BIO 102 General Biology
Lecture Outline

Animal Tissues and Organ Systems

I. Introduction
- Definitions of tissues and histology
- Basic kinds of tissue
  - Epithelial
  - Connective
  - Muscular
  - Nervous

II. Epithelial Tissue
- A. Definition
- B. Functions
  - Protection
  - Selective transport
  - Sensation
- C. Specialized characteristics
  - Polarity
    - Microvilli
    - Basement membrane
  - Specialized contacts
    - Tight junctions
    - Desmosomes
    - Gap junctions
- D. Classes of epithelial tissue
  - Number of cell layers
    - Simple vs. Stratified
  - Shape of cells
    - Squamous
    - Cuboidal
    - Columnar
  - Glandular epithelia
    - Exocrine gland vs. Endocrine gland

III. Connective Tissue
- A. Functions – diverse!
  - Support
  - Protection
  - Insulation
  - Transport

- B. Common structural characteristics
  - Cells
  - Extracellular matrix
    - Fibers
      - Collagen
      - Elastin
      - Reticular
- C. Categories of connective tissue
  - Connective tissue proper
    - Loose CT
      - Areolar CT
      - Adipose tissue
    - Dense CT
      - Dense regular CT
      - Dense irregular CT
  - Cartilage
  - Bone
  - Blood

IV. Muscle Tissue

- A. Functions
- B. Categories of muscle tissue
  - Skeletal muscle
  - Cardiac muscle
  - Smooth muscle

V. Nervous Tissue

- A. Functions
- B. Cell types
- C. Locations

VI. Tissue Origins

- Ectoderm
- Mesoderm
- Endoderm

VII. Organ Systems

Integumentary	Respiratory	Nervous
Urinary	Muscular	Digestive
Skeletal	Endocrine	Lymphatic
Circulatory	Reproductive (male vs. female)	