Administrative Unit: Science

Course Prefix and Number: BIOL 212

Course Title: Botany

Number of Credit Hours: 5 Lecture Hours: 3 Laboratory Hours: 2

Catalog Description: Anatomy, physiology and taxonomy of plants. Laboratory included. $20 lab fee. Prerequisite: BIOL 112 and BIOL 112L or instructor’s permission. Even fall.

Prerequisite(s)/Corequisite(s): BIOL 112 and BIOL 112L or instructor’s permission.

Text(s): Textbooks listed are not necessarily the textbook(s) used in the course.

Most current editions of the following:


Manseth, J.D. *Botany*. Jones & Bartlett.

Course Objectives:

• To describe the classification and phylogeny of plants.
• To summarize the structure and function of plant cells and tissue systems.
• To describe the processes of photosynthesis and respiration.
• To relate plant structural components to their functions.
• To summarize the characteristics of each of the major plant groups.

Measurable Learning Outcomes

• Describe how organisms are named.
• Explain how phylogenies are related to evolution.
• Summarize the life cycle of plants.
• Distinguish between nonvascular and vascular plants.
• Explain the roles of seeds and fruits.
• Describe the basic tissue types and their roles.
• Link plant structures to specific functions.
• Identify the events and significance of vegetative plant development.
• Describe transport mechanisms in plants.
• Give examples of plant defenses.
• Describe basic plant nutritional requirements.
• Summarize how plants respond to their environment.
• Identify structures and strategies important in plant reproduction.

Topical Outline (major areas of coverage):

• Plant growth and development
• Root systems
• Stems
• Leaves
• Photosynthesis and Respiration
• Reproduction
• Evolution of plants
• Classification of plants
• Bacteria, fungi and algae
• Bryophytes and ferns
• Gymnosperms
• Angiosperms

Material from this course may be tested on the Major Field Test (MFT) administered during the Culminating Experience course for the degree.

Recommended maximum class size for this course: 24

Library Resources: Online databases are available at http://www.ccis.edu/offices/library/resources.asp. You may access them from off-campus using your eServices login and password when prompted.

Prepared by: Julie Estabrooks, Ph.D.

Name
Signature

Date: October 14, 2005

NOTE: The intention of the master syllabus is to provide an outline of the contents of this course, as specified by the faculty of Columbia College, regardless of who teaches the course, when it is taught or where it is taught. Faculty members teaching this course for Columbia College are expected to facilitate learning pursuant to the course objectives and cover the subjects listed in the topical outline. However, instructors are also encouraged to cover additional topics of interest so long as those topics are relevant to the course’s subject. The master syllabus is, therefore, prescriptive in nature but also allows for a diversity of individual approaches to course material.

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