

Anoka-Ramsey Community College

BIOL 2207: Plant Biology

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: 3

Lab Hours/Week: 3

OJT Hours/Week: *.*

Prerequisites:

This course requires both of these prerequisite categories

1. One of these two

BIOL 1106 - Principles of Biology I (Minimum grade: 2.0 GPA Equivalent)

A score of 3 on test Advanced Placement Biology

And

2. Any one of these three

CHEM 1020 - Interpretive Chemistry (Minimum grade: 2.0 GPA Equivalent)

CHEM 1050 - Fundamentals of General, Organic, and Biological Chemistry (Minimum grade: 2.0 GPA Equivalent)

CHEM 1061 - Principles of Chemistry I (Minimum grade: 2.0 GPA Equivalent)

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

(MnTC Goal 3)

Prerequisites: BIOL 1106 with Chem 1020, 1050, or 1061 with a grade of C or better

Introduction to plants including structure, function, growth, development, and reproduction. Laboratory also includes a survey of major plant groups. Three lecture hours and three laboratory hours per week.

B. COURSE EFFECTIVE DATES: 06/01/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Importance of plants in the world
2. Anatomy of plants: form, structure, and function
 - a. cellular level
 - b. whole-plant level
3. Physiology and metabolism of plants: function and control
4. Life cycles and alternation of generations
5. Evolution of plant groups
6. Taxonomy of plants
7. Ecological relationships with plants

D. LEARNING OUTCOMES (General)

1. Comprehend and analyze dynamic ecological roles of plants including:
 - a. critical relationships with humans
 - b. relationships with environment and other organisms
2. Comprehend the evolutionary relationships involved in classification, including:
 - a. the process of creating a classification system for living organisms
 - b. major classification schemes for plants
 - c. comparing and contrasting reproductive cycles in major groups of plants
3. Demonstrate an understanding of science as a process, including:
 - a. application of experimental design
 - b. ability to effectively use tools and perform techniques for studying plants
 - c. analysis and reporting of experimental findings
4. Communicate appropriately when discussing concepts and processes in plant biology, including:
 - a. gathering and evaluating resources
 - b. assessing, analyzing and comparing and contrasting information gathered
 - c. applying appropriate botanical terminology
5. Comprehend unique processes and structures in plant metabolism and anatomy, including:
 - a. primary metabolites
 - b. secondary metabolites and their roles in plant survival and success
 - c. relationships between structure and function
6. Synthesize knowledge about plant structure, function, growth requirements, and ecological interactions in order to solve complex problems

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted