

**BOT 101 General Botany (CRN 63409)  
(Lecture/Lab)**

4 Credits

MW 8:30 – 11:00 am, Hale Imiloa 101

<b>INSTRUCTOR:</b>	Dr. Hongwei Li
<b>OFFICE:</b>	Hale Imiloa 107
<b>OFFICE HOURS:</b>	Monday 11:15am – 12:15 pm, or by appointment
<b>TELEPHONE:</b>	236-9104
<b>EFFECTIVE DATE:</b>	Fall 2016

**EMAIL:** hli@hawaii.edu

**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 activity 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 scheduled laboratory exercises.

## Lab Reports

- A three-ring folder with lab report (Title, introduction, materials and methods, results and discussions). The lab reports are due at each exam.

## Scientific report on a course-based research project:

- Conduct research on a given topic and write a scientific report.

## Grading

Tasks	Possible Points
Exam 1	100
Exam 2	100
Final Exam	150
Lab Exercises	50
Lab Reports	100
Scientific report	100
-----	
Total possible points	600

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

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

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) Fall 2016**

<b>Date</b>	<b>Reading Chapter</b>	<b>Topic</b>	<b>Lab</b>
08/22	1/2	Introduction /The Chemical Composition of Cells	<b>Lab 1:</b> Lab Safety/Dissecting Microscope
08/24	2	The Chemical Composition of Cells	<b>Lab 2:</b> Compound Microscope
08/29	2	The Chemical Composition of Cells	<b>Lab 3:</b> Chemical Composition of Cells / pH
08/31	3	Plant Cell Structure	<b>Lab 4:</b> Plant Cells
09/07	5	Plant Tissues and the Multicellular Plant Body	<b>Lab 5:</b> Plant Body and Tissues
09/12	6	Plant Organs: Roots	<b>Lab 6:</b> Roots
09/14	7	Plant Organs: Stems	<b>Lab 7:</b> Stems
09/19	8/10	Plant Organs: Leaves /Transport of Water & Mineral Nutrient	<b>Lab 8:</b> Leaves
09/21	9	Flowers, Fruits, & Seeds	<b>Lab 9:</b> Flowers
09/26	9	Flowers, Fruits, & Seeds	<b>Lab 10:</b> Fruit & Seeds
<b>09/28</b>		<b>Exam 1</b>	<b>Turn in Lab Reports</b>
10/03	4	Metabolism in Cells	<b>Lab 11:</b> Transpiration
10/05	4	Metabolism in Cells	<b>Lab 12:</b> Photosynthesis
10/10	11	Growth Responses and Regulation of Growth	<b>Lab 13:</b> Plant Hormones & Tissue Culture 1
10/12	11	Growth Responses and Regulation of Growth	<b>Lab 13:</b> Plant Hormones & Tissue Culture 2
10/17	12	Mitosis, Meiosis and Life Cycles	<b>Lab 14:</b> Cell Division
10/19	13	Patterns of Inheritance	<b>Lab 15:</b> Principles of Genetic Inheritance
10/24	14/15	Molecular Basis of Inheritance	<b>Lab 16:</b> DNA Extraction
10/26	16/17	Evolution	<b>Lab 17:</b> Plant DNA Sequence Databases and Analysis Tool
10/31	16/17	Evolution	<b>Lab 18:</b> Evolution in Hawaiian Plants: Phylogenetic Analysis
<b>11/02</b>		<b>Exam 2</b>	<b>Turn in Lab Reports</b>
11/07	18/19	Classification of Plants & Other Organisms / Introduction to Viruses and Bacteria	<b>Lab 19:</b> Bacteria
11/09	20	Introduction to Kingdom Protista	<b>Lab 20:</b> Algae
11/14	21	Introduction to Kingdom Fungi	<b>Lab 21:</b> Fungi
11/16	22	The Plant Kingdom: Bryophytes	<b>Lab 22:</b> Mosses & Liverworts
11/21	23	The Plant Kingdom: Seedless Vascular Plants	<b>Lab 23:</b> Ferns
11/23	24	The Plant Kingdom: Gymnosperms	<b>Lab 24:</b> Gymnosperms
11/28		Holiday	
11/30	25	The Plant Kingdom: Flowering Plants	<b>Lab 25:</b> Angiosperms
12/05	26	Ecosystems	<b>Lab 26:</b> Ecosystems
12/07	27	Global Ecology and Human Impact	<b>Turn in Lab Reports</b>
<b>12/14</b>		<b>Final Exam 8:30 - 10:30 am</b>	

(Please note that this schedule is subject to change)