

**BOT 101 General Botany (CRN 63088)  
(Lecture/Lab)**

4 Credits

MW 04:00 – 6:30 pm, Hale Imiloa 101

**INSTRUCTOR:** Dr. Hongwei Li  
**OFFICE:** Hale Imiloa 107  
**OFFICE HOURS:** W 2:30 – 3:30 pm, or by appointment  
**TELEPHONE:** 236-9104 **EMAIL:** hli@hawaii.edu  
**EFFECTIVE DATE:** Spring 2015

**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**

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 Other Than Class Times**

Preparation of assignments for lectures/labs; possible field trip or campus walk during class time.

**STUDENT LEARNING OUTCOMES**

The student learning outcomes for the course are:

- Discuss basic concepts and perform lab experiments in plant morphology, anatomy, physiology, cytology, taxonomy and genetics.
- Discuss life cycles of division in Protista, Fungi, Bryophyta, Pteridophyta, Gymnosperms, and Angiosperms.
- Discuss interrelationship between plants and animals, and socio-economic importance of plants on humans.
- Discuss plant tissue culture & biotechnology.
- Operate dissecting and compound microscopes.
- Discuss traditional and *in vitro* plant propagation.

## COURSE TASKS AND GRADING

- Class attendance is mandatory.
- Students must be able to access / utilize Laulima via the internet for this course.
- Students are expected to read the assigned chapters before coming to class.

### Exams

- **Midterm Exams:** There are two midterm exams, and each includes contents from both lectures and labs.
  - Make-up exam: make-up exam will be permitted only when there is a legitimate excuse (such as illness or emergency; doctor's note is required).
- **Final Exams:**
  - Final Lecture Exam
  - Final Lab Exam
- *No early or make-up exam for the Final.*

### Lab Exercises

- Students must be present in class in order to receive credit for the scheduled laboratory exercises.

### Lab Notebook

- A three-ring folder with lab manuals, working protocols, lab report (raw data, analysis of data, drawings, summaries and discussions). The lab notebook is due at each exam.

### Assignments

- There generally will be 2 assignments; late submission of assignments will result in point deduction.

### Grading

Tasks	Possible Points
Exam 1	100
Exam 2	100
Final Lab Exam	125
Final Lecture Exam	125
Lab Exercises	75
Lab Notebook	75
Assignments	50
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Total possible points	650

- Grading is based on the percentage of total points earned. Final Grades will be assigned as follows:

A	90 – 100%
B	80 - 89%
C	70 - 79%
D	60 - 69%
F	0 - 59%

I (incomplete) grade is given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. The student is expected to complete the course by the designated deadline in the succeeding semester. If this is not done, the I grade will revert to the contingency grade identified by the instructor

## LEARNING RESOURCES

### Required Textbook

- Introductory Botany Plants, People, and the Environment. L. Berg, 2008, 2<sup>nd</sup> edition, Thompson Brooks Cole.

### Lecture / Lab materials

- <https://laulima.hawaii.edu>

## 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](mailto:lemke@hawaii.edu), or you may stop by Hale 'Akoakoa 213 for more information.*

<b>Date</b>	<b>Reading Chapter</b>	<b>Topic</b>	<b>Lab</b>
Jan 12	1/2	Introduction /The Chemical Composition of Cells	<b>Lab 1:</b> Lab Safety/Dissecting Microscope
Jan 14	2	The Chemical Composition of Cells	<b>Lab 2:</b> Compound Microscope
Jan 19		Holiday	
Jan 21	3	Plant Cell Structure	<b>Lab 3:</b> Plant Cells
Jan 26	5	Plant Tissues and the Multicellular Plant Body	<b>Lab 4:</b> Plant Body and Tissues
Jan 28	6	Plant Organs: Roots	<b>Lab 5:</b> Roots
Feb 2	7	Plant Organs: Stems	<b>Lab 6:</b> Stems
Feb 4	8/10	Plant Organs: Leaves /Transport of Water & Mineral Nutrient	<b>Lab 7:</b> Leaves
Feb 9	9	Flowers, Fruits, & Seeds	<b>Lab 8:</b> Flowers
Feb 11	9	Flowers, Fruits, & Seeds	<b>Lab 9:</b> Fruit & Seeds
Feb 16		Holiday	
<b>Feb 18</b>		<b>Exam 1</b>	<b>Turn in Lab Notebook</b>
Feb 23	4	Metabolism in Cells	<b>Lab 10:</b> Transpiration
Feb 25	4	Metabolism in Cells	<b>Lab 11:</b> Photosynthesis
Mar 2	11	Growth Responses and Regulation of Growth	<b>Lab 12:</b> Plant Hormones & Tissue Culture
Mar 4	12	Mitosis, Meiosis and Life Cycles	<b>Lab 13:</b> Cell Division
Mar 9	13	Patterns of Inheritance	<b>Lab 14:</b> Crossing of Arabidopsis
Mar 11	14/15	Molecular Basis of Inheritance	<b>Lab 15:</b> DNA
Mar 16	16/17	Evolution	<b>Lab 16:</b> Evolution in Hawaiian Plants: Phylogenetic Analysis
<b>Mar 18</b>		<b>Exam 2</b>	<b>Turn in Lab Notebook</b>
Mar 23/25		Spring Recess	
Mar 30	18	Classification of Plants & Other Organisms	<b>Lab 17:</b> Video
Apr 1	19	Introduction to Viruses and Bacteria	<b>Lab 18:</b> Bacteria
Apr 6	20	Introduction to Kingdom Protista	<b>Lab 19:</b> Algae
Apr 8	21	Introduction to Kingdom Fungi	<b>Lab 20:</b> Fungi
Apr 13	22	The Plant Kingdom: Bryophytes	<b>Lab 21:</b> Mosses & Liverworts
Apr 15	23	The Plant Kingdom: Seedless Vascular Plants	<b>Lab 22:</b> Ferns
Apr 20	24	The Plant Kingdom: Gymnosperms	<b>Lab 23:</b> Gymnosperms
Apr 22	25	The Plant Kingdom: Flowering Plants	<b>Lab 24:</b> Angiosperms
Apr 27	26	Ecosystems	<b>Lab 25:</b> Ecosystems
Apr 29	27	Global Ecology and Human Impact	<b>Lab 26:</b> Hawaii Invasive Plant Species
May 4		General Review	
<b>May 6</b>		<b>Final Lab Exam</b>	
<b>May 11</b>		<b>Final Lecture Exam 4:00 - 6:00 pm</b>	<b>Turn in Lab Notebook</b>