BI 454L: Histology Lab
Thurs 2-5
E. Shimakawa
Spring 1999

This is a companion laboratory to Histology lecture (BI 454). We will be learning how to prepare slides and tissues for microscopy. There is no text to this course, all labs will be done from handouts. As you will see, you will probably be spending ON AVERAGE 3 hours per week on this lab course, but not all on Thursdays from 2-5.

Grading will be based on the quality of the slides you produce & hand in, attendance* and on you scores on a midterm and final practical exam: (850 total points)

Blood Smear:	**25 points**
Planaria, whole mount:	**50 points**
Invertebrates:	**50 points**
Marine Organism slides (2): 25 points each.	
4 different mammalian **tissues (mouse) 50 points each:**	200 points
Midterm (11 Mar)	**150 points**
Final (29 April)	**200 points**
Attendance:	**150 points**

***Attendance: Although we will not be meeting necessarily for the whole lab period, I would like to see you each week in the lab, even briefly. Also, this lab gets the lab (even more) messy as the semester goes on, so I reserve the right to keep tabs on each person's work, to make sure we all** try **to keep things contained and as neat as possible.**

Slide boxes: Slide boxes will be checked out to each student for the duration of the semester for study.

Date	Histology Laboratory
14 Jan	Introduction to Microscopes, Blood Smears
21 Jan	Preserved specimens (invertebrates); continue Blood Smears
28 Jan	Planaria
4 Feb	Marine organisms
11 A long day today	Continue marine organisms: tissue processing to 100% Paraplast; Begin mouse, bat BLOOD SMEARS DUE
18 Feb	Continue marine organisms: Embedding Continue mouse, bat: tissue processing to 100% Paraplast PLANARIA WHOLE-MOUNTS DUE
25 Feb	Continue marine organisms: Sectioning Continue mouse, bat: embedding
4 Mar	[Sectioning, embedding: both tissues]
11 Mar	MIDTERM PRACTICAL EXAM
18 Mar	[Continue Sectioning both tissue types]
1 Apr	[Continue Sectioning both tissue types]
8 Apr	Staining
15 Apr	MARINE ORGANISM SLIDES DUE Mounting [Staining: mouse & bat tissues]
22 Apr*	[Staining]
29 Apr	MOUSE TISSUE SLIDES DUE. LABORATORY FINAL

* Shimakawa may be gone.

B1454: **Histology**
Chaminade University
Spring 1999
Dr. E. Shimakawa/X803/ellencuh@lava.net
Office Hours: Mon, Tu: **1-3 or by appointment**
http://www.chaminade.edu/~eshimaka/Histology/index.html

Description: Histology is the microscopic study of cells and tissues. This course will concentrate on animal histology, taking a functional approach to tissues, cells and cell structures. The "lecture" portion of this course is organized according to organ systems: we will systematically address cell types, structures and cellular organization, learning how to identify them and discerning "normal" from some well-characterized disease states. This portion of the course requires that you study your slides outside of lecture, during lecture and challenges you to work on your own, although there may be some time available during lecture and the scheduled lab periods.

In Lab, we will be making various types of slides, involving a number of techniques including the sue of the microtome. I hope to also include an immuno-staining project.

This course is an upper-division elective in Biology, and is strongly suggested for students headed for medical or dental school as many professional schools include histology in their first year curriculum.

Objectives: The objectives of this course are to introduce you to mammalian histology, concentrating on cellular structures and function. By the end of this course a student successful in this course will be able to:

1. **Identify the major tissue types and organizations.**
2. **Identify cellular structures distinctive to each tissue type and relate their presence to cellular function.**
3. **Identify selected pathological conditions and relate it to systemic effects.**

Text: **Functional Histology (2nd edition or later) by PR Wheater, HG Burkitt, VG Daniels (Chruchill Livingstone, UK) ISBN # 0-443-02341-7**

Also recommended: Humason's Animal Tissue Techniques (5th edition) by JK Presnell & MP Schreibman (Johns Hopkins University Press, Baltimore) ISBN # 0-8018-5401-6

Slide boxes: a box of slides will be checked out to each student at the beginning of the semester from which to study.

Grading: **Lecture**

Quizzes (2% each) every Wednesday*		25%
Exams (25% each): 3 March, 21 April		**50%**
Final:	**Thurs, 6 May 10:30**	**25%**

***except exam days**

LECTURE SCHEDULE

Date	Lecture Topic	Wheater
11 Jan	Introduction to the Cell	Ch. 1, 2
13 Jan	Cell Cycle & Replication	Ch. 2
20 Jan	Blood	Ch. 3
25 Jan	Connective Tissue	Ch. 4
27 Jan	Epithelial Tissue	Ch. 5
1 Feb	Muscle Tissue	Ch. 6
3 Feb	Nervous System	Ch. 7
8 Feb	Nervous System	Ch. 7
10 Feb	Circulatory System	Ch. 8
17 Feb	Circulatory System	Ch. 8
22 Feb	Skin	Ch. 9
24 Feb	Skin	Ch. 9
1 Mar	Skeletal Tissues	Ch. 10
3 Mar	EXAM I	
8 Mar	Immune System	Ch. 11
10 Mar	Immune System	Ch. 11
15 Mar	Respiratory System	Ch. 12
17 Mar	Oral Tissues	Ch. 13
29 Mar	Digestive System	Ch. 14
31 Mar	Digestive Glands	Ch. 15
5 Apr	Urinary System	Ch. 16
7 Apr	Endocrine System	Ch. 17 & handout
12 Apr	Female Reproductive System	Ch. 19
14 Apr	Female Reproductive System	Ch. 19
19 Apr	Male Reproductive System	Ch. 18
21 Apr	EXAM II	
26 Apr	Central Nervous System	Ch. 20
28 Apr	Sense Organs	Ch. 21
6 May	10: 30 - 12:30 FINAL EXAM	