

BIO 120
INTRODUCTORY BOTANY

COURSE DESCRIPTION:

Prerequisites: BIO 111
Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. The laboratory exercises are coordinated with lecture topics and may include field exercises. This course has been approved to satisfy the Comprehensive Articulation Agreement for the general education core requirement in natural sciences/mathematics. Course Hours Per Week: Class, 3. Lab, 3. Semester Hours Credit, 4.

LEARNING OUTCOMES:

After completion of this course, the student will demonstrate basic knowledge in each of the following:

- a. Ecological and economic importance of plants.
- b. Dynamics of communities and ecosystems.
- c. Characteristics and composition of the major biomes.
- d. Differentiating characteristics of the five kingdoms of the Whittaker classification scheme.
- e. Characteristics of bacteria, viruses, and fungi.
- f. Characteristics and life cycles of the main divisions of plant-like protists.
- g. Characteristics and life cycles of the main divisions of bryophytes.
- h. Characteristics and life cycles of the main divisions of tracheophytes.
- i. Structure and development of angiosperms.
- j. Growth regulation and growth responses in angiosperms.
- k. Evolution and specilizations in angiosperms.

OUTLINE OF INSTRUCTION:

- I. Plants and human cultures
 - A. Plants of economic importance
 - B. Plants of ecological and future importance
 - C. Conservation of plants

- II. Ecology
 - A. Communities
 - B. Ecosystems
 - C. Trophic levels
 - D. Biomes

- III. Classification
 - A. Nomenclature
 - B. Binomial System
 - C. Major groups of organisms

- IV. Bacteria, viruses and fungi
 - A. Characteristics of bacteria
 - B. Major groups of bacteria
 - C. Different kinds of viruses
 - D. Biology of fungi
 - E. Major groups of fungi

- V. Protista
 - A. Heterotrophic protists
 - B. Photosynthetic protists

- VI. Bryophytes
 - A. Hepaticae
 - B. Anthocerotae
 - C. Musci

- VII. Seedless vascular plants
 - A. Psilophyta
 - B. Lycophyta
 - C. Sphenophyta
 - D. Pterophyta

- VIII. Seed plants
 - A. Cycadophyta
 - B. Ginkophyta
 - C. Coniferophyta
 - D. Gnetophyta
 - E. Anthophyta

- IX. Angiosperm structure and development
 - A. Embryo and seed
 - B. Plant body
 - C. Root
 - D. Shoot
 - E. Secondary growth

- X. Growth regulation
 - A. Plant hormones
 - B. External factors

- XI. Evolution of the angiosperms

BIO 120

- A. Origin and evolution of the flower
- B. Commensal relationships
- C. Biochemical defenses

REQUIRED TEXTBOOKS:

To be selected by the Instructor/Discipline Chair.

STATEMENT FOR STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 686-3652 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1309.