

CELLS, TISSUES AND ORGANS

(Lecture 2)

Tuesday and Thursday

9.30 - 10.45 AM

LaKretz 110

Instructors:

Dr. Gordon L. Fain and Dr. Ronald H. Cooper

Fall Quarter

2008

LECTURE SCHEDULE FOR LIFE SCIENCES 2 –2 FALL QUARTER 2008

WK	DATE	Th	LECTURE TOPIC	READING (CHAPTER)
0	Sept 25	Th	1 Introduction to Biological Molecules	2, 3
1	Sept 30	T	2 Cell structure I: Characteristics of prokaryotes and eukaryotes	4, pp 68-77
	Oct 2	Th	3 Cell structure II; Overview of cell organelles	4, pp 78-93
2	Oct 7	T	4 Membrane structure and function	5
	Oct 9	Th	5 Enzymes and Energetics	6
3	Oct 14	T	6 Glycolysis and Cell respiration	7
	Oct 16	Th	7 Energy from the sun: Photosynthesis	8
4	Oct 21	T	8 Cell Signaling & Communication	15
	Oct 21	T	Midterm Exam 1, 5 - 6.50 pm. (Lectures 1-6)	
	Oct 23	Th	9 Animal Hormones	41
5	Oct 28	T	10 Animal Reproduction & Development	42 pp 896-912 & 43 pp 920- 933
	Oct 30	Th	11 Neurons I: Na/K Transport, Membrane Potentials, Ion Channels	44
6	Nov 4	T	12. Neurons II: Action Potentials, Synaptic Transmission	44
	Nov 6	Th	13. Sensory Systems	45
7	Nov 10	M	Midterm Exam 2, 7 - 8.50 pm. (Lectures 7 - 12)	
	Nov 11	T	Veteran's Day Holiday - No Lecture	
	Nov 13	Th	14 Central Nervous System I	46
8	Nov 18	T	15. Central Nervous System II	46
	Nov 20	Th	16 Membrane Transport, Digestion and Absorption	50
9	Nov 25	T	17 Excretion and the Kidney	51
	Nov 27	Th	Thanksgiving Holiday. No Lecture	
10	Dec 2	T	18 Cilia, Skeletal Muscle and Bone	47
	Dec 4	Th	19 Circulation and the Heart	49
Dec 10		Final Comprehensive Examination (See 'Examinations') 6:30 - 9.30 pm Location TBA		

Lectures 1-10 will be given by Dr. Cooper, and lectures 11-19 will be given by Dr. Fain

I. FACULTY AND STAFF:

<i>Instructors:</i>	<i>Office</i>	<i>Office hours</i>	<i>Phone</i>	<i>E-mail</i>
Dr. R.H. Cooper	1812 LSB	Tues 11am - noon Wed 5 -6 pm	206-3201	rcooper@physci.ucla.edu
Dr. G.L. Fain	3836 LSB	Mon 12.30-1.30 pm Tues 11 am - noon	206-2411	gfain@ucla.edu

Lab Coordinator:

Dr. Gaston Pfluegl 2875 Slichter 794-4113 gaston@lifesci.ucla.edu

Teaching Assistants:

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*T.A. Office hours will be announced during the first discussion section

Course Administrators:

Lily Yanez	2305 LSB	M – F 9-12, 1-4.30 pm	825-6614	yanez@lifesci.ucla.edu
Mark Katayama	2305 LSB	M – F 9-12, 1-4.30 pm	825-6614	katayama@lifesci.ucla.edu

II. TEXTBOOK AND SUPPORTING MATERIALS

Purves, Sadava, Orians, and Heller. 2007. *Life, The Science of Biology, 8th Edition*.
On reserve in the College Library (Powell). Text available for purchase at
ASUCLA Bookstore.

LS2 Laboratory Manual - Available for purchase at ASUCLA Bookstore.

Discussion Articles. Available on-line through University of California–10 campuses website of Scientific American Archive Online.

Article 1. Christian de Duve, *The Birth of Complex Cells*. Scientific American: April 1996; 50-57

Article 2 [TBA](#)

Article 3. Cahill, L. *His Brain, Her Brain*. Scientific American, May 2005, 40-47.

Article 4. Blaser, M. J. *An Endangered Species in the Stomach*, Scientific American, February 2005, 38-45

III. DISCUSSION SECTION AND LABORATORY SCHEDULE

A Lab Manual should be obtained from the UCLA Bookstore. **It is important that you attend each laboratory at your designated time; there is no provision to make up a missed lab session.**

In his first lecture Dr. Cooper will use material from a CD-ROM developed for LS2 and entitled “The Nature and Properties of Biologically Important Molecules”. During the week 1 lab you will have an opportunity to clarify any questions you have concerning material on the CD-ROM with your TA.

WEEK	WEEK OF	TOPIC	ASSIGNMENT /SESSION DUE DATE
1	Sept 29	Lab 1: Introduction to Scientific Method; Biomolecules CD-ROM Review	Lab Report due Week 2
2	Oct 6	Lab 2: Pigments of Photosynthesis	Lab Report/Due Week 4
3	Oct 13	Discussion: Sci Am article 1	Article 1/Due Week 4 - end of Thurs lecture
4	Oct 20	Lab 3: Metabolism:	Lab Report/Due Week 6
5	Oct 27	Discussion: Sci Am article 2	Article 2/Due Week 6
6	Nov 3	Lab 4: Rat Dissection	In-class assignment
7	Nov 10	Discussion: Sci Am article 3	Article 3/Due Week 8
8	Nov 17	Lab 5: Histology and Microscopy	In-class assignment
9	Nov 24	No Discussion (Thanksgiving week)	Article 4/Due Week 10
10	Dec 1	Discussion:	Review for Final

Please note that with the exception of weeks 6 & 8 (assignment completed in lab) all other assignments will be due at the BEGINNING OF THE LAB or DISCUSSION SESSION THE FOLLOWING WEEK unless otherwise noted. Failure to turn in the assignment at the above

time will result in a LATE PENALTY (2 point deduction PER DAY for every day beyond the due date).

Questions for assignments based on the *Scientific American* articles will be available from the website the beginning of the week in which the assignment is to be carried out; thus, depending on the timing of your particular discussion section, you will have at least **one week** to complete the assignment before the due date.

During the discussion sections your T.A. will review aspects of the lecture material which may require clarification, go over *Scientific American* articles assigned for that week (you should have read these beforehand as the T.A. may ask *you* questions), and discuss answers to previously graded assignments.

IV. GRADING

100	• Midterm Exam 1	
100	• Midterm Exam 2	
20	• Section	(4 Scientific American article assignments - 5 points each)
80	• Laboratory Exercises	
	Scientific Method Lab Report	10 pts
	+ Proposal for further Research	5 pts
	Metabolism Lab Report	18 + 4 pts*
	Photosynthesis Lab Report	15 + 4 pts*
	Rat dissection assignment	8 pts
	Histology lab questions	16 pts
	* denotes 4 quiz points	
200	• Final Exam	(comprehensive)
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500	• Total Points Possible	

The rooms where examinations are to be held will be announced in lecture and also posted on the course web-site. Examinations will be based primarily on material covered in lectures, but will also cover material from reading assignments and from the *Scientific American* articles. The final exam (entirely multiple-choice) is **comprehensive**, although it emphasizes material from the last third of the course. The two midterm exams will include both multiple-choice type questions, true/false as well as short-answer questions.

NO MAKE-UP EXAMS WILL BE GIVEN !! If you are unable to take an examination or final because of illness, or other emergency, you are responsible for contacting the Life Science Core Curriculum office (2305 Life Sciences Building; tel. 825-6614) **before** the examination. You are required to have written verification from a physician regarding the illness, or parent (emergency).

V. ACADEMIC INTEGRITY:

All students are held responsible for the information given in the UCLA Student Conduct Code (www.deanofstudents.ucla.edu) and are expected to be aware of the University policies on academic integrity. Please note section 102 regarding academic dishonesty, cheating, fabrication, plagiarism, and multiple submissions of work in multiple courses. All written assignments are to be the original work of each individual student or, for the three Lab Reports, the Lab team. Evidence of plagiarism or cheating during examinations will be referred to the Dean of Students.