

BOT 101 General Botany (CRN 62058)
(Lecture/Lab)

4 Credits

TR 11:30 am – 02:00 pm, Hale Imiloa 101

INSTRUCTOR: Dr. Hongwei Li
OFFICE: Hale Imiloa 107
OFFICE HOURS: Tuesday 2:00-3:00 pm, walk-in or by appointment
TELEPHONE: (808) 236-9104 **EMAIL:** hli@hawaii.edu
EFFECTIVE DATE: Spring 2018

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.

COURSE SATISFIES:

- DB/DY for AA in Liberal Arts
- Required course for Certificate of Achievement in Agripharmatech
- Elective for AS in Natural Sciences

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 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.*

Quizzes/assignments

- There are 5 quizzes/assignments will be given, and the time and content will be announced in class.

Lab Reports

- The content of a lab report includes Title, Introduction, Materials and Methods, Results and Discussions. The lab reports are due before each midterm.

Presentation on a course-based research project:

- Conduct research on a given topic and present in class.

Grading

Tasks	Possible Points
Quizzes / Assignments (5)	100
Midterm Exam (2)	200
Final Exam	150
Lab Reports	100
Project Presentation	50

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, 2nd 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, or you may stop by Hale 'Akoakoa 213 for more information.

Schedule: BOT 101 General Botany (Lecture and Lab) Spring 2018

Date	Chapter	Topic	Lab
01/09	1/2	Introduction /The Chemical Composition of Cells	Lab 1: Lab Safety/Dissecting Microscope
01/11	2	The Chemical Composition of Cells	Lab 2: Compound Microscope
01/16	2	The Chemical Composition of Cells	Lab 3: Chemical Composition of Cells / pH
01/18	3	Plant Cell Structure	Lab 4: Plant Cells
01/23	5	Plant Tissues and the Multicellular Plant Body	Lab 5: Plant Body and Tissues
01/25	6	Plant Organs: Roots	Lab 6: Roots
01/30	7	Plant Organs: Stems	Lab 7: Stems
02/01	8/10	Plant Organs: Leaves /Transport of Water & Mineral Nutrient	Lab 8: Leaves
02/06	9	Flowers, Fruits, & Seeds	Lab 9: Flowers
02/08	9	Flowers, Fruits, & Seeds	Lab 10: Fruit & Seeds
02/13		Exam 1	Turn in Lab Report
02/15	4	Metabolism in Cells	Lab 11: Transpiration
02/20	4	Metabolism in Cells	Lab 12: Photosynthesis
02/22	11	Growth Responses and Regulation of Growth	Lab 13: Plant Hormones & Tissue Culture 1
02/27	11	Growth Responses and Regulation of Growth	Lab 13: Plant Hormones & Tissue Culture 2
03/01	12	Mitosis, Meiosis and Life Cycles	Lab 14: Cell Division
03/06	13	Patterns of Inheritance	Lab 15: Principles of Genetic Inheritance
03/08	14/15	Molecular Basis of Inheritance	Lab 16: DNA Extraction
03/13	16/17	Evolution	Lab 17: Plant DNA Sequence Databases and Analysis Tool
03/15	16/17	Evolution	Lab 18: Evolution in Hawaiian Plants: Phylogenetic Analysis
03/20		Bioprocessing Medicinal Garden Complex	
03/22		Exam 2	Turn in Lab Report
03/27-03/29		Spring Recess	
04/03	18/19	Classification of Plants & Other Organisms/ Introduction to Viruses and Bacteria	Lab 19: Bacteria
04/05	20	Introduction to Kingdom Protista	Lab 20: Algae
04/10	21	Introduction to Kingdom Fungi	Lab 21: Fungi
04/12	22	The Plant Kingdom: Bryophytes	Lab 22: Mosses & Liverworts
04/17	23	The Plant Kingdom: Seedless Vascular Plants	Lab 23: Ferns
04/19	24	The Plant Kingdom: Gymnosperms	Lab 24: Gymnosperms
04/24	25	The Plant Kingdom: Flowering Plants	Lab 25: Invasive species
04/26	26/27	Ecosystems/ Global Ecology and Human Impact	Reviews
05/01		Project Presentation and Review	
05/10		Final Exam 11:30 am - 01:30 pm	

(Please note that this schedule is subject to change)