the field of plant science. Topics include basic botany and plant
physiology; plant growth; leaves, roots, fruits, stems, and flowers; cells; plant
reproduction; genetics; and the plant kingdoms.

Pre-Requisites
None

Learning Outcomes
Upon successful completion of OHT 101, students should be able to:

1. Understand the scientific principles behind plant nomenclature and classification
2. Describe the plant cycle of a typical plant as it moves from seed to fruit, and identify the parts of seeds, flowers, and fruits.
3. Identify and demonstrate various methods of plant propagation to include both sexual and asexual techniques.
4. Understand how a plant grows and how natural and synthetic hormones play a role in plant growth.
5. Identify the components of a plant cell, and recall their functions.
6. Analyze the difference between mitosis and meiosis.
7. Demonstrate principles of genetics through the use of Punnett Squares to predict dominant, recessive, and co-dominant traits in plants.
8. Identify and describe the various parts and functions of leaves, stems and roots.
9. Understand plant processes such as photosynthesis, respiration and reproduction.

Course Coordinator and Instructor
Professor Amy Ricco
MS 124
609-570-3372
riccoa@mccc.edu

Grading
Grades will be based on the following point system:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam #1</td>
<td>100</td>
</tr>
<tr>
<td>Exam #2</td>
<td>100</td>
</tr>
<tr>
<td>Exam #3</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>180</td>
</tr>
<tr>
<td>Project</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
</tr>
</tbody>
</table>

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

Assessment Activities

Exams – Will be given in lecture and are based on lecture material. Lecture exams are not cumulative. You must show up on-time to take your exams. If you are late to class to take an exam, and one of your classmates has already finished the exam and left the room, you will not be allowed to take it. In case of an emergency, you must call within 24 hours of the exam and provide documentation in order to do a make-up.

Attendance and Participation – Attendance will be taken each week in both lab and lecture. Missing more than 2 labs will be grounds for dismissal from the course.

Lab Quizzes – Quizzes will be given in lab and will cover material from the previous lecture. Each graded quiz is worth 20 points and will be given at the beginning of lab. You will not be given extra time to complete the quiz if you show up late and no make-up.
up quizzes will be given. The lowest quiz grade will be dropped at the end of the semester.

Lab Project – There will be one lab project given at the beginning of the semester which will require you to select a plant that you are interested in, learn about its care, and propagate it. The project must be typed, turned in on-time, and presented by the due date.

Grading Rubric for Project (paper only, not presentation)

Research Component – 20 points
✓ Basic Information on the Plant to include:
  o Latin Name and Common Name Including Plant’s Origin
  o Growth Requirements for the Plant
  o Pest Problems Common to the Plant
  o Plant Propagation Techniques Used for the Plant
  o List Your Sources

Plant Propagation Component - 40 points
✓ You must propagate the plant and document your results
  o Score partially based on level of creativity and difficulty
  o If your propagation technique does not work, you must re-do it

Plant Care Component – 20 points
✓ Your plant needs to stay healthy over the course of the semester.
✓ You will be responsible for some experimentation with the plant’s environment.

Overall Clarity – 20 points
✓ Your paper must read well and be easy to understand because it is a summary of what you have done. You want the reader to be able to clearly understand the progression of your project.
✓ You must hand in your journal entries along with your paper.

Lab Dress Code – Please come to lab each week dressed to walk around outside, work with plants, and possibly get a little dirty.

Black Board – I will be using Black Board as a supplement to this course. The lecture for the week will be posted each week prior to lecture, and will stay available until you have been quizzed on the material. I will post other information on Black Board as well. When I do this, I will make an announcement and send it to your email so please make sure you are connected to your mercer student email.

College Policies

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 in to the Academic Integrity Committee.

Other College Policies to be aware of...

- Smoking Policy
- Student ID Policy
- Parking Permit Policy
- Use of cell phones

Mercer County Community College is committed to ensuring the full participation of all students in all activities and programs. If you have a documented differing ability or think that you may have a differing ability that is protected under the ADA or Section 504 of the Rehabilitation Act, please contact Arlene Stinson in LB216 {stinsona@mccc.edu} for information regarding academic accommodations and additional support services.

Tentative Schedule

Week 1:
- Lecture – Plant Basics, Plant Classification
- Lab – Course Introductions; Lab Orientation; Setting up “Lab Experiments”
- Readings – Chapters 1 and 16

Week 2:
- Lecture – Plant Cycle: Seed to Flower, Pollination, Photo Responses
- Lab – Quiz #1; Project Guidelines and Project Plant Selection; Nomenclature and Plant Part Reinforcement
- Readings – Chapters 8, 22, and 23

Week 3:
- Lecture – Plant Cycle: Seed to Flower, Pollination, Photo Responses
- Lab – Quiz #2; Plant Part Scavenger Hunt
- Readings - Chapters 8, 22, and 23

Week 4:
- Lecture – Plant Propagation
- Lab – Quiz #3; Research Due for Project; Propagation Techniques
- Readings - Chapter 14

Week 5:
- Lecture – Exam #1
- Lab – Propagate Project Plant; Begin Journaling
- Readings - None
Week 6:
Lecture – Hormones and Inhibitors; Tissues and Plant Growth
Lab – Quiz #4; Experimenting with rooting hormones and natural plant responses.
Readings - Chapters 4 and 11

Week 7:
Lecture – Cell Structure and Function
Lab – Quiz #5; Project Work
Readings - Chapters 3 and 12

Week 8:
Lecture – Genetics
Lab – Quiz #6, Project Work
Readings - Chapter 13

Week 9:
Lecture – Roots
Lab – Quiz #7, Root ID
Readings - Chapter 5

Week 10:
Lecture – Exam #2
Lab – Bulbs
Readings - None

Week 11:
Lecture – Leaves
Lab – Quiz#8; Project Due
Readings - Chapter 7

Week 12:
Lecture – Stems and Transport
Lab – Quiz #9; Leaf Lab
Readings - Chapters 6 and 9

Week 13:
Lecture – Photosynthesis
Lab – Quiz #10; Stems
Readings - Chapter 10
Week 14:
   Lecture – Catch Up Lecture
   Lab – Project and Plant Clean-Up
   Readings – None

Exam #3 will be given during the final exam period.

*All dates and activities are subject to change. Based on weather, the order of labs may be shuffled.