

## BIOL& 223

### COURSE LEARNING OUTCOMES (CLOs)

1. Describe the structure of plants and plant cells.
2. Describe absorption, transport and use of water and solutes in plants and animals.
3. Describe factors limiting occurrence of plants.
4. Explain reproductive and dispersal mechanisms of plants.
5. Describe control of growth and development in plants.
6. Explain processes by which animals maintain homeostasis.
7. Describe control of metabolism, motility and growth in animals.
8. Describe animal reproduction and development.

### Course Outline:

- I. **Introduction to Angiosperms**
  - A. plant structure/organization
  - B. growth and development
- II. **Transport in Vascular Plants**
  - A. membrane transport
  - B. transport in xylem and phloem
- III. **Plant Nutrition**
  - A. requirements
  - B. nutritional relationships between plants and other organisms
- IV. **Plant Reproduction**
  - A. Pollination and fertilization
  - B. seed and fruit development
  - C. asexual reproduction
- V. **Plant Control Systems**
  - A. signal transduction
  - B. hormones
  - C. defenses
- VI. **Introduction to Animals**
  - A. animal structure
  - B. organization
  - C. homeostasis
- VII. **Animal Nutrition, Circulation and Respiration**
  - A. digestive systems
  - B. circulation
  - C. gas exchange
- VIII. **Animal Defense and Immunity**

- IX. Water Balance and Excretion**
  - A. osmoregulation
  - B. excretory systems
  
- X. Endocrine Systems**
  - A. hormones
  - B. receptors and cell responses
  
- XI. Nervous Systems**
  - A. structure and organization
  - B. action potentials, synapses and neurotransmitters
  
- XII. Movement and Support**
  - A. skeletal structures
  - B. muscles and locomotion
  - C. integumentary systems
  
- XIII. Animal Reproduction and Development**
  - A. reproductive strategies
  - B. fertilization
  - C. embryonic development