

**Course Objectives/Course Outline**  
**Spokane Community College**

---

---

**Course Title:** Plant Biology

**Prefix and Course Number:** ENVS 110

---

**Course Learning Outcomes:**

**By the end of this course, a student should be able to:**

- Identify and describe the function of organs of plants: stems, leaves, and roots
- Explain plant growth and development
- Explain the functions of RNA, DNA and mitosis
- Apply principles of Mendelian genetics and describe inheritance patterns
- Explain photosynthesis and respiration
- Identify and describe the function of plant macro- and micro-nutrients
- Identify and describe biomes of the world

**Course Outline:**

- I. Introduction
  - A. Plants and Microbes
  - B. Plants and People
  - C. Naming and Organizing Plants
- II. Chemistry and Plants
  - A. Atoms, Molecules and Bonds; H<sub>2</sub>O; Molecules
  - B. Origin of Life; Scientific Method
  - C. Prokaryotes – Bacteria and Archaeobacteria
  - D. Eukaryotic Cells – The Plant Cell
- III. Metabolism and Cellular Reproduction
  - A. Photosynthesis, Respiration and Metabolism
  - B. DNA and RNA
  - C. Mitosis and Meiosis
- IV. Plant Structure, Growth and Development
  - A. Stems
  - B. Roots
  - C. Leaves
  - D. Nutrition
- V. Reproduction
  - A. Mendelian Genetics
  - B. Biological Evolution
  - C. Genetic Engineering
  - D. Plant Diversity

- VI. Evolution and Ecology
  - A. Angiosperms
  - B. Gymnosperms
  - C. Co-evolutions of Plants and Animals
  - D. Ecological Principles
- VII. Biomes
  - A. Deserts, Tundra, and Taiga
  - B. Grasslands
  - C. Forests and Chaparral
  - D. Tropical Rain Forests