

Course Objectives/Course Outline
Spokane Community College

Course Title: Majors Organismal Phys: w/Lab

Prefix and Course Number: BIOL& 223

Course Learning Outcomes:

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

- Describe the structure of plants and plant cells
- Describe absorption, transport and use of water and solutes in plants and animals
- Describe factors limiting occurrence of plants
- Explain reproductive and dispersal mechanisms of plants
- Describe control of growth and development in plants
- Explain processes by which animals maintain homeostasis
- Describe control of metabolism, motility and growth in animals
- 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

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- 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