

University of Arkansas – Fort Smith
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General Syllabus

BIOL 49004 Histology

Credit Hours: 4

Lecture Hours: 3

Laboratory Hours: 3

Prerequisite: Junior standing

Effective Catalog: 2018~2019

I. Course Information

A. Catalog Description

Histology presents the microscopic anatomy that comprises the structural basis of normal anatomy and physiology. Such knowledge is essential for the understanding how form relates to function in the mammalian body. Students are expected to identify the specialized cells, tissues, and organs in order to understand the structural basis of their function. Emphasis is placed on microscopic study conducted in small groups in laboratories.

B. Additional Information

This is an upper level elective for students who wish an intensive preparation in microscopic anatomy. It is designed as a complementary course to anatomy and/or physiology for students in the Biology B.S. degree program or the Teacher Licensure degree program.

II. Student Learning Outcomes

A. Subject Matter

Upon completion of this course, the student will be able to:

1. Compare normal mammalian tissues and organs using the light microscope.
2. Analyze and interpret photomicrographs of TEM and SEM preparations of cells.
3. Distinguish the principles of microscopy, both light, transmission and scanning.
4. Classify the use of stains and histo-chemistry in identifying functions of tissues and cells.
5. Relate form to physiological function of cells, tissues, and organs.

B. University Learning Outcomes

Analytical Skills

Critical Thinking Skills: Students will use critical thinking skills to identify problems/issues and develop solutions/analysis. Students will need to collect data and perform statistical analyses of data collected.

Communication Skills (written and oral)

Students will present oral presentations to the class and answer questions pertaining to their research by their audience.

Ethical Decision Making

Students will conduct themselves in an ethical manner and evaluate ethical considerations during discussions of histological research activities common to the discipline of physiology and histology.

Global and Cultural Perspective

Students will consider and evaluate procedures and ideas common to histology in terms of cultural beliefs.

III. Major Course Topics

- A. Histology of Cells
- B. Tissue types
 - 1. Epithelia
 - 2. Connective tissue
 - 3. Neural tissue
- C. Circulatory System
- D. Lymphatic Organs
- E. Integument
- F. Digestive System
- G. Respiratory System
- H. Urinary System
- I. Reproductive System
- J. Histology Techniques
 - 1. Light Microscopy
 - 2. Transmission and Scanning Microscopy
 - 3. Histochemistry
 - 4. Fluorescent Microscopy.