

**BOT 101 General Botany (CRN 64007)  
(Lecture/Lab)**

4 Credits

MTWR 08:30 – 10:40 am, Hale Imiloa 101

**INSTRUCTOR:** Dr. Hongwei Li  
**OFFICE:** Hale Imiloa 107  
**OFFICE HOURS:** T/R 10:50 – 11:50 am, or by appointment  
**TELEPHONE:** 236-9104 **EMAIL:** hli@hawaii.edu  
**EFFECTIVE DATE:** Summer 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 Lualima 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 Exam:** is accumulative, includes contents from lectures and labs. *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 Reports

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

### Assignments

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

### Grading

Tasks	Possible Points
Exam 1	100
Exam 2	100
Final Exam	150
Lab Exercises	50
Lab Notebook	100
Assignments	50
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Total possible points	550

- 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,

### 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.*

### Schedule: BOT 101 General Botany (Lecture and Lab)

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