

Spring 2006
BIOLOGY 345:
Histology

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Office Hours: Monday, Tuesday, Wednesday, Friday 8:00-9:00 a.m.

Prerequisite: General Zoology (Biology 112)

Required Text: Basic Histology. Junquiera and Carneiro. McGraw Hill 11th edition.
2005.

Course Description:

Histology traditionally was known as the normal microscope anatomy that is revealed by the light microscope. This course will deal with the study of structure but not in isolation from function since morphology and physiology are intimately related. In other words, we will consider Functional Histology. I will try to present a modern picture of the microscopic and submicroscopic structure of many cells, tissues, and organs in the mammalian body. The tools of Histology have changed so that we do not solely rely on the compound light microscope, but microscopic anatomists constantly use the phase contrast, ultraviolet, transmission and scanning electron microscopies, etc. This is the reason for the consideration of these instruments in the early part of the course. We will also consider how normal histophysiology is applied to problem solving in diseases (pathology).

The lab is designed to give you training in the recognition of cells, tissues and organs. I will also present the principles of microtechnique and may have you prepare some slides with hematoxylin and eosin, and the periodic acid Schiff reaction (PAS). I find modern Histology an interesting, exciting part of biology and look forward to sharing my enthusiasm for the subject with you.

Attendance Policy:

I expect you to attend class unless there are extreme extenuating circumstances. This class meets 10:20-11:10 a.m. on Monday, Wednesday and Friday.

Grading Policy:

There will be three hourly exams. The average of these grades represents two-thirds of your grade, and the laboratory one-third prior to the final exam. The average obtained from these figures will be two-thirds of your final grade, and the end of the term exam one-third. In arriving at the final decision, I will consider intangibles such as interest, industry, neatness, etc.

Honesty Policy:

I adhere to the honesty policy formulated by Moravian College. Read the paragraph in the student handbook and carefully consider its statements.

Tentative Schedule

January 16	Introduction and history
January 18	Methods of Staly (pgs 1-20) general principles of microtechnique
January 20	light and electron microscopy
January 23	cell fractionation
January 24	final day for course changes
January 25	forms and characteristics of epithelial cell (pg 66-89)
January 27	epithelial cell continued
January 30	connective tissue (pgs 91-121)
February 1 st	cartilage and bone (pgs 128-152)
February 3	<u>Exam 1</u>
February 6	bone fractures and diseases (pgs 145-148)
February 8	nerve tissue (pgs 153-181)
February 10	nerve tissue continued
February 13	circulatory system (pgs 205-222)
February 15	blood cells (pgs 223-237)
February 17	blood cells continued
February 20	lymphoid organs (pgs 254-279)
February 22	lymphoid organs continued
February 24	midterm (continued)
February 27	continued

March 1	<u>Exam 2</u>
March 3	
March 6-11	no class college closed Spring break
March 13	digestive tract (pgs 281-315)
March 15	digestive tract continued
March 17	continued
March 20	organs associated with the digestive tract (Pgs 317-338)
March 22	continued
March 24	continued
March 27	skin (pgs 360-372)
March 29	skin continued
March 31	urinary system (pgs 373-390)
April 3	urinary system continued
April 5	continued
April 7	<u>Exam 3</u>
April 10	endocrine glands (pgs 392-417)
April 12	endocrine glands continued
April 14	no class college closed Good Friday
April 17	no class college closed Easter Monday
April 19	male reproductive System (pgs 418-433)
April 21	male reproductive system continued

April 24	female reproductive System (pgs 435-454)
April 26	female reproductive system continued (pgs 456-476)
April 28	sensory organs
April 29	classes end
May 1 st -5 th	Final Exams