AG 120  Plant Science  
3 Credits  
Monday 1:00 – 3:30

INSTRUCTOR: Amanda Birnbaum  
EMAIL: amandab2@hawaii.edu

OFFICE: Na’auao 143
OFFICE HOURS: Monday 3:30 – 4:30
TELEPHONE: 236-9243 extension 243
EFFECTIVE DATE: Fall 2012

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai‘i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O‘ahu’s Ko‘olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

CATALOG DESCRIPTION

The study of plant science, morphology, anatomy, physiology classification, growth, growth regulators, and propagation. Students are required to write a 10 to 15 page research report.  
(2 hours lecture, 2 hours lecture/laboratory)

Activities Required at Scheduled Times Other Than Class Times
None

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:

1. Describe and explain general plant structure and function in relation to plant growth and development.

2. Demonstrate knowledge of horticultural principles in the cultivation of plants.

3. Examine commercial agricultural enterprises to become familiar with employment opportunities and the impact of horticulture on our lives.

4. Research and report on a horticultural plant.
COURSE CONTENT

Concepts or Topics

• Impact of Plants on the Environment and Society
• Origins of Agriculture
• Soil
• The Plant Cell
• Plant Tissues
• Plant Organs and Functions
• Photosynthesis
• Respiration
• Plant Nutrition
• Cell Reproduction
• Sexual Propagation
• Asexual Propagation
• Commercial Plant Production

Skills or Competencies

1. Locate information.
2. Distinguish relevant and reliable information.
3. Identify plant structures.
4. Describe a production system for a crop or agricultural enterprise.
5. Determine what appropriate propagation methods would be used for a given crop.
6. Recognize best management practices for a given crop.

COURSE TASKS

1. Use objective tests, essay questions or research/term papers to evaluate student’s ability to explain or identify plant structures or functions.

2. Use objective tests, essay questions or research/term papers to evaluate student’s knowledge of horticulture principles.

3. Use objective tests, essay questions, research/term papers, case studies, class presentations or applied projects evaluate student’s comprehension of commercial agricultural enterprises and their impact on the state’s economy.

4. A requirement of this course is to write a 10 – 15 page research report. The minimum length of the report will be 10 pages and the maximum length will be 15 pages. The number of pages counted for this report will only be prose, i.e. title page, reference page etc. will not count in the total. All reports will be typed with a maximum font size of 14, double spaced with 1 inch margins. The report shall be footnoted and have a bibliography. You are required to use a minimum of six references, one reference must come from each of the following sources: a journal/periodical, Internet, textbook, and personal interview. The topic of this report must be addressed in this course and approved by the instructor. You will also give a 5 to 10 minute oral presentation of your report at the end of the course to the class.

ASSESSMENT TASKS AND GRADING

Examinations (2 at 30 % each): 60%
Projects (research paper 20% and oral presentation 10%): 30%
Participation: 10%
Grades are assigned according to the following guidelines.

\[
\begin{align*}
\geq 90\% & = A \\
80-89\% & = B \\
70-79\% & = C \\
60-69\% & = D \\
<60\% & = F
\end{align*}
\]

**N Grade:** The 'N' grade indicates that the student has worked conscientiously, attended regularly, finished all work, fulfilled course responsibilities, and has made measurable progress but has not achieved the minimal student learning objectives and is not yet prepared to succeed at the next level. Or, the student has made consistent progress in the class but is unable to complete the class due to extenuating circumstances, such as major health, personal or family emergencies. Students requesting for N grade must provide a formal letter of request before the final examination with supporting evidences.

The other grades I, W, Cr, NC to be assigned are described in the current college catalog. These options must be discussed with the instructor. The deadline to change from A-F to Cr/NC grade option is on **October 29, 2012**.

If you drop out from the course without any notice you will get a ‘F’ grade. To avoid this, please be sure to withdraw officially by **October 29, 2012**.

**Learning Resources**


**Additional Information**

Student Responsibility:

- Students unable to be present on the day of the exam are required to notify the instructor at least one day prior to the exam day. It is the responsibility of the student to make up any exams and/or classes missed.

Course Ground Rules:

- Please remember……participation is required, be respectful, be punctual, turn off cell phones, you may not leave early and do not have conversations while I am lecturing. Treat lab equipment with care and proper handling, enjoy lab time but don’t act silly.

**DISABILITIES ACCOMMODATION STATEMENT**

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, lemke@hawaii.edu, or you may stop by Hale ‘Akoakoa 213 for more information.
# COURSE CONTENT AND SCHEDULE

Holidays: Sep 3 (M), Nov 6 (T), Nov 12 (M), Nov 22-23 (R-F)
Important Dates: **Last day for withdrawal**, CR/NC Oct 29 (M)
**Last day of instruction**, Dec 3 (M)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
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<tbody>
<tr>
<td>1</td>
<td>8/20</td>
<td>Class Orientation, Introduction to Plant Science</td>
<td>N/A</td>
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<tr>
<td>2</td>
<td>8/27</td>
<td>Origins of Agriculture, Plants, the environment and society</td>
<td>p. 13 - 25, p. 49 - 69</td>
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<tr>
<td>3</td>
<td>9/3</td>
<td>Labor Day Holiday</td>
<td>N/A</td>
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<tr>
<td>4</td>
<td>9/10</td>
<td>Soil</td>
<td>p. 158 - 185</td>
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<td>5</td>
<td>9/17</td>
<td>Plant Nutrition</td>
<td>p. 156 - 185</td>
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<td>6</td>
<td>9/24</td>
<td>Plant Cell Types</td>
<td>p. 91 - 108</td>
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<td>7</td>
<td>10/1</td>
<td>Photosynthesis, Respiration and Transpiration</td>
<td>p. 118 - 155</td>
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<td>8</td>
<td>10/8</td>
<td><strong>Mid-Term Exam</strong></td>
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<td>9</td>
<td>10/15</td>
<td>Plant Tissues</td>
<td>p. 92 - 108</td>
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<td>10</td>
<td>10/22</td>
<td>Plant Organs and Functions</td>
<td>p. 110 – 117</td>
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<td>12</td>
<td>11/5</td>
<td>Sexual Propagation</td>
<td>p. 227 - 253</td>
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<td>13</td>
<td>11/12</td>
<td>Veterans Day Holiday</td>
<td>N/A</td>
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<td>14</td>
<td>11/19</td>
<td>Asexual Propagation</td>
<td>p. 254 - 288</td>
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<td>15</td>
<td>11/26</td>
<td><strong>Research Report Due and Oral Presentations</strong></td>
<td>N/A</td>
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<td>16</td>
<td>12/3</td>
<td><strong>Final Exam</strong></td>
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Note: Schedule/material is subject to change at my discretion.