

**Course # BIOL 212 Botany: Plants as Organisms**

**Credit Hours:** 4

**Scheduled hours per week**

Lecture: 3

Lab: 2

**Catalog Course Description:** Development, structure, function, and evolution of vascular and non-vascular plants; physiological and ecological relationships.

**Pre-requisites:** BIOL 101/103; 102/104

**Co-requisites:** None

**Course Learning Outcomes (CLO):**

- Describe the typical plant cell structure.
- Classify and compare different type of plant tissue.
- Classify plants relative to the current taxonomic system.
- Explain the alternation of generations and compare specific life cycle examples.
- Differentiate between vascular and non-vascular plants.
- Examine the morphology of roots, stems, leaves, flowers, fruits, and seeds of flowering plants.
- Describe the morphology and reproductive cycles of gymnosperms, ferns, bryophytes, fungi and algae.
- Examine basic physiological functions of the typical plant including photosynthesis, respiration, growth responses, water movement and absorption, and tropisms.

**CLO Assessment Methods:**

Direct: Exams, quizzes, presentations, research presentation, and prepared assignments.

Indirect Methods: Course Evaluations

**Topics to be studied:**

- Plant and cell structure and function
- Plant physiology

- Diversity of vascular plant tissues
- Plant cell mitosis and meiosis
- Plant life cycles – Alternation of generations
- Plant taxonomy
- Morphology and physiology of flowering seed plants, roots, stems, leaves, flowers, fruits and seeds
- Morphology and physiology of non-flowering seed plants - gymnosperms
- Ferns and relatives
- Bryophytes
- Fungi
- Algae – photosynthetic protists
- Cyanobacteria

**Relationship of Course to Program Learning Outcomes (PLO) or Institutional Learning Outcomes:**

Check if approved as:  Foundational Learning Course     Reinforcement Learning Course

**Special requirements of the course:**

N/A

**Additional information:**

N/A

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