

NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE

COURSE SYLLABUS

Course Title: GENERAL BOTANY **Course #:** BIO* 155

Course Description: 4 semester hours (3 class hours/3 laboratory hours).

General Botany provides an introduction to the study of the structure, reproduction, and physiology of plants. The evolutionary development of the plant kingdom will be stressed, as will their ecological and economical significance. Laboratory classes will include fieldwork and field trips to provide hands-on experience in identification of plant species and the role of plants in nature. Projects in cloning and growth will emphasize the importance of plants in human society. This course fulfills the requirement for a laboratory science course and is transferable.

Pre-requisite/Co-requisite: SCI* 099 or equivalent, ENG* 063 and ENG* 073, EBG *093, or satisfactory score on placement test. Computer skills, including email, word processing, and web navigation **are critical** for this course.

Goals: The goal of this course is to provide an introduction to the study of plants as a basis for understanding broader biological principles.

Outcomes:

At the end of the course, students should be able to:

- List the characteristics of plants and explain why plants are believed to have descended from green algae
- Trace the evolutionary advances of lycophytes, sphenophytes, pterophytes, gymnsperms, and angiosperms
- Describe the predominant characteristics of lycophytes, sphenophytes, pterophytes, gymnsperms, and angiosperms
- Contrast water and land as environments for plants
- Describe how the basic structure and growth of vascular plants are adapted to their function
- Describe the tissue systems found in vascular plants
- Describe the cell types found in plants
- Recognize the differences between monocotyledons and dicotyledons
- Describe the different reproductive mechanisms found in plants
- Explain the various functions of a root system and distinguish between the differing systems
- Describe the sequence of events that occur in primary and secondary growth
- Describe plant growth in scientific terms
- List the functions of stems and leaves and describe the various leaf development patterns
- Describe the process of photosynthesis in C3, C4, and CAM plants
- Explain the mechanisms of transport through the xylem and phloem
- Explain the role of the five kinds of plant hormones and list where each is produced
- Explain what factor influences how a plant responds to hormones
- Explain the responses of plants to day length
- Explain how pollination and fertilization occur in flowering plants
- Name the parts of a flower and a seed
- Describe the conditions necessary for seed germination
- Explain the advantages of asexual propagation
- Describe the evolutionary important plant species
- Understand the role of plants in the environment

College Policies:

Plagiarism: Plagiarism and Academic Dishonesty are not tolerated at Northwestern Connecticut Community College. Violators of this policy will be subject to sanction. Please refer to your "Student Handbook" under "Policy on Student Rights," the Section entitled "Student Discipline," or the College catalog for additional information.

Americans with Disabilities Act (ADA): The College will make reasonable accommodations for persons with documented learning, physical, or psychiatric disabilities. Students should notify Roseann Dennerlein, the Counselor for Students with Disabilities. She is located at Green Woods Hall, in the Center for Student Development. Her phone number is 860-738-6307 (V/TTY) and her email is rdennerlein@nwcc.commnet.edu.

School Cancellations: If snowy or icy driving conditions cause the postponement or cancellation of classes, announcements will be made on local radio stations. Students may also call the College directly at (860) 738-6464 to hear a recorded message concerning any inclement weather closings. Students are urged to exercise their own judgment if road conditions in their localities are hazardous