BOT 101 General Botany and Lab
4 credits
Tuesday & Thursday, 5 p.m. – 7:30 p.m.

INSTRUCTOR: Erin Yafuso
EMAIL: eyafuso@hawaii.edu
OFFICE:
OFFICE HOURS: Thursday 4 - 5 pm or by appointment
TELEPHONE: (808) 236-9107
EFFECTIVE DATE: Fall 2010

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College is committed to excellence in the liberal arts and career development; we support and challenge individuals to develop skills, fulfill their potential, enrich their lives, and become contributing, culturally aware members of our community.

CATALOG DESCRIPTION

Introduction to plant structure, function, reproduction, and evolution; plants in relation to the environment and human activities. Lecture/laboratory/field trip course.
Recommended Preparation: High school biology.

Activities required at scheduled times other than class times

Possible field trip during class time.

STUDENT LEARNING OUTCOMES

The student learning outcomes for the course are:

1. Discuss basic concepts and perform lab experiments in plant morphology, anatomy, physiology, cytology, taxonomy and genetics

2. Discuss life cycles of division in Thallophyta, Bryophyta, Pteridophyta and Spermatophyta

3. Discuss interrelationship between plants and animals, and socio-economic importance of plants on humans

4. Discuss plant tissue culture & biotechnology

5. Operate dissecting and compound microscopes

6. Perform traditional propagations
COURSE TASKS AND GRADING

Quizzes:

You are expected to have read the assigned chapters before you come to class. Pop quizzes will be administered unannounced.

Tests:

Two lecture exams will be worth 100 points each. Also, the lab practical exams will be worth 25 points each. The final exam will be cumulative and consist of 125 points. Lecture and lab exam make-ups will be permitted only when there is a legitimate excuse (such as illness or emergency; doctor’s note required). There will be no make-up for the Final exam.

Lab Exercises:

Keeping precise records is an important part of botanical work. A folder with lab assignments, drawings and summaries will be checked and graded worth a total of 75 pts. Time will be allotted for group presentations on special topics and will be worth 25 pts. A total of 100 points for lab exercises.

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Possible Points</th>
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<tbody>
<tr>
<td>Exam I</td>
<td>100</td>
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<tr>
<td>Exam II</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>125</td>
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<tr>
<td>Lab Practical I</td>
<td>25</td>
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<td>Lab Practical II</td>
<td>25</td>
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<tr>
<td>Quiz</td>
<td>25</td>
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<tr>
<td>Lab Exercise</td>
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Total possible points: 500

Extra credit will be offered, but cannot exceed 5% of the total available points.

Grading

Grading is based on the percentage of total points earned, not on a class curve. Final Grades will be assigned as follows:

- 90% and above A
- 80-89% B
- 70-79% C
- 60-69% D
- 59% and below F
LEARNING RESOURCES


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 ʻAkoakoa 213 for more information.*
<table>
<thead>
<tr>
<th>Date</th>
<th>Readings</th>
<th>Topic</th>
<th>Other</th>
<th>Lab</th>
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</thead>
<tbody>
<tr>
<td>August 24</td>
<td>Chapter 1</td>
<td>Introduction to Botany</td>
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<tr>
<td>August 26</td>
<td>Chapter 1-2</td>
<td>Introduction Cont</td>
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<td>Introduction to Lab &amp; Microscope</td>
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<tr>
<td>August 31</td>
<td>Chapter 3</td>
<td>Cell structure and organization</td>
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<td>Vacuole, Chloroplast, stained slides nucleus.</td>
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<tr>
<td>September 2</td>
<td>Chapter 5</td>
<td>Primary growth meristems</td>
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<td>Primary growth anatomy, primary meristem</td>
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<tr>
<td>September 7</td>
<td>Chapter 6</td>
<td>Plant Organs: Roots</td>
<td>Attenborough’s: The Private Life of Plants: Roots clip</td>
<td>Tap root / fibrous root, root adaptations, starch staining, awa.</td>
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<tr>
<td>September 9</td>
<td>Chapter 10</td>
<td>Mineral, Nutrient and Transport</td>
<td></td>
<td>Con’t: Region of elongation, cross section</td>
</tr>
<tr>
<td>September 14</td>
<td>Chapter 7</td>
<td>Plant Organs: Stems</td>
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<td>Mature primary stem, secondary growth</td>
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<tr>
<td>September 16</td>
<td>Chapter 8</td>
<td>Plant Organs: Leaves</td>
<td>Transpiration &amp; Stomata</td>
<td>Leaf features, arrangement &amp; venation, internal leaf anatomy</td>
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<tr>
<td>September 21</td>
<td>Chapter 4</td>
<td>Metabolism in Cells (Photosynthesis)</td>
<td>Video</td>
<td>Con’t: Taro, ti leaves, lauhala, transpiration, C3, C4 &amp; CAM leaf anatomy</td>
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<tr>
<td>September 23</td>
<td></td>
<td>Review for Exam I including Lab part</td>
<td></td>
<td>Review for Lab Exam</td>
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<tr>
<td>September 28</td>
<td>Exam I</td>
<td></td>
<td></td>
<td>Lab Exam I / Turn in Lab exercises</td>
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<tr>
<td>September 30</td>
<td>Chapter 9</td>
<td>Flowers, Fruits, and Seeds</td>
<td></td>
<td>Flower anatomy / anthers, fruits &amp; seeds</td>
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<tr>
<td>October 5</td>
<td>Chapter 11</td>
<td>Growth Responses and Regulation of Growth</td>
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<td>Introduction to tissue culture &amp; growth responses</td>
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<tr>
<td>October 7</td>
<td>Chapter 12</td>
<td>Mitosis, Meiosis and Life Cycles</td>
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<td>Mitosis</td>
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<tr>
<td>October 12</td>
<td>Chapter 13</td>
<td>Patterns of Inheritance</td>
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<td>TBA</td>
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<tr>
<td>October 14</td>
<td>Chapter 14</td>
<td>The Molecular Basis of Inheritance</td>
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<td>TBA</td>
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<tr>
<td>Date</td>
<td>Chapter/Section</td>
<td>Topic</td>
<td>Notes</td>
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<tr>
<td>October 19</td>
<td>Chapter 16 &amp; 17</td>
<td>Continuity Through Evolution</td>
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<tr>
<td>October 21</td>
<td>Chapter 18</td>
<td>Classification of Plants and Other Organisms</td>
<td>Order of Life: Plants &amp;</td>
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<td>October 26</td>
<td></td>
<td>Review for Exam II</td>
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<td><strong>October 28</strong></td>
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<td><strong>Exam II</strong></td>
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<td>November 2</td>
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<td>Election Day / Holiday</td>
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<tr>
<td>November 4</td>
<td>Chapter 19 - 20</td>
<td>Introduction to viruses, bacteria, protozoa</td>
<td>Video Life cycle</td>
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<tr>
<td>November 9</td>
<td>Chapter 20 - 21</td>
<td>Protozoa &amp; Fungi</td>
<td>Video Life cycle</td>
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<tr>
<td>November 11</td>
<td>Chapter 22</td>
<td>Introduction to Plant Kingdom Bryophytes</td>
<td>Moss and lichen anatomy</td>
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<tr>
<td>November 16</td>
<td>Chapter 23</td>
<td>The Plant Kingdom: Seedless Vascular Plants</td>
<td>Fern anatomy / reproduction</td>
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<tr>
<td>November 18</td>
<td>Chapter 24</td>
<td>The Plant Kingdom: Flowering Plants</td>
<td>Conifers</td>
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<tr>
<td>November 23</td>
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<td>Thanksgiving Day</td>
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<tr>
<td>November 25</td>
<td>Chapter 25</td>
<td>The Plant Kingdom: Flowering Plants</td>
<td>Ovary / pollen anatomy &amp; fertilization</td>
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<tr>
<td>November 30</td>
<td>Chapter 26</td>
<td>Ecosystems /</td>
<td>Organize lab folder</td>
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<tr>
<td>December 2</td>
<td>Chapter 27</td>
<td>Global Ecology and Human Impact</td>
<td>Lab Exam II / Turn in Lab folder</td>
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<td>December 7</td>
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<td>Special topics / Guest lecturers</td>
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<td>December 9</td>
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<td>Last day of instruction</td>
<td>Review for Final</td>
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<td>December 14 or 16</td>
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<td>Final Exam 5:00 – 6:20</td>
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