

CELLULAR NEUROBIOLOGY
BIPN 140 Winter 2013
SYLLABUS

Professors: Massimo Scanziani & Shelley Halpain
Times: Tuesdays & Thursdays, 09:30 - 10:50
Location: Center 216
Required Text: *Neuroscience*, Purves et al. (5th edition, Sinauer Associates Publishers)

Lecture	Date	Title	Purves chapter	Instructor
Lecture 1	01/08/13	Cellular Components of the Nervous System	1	MS
Lecture 2	01/10/13	Membrane potential	2	MS
Lecture 3	01/15/13	Passive membrane properties	2	MS
Lecture 4	01/17/13	Action Potential	3	MS
Lecture 5	01/22/13	Action Potential Propagation	3	MS
Lecture 6	01/24/13	Channels	4	MS
Lecture 7	01/29/13	Synaptic Transmission I	5	MS
Lecture 8	01/31/13	Synaptic Transmission II	5	MS
Lecture 9	02/05/13	Ligand Gated Ion Channels I	6	MS
Lecture 10	02/07/13	Ligand Gated Ion Channels II & Integration	6,16	MS
Midterm	02/12/13			
Lecture 11	02/14/13	G-protein Coupled Transmitter Receptors	7	SH
Lecture 12	02/19/13	Neuromodulation	5-7	SH
Lecture 13	02/21/13	Molecular Signaling in Neurons	7	SH
Lecture 14	02/26/13	Neural Induction and Patterning	22-25	SH
Lecture 15	02/28/13	Axonal and Dendritic Development	22-25	SH
Lecture 16	03/05/13	Axonal Transport & Membrane Trafficking	22-25	SH
Lecture 17	03/07/13	Axon Guidance	22-25	SH
Lecture 18	03/12/13	Synapse Formation	22-25	SH
Lecture 19	03/14/13	Experience-dependent plasticity	22-25	SH
Finals	03/19/13			

Drop without W: Friday, February 01, 2013

Drop without an F Friday, March 08, 2013

Midterm: Tuesday, February 12, 2013 Location: Center 216 Time: 09:30 -10:50

Finals: Tuesday, March 19, 2013 Location: TBA Time: 08:00-10:59

Problem Sets: Problem sets will be posted on the class website almost every week. They will cover the previous week's material. They are for practice only: they will not be graded, but you may be called upon in section to answer them. Answers will be available on the website the week after they are handed out.

Sections: Start the week of January 16th. Attend the one of your choice.

TA Weekly Sections:	When	Where
Sonia Nan Kim	Mondays, 11:00a - 11:50a	U413 1
Sonia Nan Kim	Wednesdays, 09:00a - 09:50a	SOLIS 110
Tony Yu	Mondays, 12:00p - 12:50p	U413 1
Tony Yu	Fridays, 1:00p - 1:50p	CENTR 217A
Ernie Hwaun	Wednesdays, 10:00a - 10:50a	SOLIS 110

Pre-Exam Review Sessions

Midterm	Friday, February 08, 2013	CNBC main conference room	Time: 5:00-7:00 pm
Final	Friday, March 15, 2013	CNBC main conference room	Time: 5:00-7:00 pm

Grading:

Midterm	50 %
Final Exam	50 %

Supplemental Texts: *Neuroscience, Bear, Connors & Paradiso*
Principles of Neural Science, Kandel and Schwartz
Neurobiology, Shepherd
Ionic Channels of Excitable Membranes, Hille
From Neuron to Brain, Nicholls, Martin Fuchs et al. (5th edition)

Lecture Outlines: Generally available from class website:
<http://www.biology.ucsd.edu/classes/bipn140.WI13>

GENERAL INFORMATION

INSTRUCTORS: Massimo Scanziani, CNCB 203, massimo@ucsd.edu, 822 3839;
Shelley Halpain, Bonner Hall 2230, shalpain@ucsd.edu, 822-7793.

Instructor Office Hours:	When	Where
Massimo Scanziani	Tuesdays, 12:00-13:00	CNCB 203
Shelley Halpain	Tuesdays, 10:50-11:50	Outside the Classroom

TAs	e-mail	Office hour	Location
Sonia Nan Kim	snk002@ucsd.edu	Wednesdays, 08:00-09:00	Mandeville Coffee Cart
Tony Yu	toyu@ucsd.edu	Fridays, 11:30-12:30	Zanzibar Café
Ernie Hwaun	ehwaun@ucsd.edu	Wednesdays, 13:00-14:00	Hi Thai

HANDOUTS: There will be no handouts. Problem Sets and additional reading materials will be available from the class website. Powerpoint presentations used in class and overheads will usually be available on the class website as well.

PROBLEM SETS: These consist of sets of questions that will help you evaluate your understanding of the material covered in the lectures and the reading. They are similar to questions you will have to answer on exams. To get the most out of them, treat them like exams. **There is an excellent correlation between those who worked through the problem sets and those who received high grades in the course.** They will not be graded, but will be discussed in section. The answers will be available on the class website after the week in which they are discussed.

RECITATION SECTIONS: Sections will meet starting the second week of the quarter. The sections are useful opportunities to go over material that has been presented in the lectures and in the reading. They are also valuable because the problem sets and their solutions will be discussed.

EXAMS: The grade in the course depends on the midterm exam and a final exam. The exams will consist of short essays and problems. The Midterm will cover lectures 1 to 10. The final exam will be comprehensive, covering the whole course. The exams will cover material from lectures, assigned reading, and problem sets. The lectures are important since they highlight matters of particular significance and discuss issues that may be complex. The text is important since this reading provides further background and the instructor does not cover all of the material in lecture. The problem sets are important since they provide excellent practice in working out exam questions and some of the questions on the exams will be drawn from the problem sets.