MCB 160: INTRODUCTION TO NEUROBIOLOGY
Spring 2008
MWF 10-11 A.M.
159 MULFORD

Instructors:

Prof. Ehud Isacoff	e-mail:ehud@berkeley.edu	Tel. 2-9853
Prof. Yang Dan	e-mail: ydan@berkeley.edu	Tel. 3-2833
Prof. Kristin Scott (course director)	e-mail:kscott@berkeley.edu	Tel 3-4144

Teaching Assistants:

Avery Little	e-mail: dylittle@berkeley.edu
Heesoo Kim	e-mail: heesoo@berkeley.edu

Office hours:

Ehud Isacoff	MW, 11 A.M. - 12 noon, F 2-3pm, and by appointment.
Yang Dan	MW, 11 A.M. - 12 noon, F 2-3pm, and by appointment.
Kristin Scott	MW, 11 A.M. - 12 noon, F 2-3pm, and by appointment

Discussion sections:

101:	*Tu*	*3 - 4 P.M.*	*2312*	*Tolman*	Heesoo Kim
102:	*W*	*9 - 10 A.M.*	*229*	*Dwinelle*	Heesoo Kim
103:	*Th*	*2 - 3 P.M.*	*229*	*Dwinelle*	Avery Little
104:	*F*	*9 - 10 A.M.*	*229*	*Dwinelle*	Avery Little

Attendance at discussion sections is optional, but strongly encouraged.

Text:
Principles of Neural Science, 4th edition (Kandel, Schwartz, and Jessell)
Other topical readings will be put on reserve in the Biosciences Library throughout the semester.

Course website:
http://mcb.berkeley.edu/courses/mcb160/

Exams:
-2 midterms (100 pts. each)
-Final exam (200 pts.). The final will cover material from last third of the course (roughly half of the final), as well as material from the entire semester.

Policy on make-up exams: There will be NO make-up exams given. If you miss a mid-term exam and provide a legitimate written excuse, the scores from the other mid-term and the final exam will be averaged and used to determine your grade for the class.

MCB 160: INTRODUCTION TO NEUROBIOLOGY – Spring 2008
MWF 10-11 AM

Date	Day	#	Instr.	Topic	Readings
1/23	W	1	all	Organization & Introduction	--
1/25	F	2	EI	Structure and function of the human brain	Chapt. 1, 17
1/28	M	3	EI	Ion Channels & pumps	Chapt. 6
1/30	W	4	EI	Passive membrane properties & equivalent circuits	Chapt. 7, 8
2/1	F	5	EI	Selective permeation and gating	
2/4	M	6	EI	Action potential I	Chapt. 9
2/6	W	7	EI	Voltage-gated channels	Chapt. 9
2/8	F	8	EI	Synaptic transmission I	Chapt. 10, 11
2/11	M	9	EI	Synaptic transmission II	Chapt. 10, 11
2/13	W	10	EI	Transmitter release	Chapt. 14
2/15	F	11	EI	Vesicular release of transmitters	"
2/18	M			PRESIDENTS' DAY - NO LECTURE	
2/20	W	12	KS	Second messengers	Chapt. 13
2/22	F	13	KS	Early neural development: Induction	Chapt. 52
2/25	M	14	KS	Morphogens in neural development	Chapt. 52
2/27	W	15	KS	Lineage and Clocks in neural development	Chapt 52
2/29	F	16	KS	Axon versus dendrite specification	Chapt. 54
3/3	M			FIRST MIDTERM (covers lectures 2 to 12)	
3/5	W	17	KS	Axon Guidance 1	Chapt. 54
3/7	F	18	KS	Axon Guidance II	Chapt. 54
3/10	M	19	KS	Survival and Death in Neural Development	Chapt. 53
3/12	W	20	KS	Neural stem cells	Chapt 53
3/14	F	21	KS	Auditory system	Chapt 30, 31
3/17	M	22	KS	Olfactory system	Chapt. 32
3/19	W	23	KS	Taste	Chapt. 32
3/21	F	24	KS	Visual signal transduction	Chapt. 32
3/24				SPRING BREAK	
3/26					
3/28					
3/31	M	25	YD	Retinal processing of visual information I	Chapt. 26
4/2	W	26	YD	Higher processing of visual information I	Chapt. 27
4/4	F	27	YD	Higher processing of visual information II	Chapt. 27 "
4/7	M			SECOND MIDTERM (covers lectures 13 to 25)	
4/9	W	28	YD	III	Chapt. 27
4/11	F	29	YD	Somatic sensory system	Chapt. 22, 33
4/14	M	30	YD	Movement I: spinal cord circuits	Chapt. 34, 36
4/16	W	31	YD	II: motor cortex and voluntary movement	Chapt. 38
4/18	F	32	YD	II: cerebellum	Chapt. 42
4/21	M	33	YD	Synapse formation and rearrangement I	Chapt. 55
4/23	W	34	YD	II	Chapt. 55
4/25	F	35	YD	Activity-dedendent development I	Chapt. 56
4/28	M	36	YD	II	Chapt. 56
4/30	W	37	YD	III	"
5/2	W	38	EI	Learning and memory I	Chapt. 62
5/5	M	39	EI	Learning and memory II	Chapt. 62
5/7	W	40	EI	III – cellular mechanisms	Chapt. 63
5/9	F	41	EI	IV – cellular mechanisms	Chapt. 63
5/12	M	42	ALL	Review	

FINAL (5/17 SATURDAY 8-11 am, covers lectures 28-42 plus whole course)

EI: Ehud Isacoff; YD: Yang Dan; KS: Kristin Scott