

CELLULAR AND MOLECULAR NEUROBIOLOGY (NBIO 722 and 723)			
SCHEDULE 2013-2013			
MWF 10-11:50 Neurosci Res Bldg 3rd Floor Conf Room (3118 NRB)			
Last update: 6/3/2012			
Blue - no class/breaks/holidays. Red: Exams, Meetings.			
FALL 2012			
BLOCK 1A: METHODS TO STUDY THE BRAIN (722A)			
*PEVNY, STREET, GHUKASYAN, ROBINSON, NEWBERN, BRENNAN			
August	20 M	Sessions:	8
	22 W	Newbern	Intro to brain cell biology
	24 F	SES	Introducing membrane potentials
	27 M	SES	Introducing the action potential and synaptic transmission
September	29 W	JN, DR	Functional mouse/rat brain neuroanatomy
	31 F	VG	Imaging Methods
	3 M		Labor Day NO Classes
	5 W	Brenman, Staff	Molecular biology applied to neurons I
	7 F	Brenman, Staff	Molecular biology applied to neurons II
	10 M	LP, Staff	Molecular biology applied to neurons III
BLOCK 1B: ELECTRICAL SIGNALING (722A)			
*Manis, Frolich, Sealock			
Note: Problem set Review sessions handled by TAs.			
		Sessions:	10
September	12 W	PBM	Resistance, Capacitance, passive membranes. Problem set #1 handed out.
	14 F	RS	Membrane Potentials, Nernst, GHK
	17 M	PBM	Electrophysiology toolbox: Current clamp, Voltage clamp, Boltzmann functions. Problem set #2 handed out
	19 W	RS	Channels: Voltage dependence, activation, inactivation, permeation
	21 F	RS	Action potential, Hodgkin Huxley. Problem set #3 (action potentials) handed out.
	24 M	RS	Propagation in axons: Problem set #4 handed out, plus MS in NIA
	26 W	RS	Ion Channel Structures
	28 F	PBM	Calcium Channels and excitability
October	1 M	PBM	Potassium channels, Ih channels and intrinsic firing patterns,
	3 W	PBM	Action potential initiation, dendritic excitability, backpropagation
	3 W		TAKE HOME EXAM POSTED
	5 F		*Noon meeting, faculty of Blocks 1 and 2
	5 F		No class -- exam day
	5 F		Exam due at 4 pm
BLOCK 2: NEUROTRANSMITTER RECEPTORS (722B)			
*BRENNAN, HARDEN, NICHOLAS, WEISS, ROBINSON, KASH, McELLIOTT			
		Sessions:	10
October	8 M	RN/EW	Intro to cell signaling; overview of G-protein coupled receptor superfamily
	10 W	EW/RN	G Protein signaling
	12 F	EW/RN	Regulation of effectors by G proteins
	15 M		No Class - SFN Meeting (October 13-17)
	17 W		No Class - SFN Meeting
	17 W		No Class - FALL BREAK (5pm Weds Oct 17-8AM Mon Oct 22)
	19 F		No Class - FALL BREAK (5pm Weds Oct 17-8AM Mon Oct 22)
	22 M	KH	Receptor Binding Theory, Ligand binding analysis
	24 M		BLOCK 1 EXAM HANDED BACK TO STUDENTS
	24 W	KH	Ligand binding analysis continued
	26 F	ZM	Iontropic glutamate receptors
	29 M	ZM	Metabotropic Glutamate Receptors
	31 W	TK	GABA-gated ion channels: pharmacology and molecular biology
	2 F	JB	Neurotransmitter receptor trafficking and localization
	5 M	DR	Dopamine Release and Receptors
November	5 M		TAKE HOME EXAM BLOCK 2 POSTED
	7 W		*Noon meeting of faculty Blocks 2 and 3
	7 W		No class. Exam day.
	8 Th		TAKE HOME EXAM BLOCK 2 DUE AT 5PM
BLOCK 3: SYNAPTIC MECHANISMS AND INTRACELLULAR SIGNALING (722C)			
*PHILPOT, CARELLI, KASH, MCCARTHY, WIGHTMAN, STUBER			
		Sessions:	10
	9 F	KM	Ca signaling #1
	12 M	KM	Ca signaling #2
	14 W	KM	Ca signaling #3
	16 F		BLOCK 2 EXAM HANDED BACK TO STUDENTS
	16 F	TK	Electrophysiological analysis of neurotransmitter release, Problem Set 1
	19 M	TK	Molecular mechanisms of neurotransmitter release
	21 W		No Class - Thanksgiving W Nov 21 - Sun Nov 25
	26 M	TK	Uniquantal and multiquantal release in the CNS, Problem set 1 discussion
	28 W	TK	Modulation of release; short-term plasticity, retrograde signaling
December	30 F	GS/RC/MW	Approaches to assessing transmitter release
	3 M	BP	Synaptic plasticity: introduction to LTP and LTD
	5 W	BP	Synaptic plasticity: expression and maintenance of LTP and LTD
	7 F		TAKE HOME EXAM BLOCK 3 POSTED

	7 F		*noon meeting, faculty of Blocks 3 and 4
	10 M		No class -- exam day
	10 M		TAKE HOME EXAM BLOCK 3 DUE 4 PM
	15 F		Winter Break
		Total Fall:	38
	19 F		BLOCK 3 EXAM AVAILABLE FOR PICKUP AFTER 1:00PM
SPRING, 2013			
BLOCK 4: DEVELOPMENT OF THE NERVOUS SYSTEM (723A)			
		*CREWS, MANESS, ANTON, DESHMUKH, PEVNY	
		Sessions:	11
January	9 W	SC	Neural Induction
	11 F	SC	Neuronal cell fate specification
	14 M	LP	Neural Stem Cells
	16 W	EA	Neuronal Migration
	18 F	EA	Gliial Development
	21 M		No Class - HOLIDAY
	23 W	PFM	Cell Signaling in Neuronal Proliferation
	25 F	PFM	Molecular Control of Axon Guidance
	28 M	PFM	Development of Topographic Maps
	30 W	MD	Neuronal cell death and neurotrophin function during development
February	1 F	PFM	Synaptic Adhesion Molecules: Neurexins and Neuroligins
	4 M	PFM	Synaptic Adhesion Molecules: the LRR superfamily
	4 M		TAKE HOME EXAM BLOCK 4 POSTED
	6 W		*noon meeting, faculty of Blocks 4 and 5
	6 W		No class -- exam day
	7 Th		TAKE HOME EXAM BLOCK 4 DUE 4 PM
BLOCK 5: CNS: ANATOMY AND FUNCTION OF SENSORY AND MOTOR SYSTEMS (723B)			
		*ZYLKA, FITZPATICK, MANIS, PHILPOT, SEGAL, WEISS, SHOEMAKER	
		Sessions:	17
	8 F	EW	Vertebrate Retina
	11 M	EW	Phototransduction: cGMP channels, adaptation, rhodopsin shutoff
	13 W	BP	Organization and basic function of primary visual cortex
	15 F	BP	Visual cortex function and processing: lessons from modern methods
	18 M	RC	Mechanosensory channels: transduction
	18 M		EXAM 4 HANDED BACK TO STUDENTS
	20 W	RC	Mechanosensory channels: adaptation; freq tuning
	22 F	MZ	Pain - Peripheral mechanisms
	25 M	MZ	Pain - Central mechanisms
	27 W	MZ	Touch and the somatosensory cortex
March	1 F	RS	Motor organization: central and peripheral components
	4 M	RS	Spinal circuits and central pattern generating motor units
	6 W	RS	Basal ganglia, cerebellum, and motor cortex
	8 F	PBM/DCF	Hearing: The eighth nerve and cochlear nucleus
			NO Class - SPRING BREAK (Mar 8 5pm-Mar 18, 8AM)
	18 M	DCF	The auditory brainstem, coincidence detection
	20 W	PBM/DCF	Auditory Cortex
	22 F	Shoemaker	Sensory organs: Taste
	25 M	Shoemaker	Sensory pathways: Olfaction
	25 M		TAKE HOME EXAM BLOCK 5 POSTED
	27 W		*noon meeting, faculty of Blocks 5 and 6
	27 W		No class -- exam day
	28 Th		TAKE HOME EXAM BLOCK 5 DUE 4 PM
BLOCK 6: CNS: IMAGING AND DISEASE (723C)			
		*SNIDER, BOETTIGER, GILMORE, FROHLICH, STUBER, MCNAMARA, PIVEN, MANIS	
		Sessions:	12
	29 F		No Class GOOD FRIDAY EASTER HOLIDAY
April	1 M	JM	Epilepsy
	3 W	FF	Computationa neuroscience nad neurological disorders
	5 F	GS	Additction
	8 M	GS	Fear and Anxiety
	8 M		EXAM 4 HANDED BACK TO STUDENTS
	10 W	PBM	Neuroscinece of tinnitus and hearing loss
	12 F	JP	Autism
	15 M	JG	Schizophrenia
	17 W	GD	Imaging of the CNS 1
	19 F	GD	Imaging of the CNS 2
	22 M	WS	Alzheimer's
	24 W	WS	ALS and Parkinsons
	26 F	WS	Regeneration
	26 W		LAST DAY OF CLASSES
	26 F		TAKE HOME EXAM BLOCK 5 POSTED
	29 M		TAKE HOME EXAM BLOCK 5 DUE 4 PM
May	6 M		BLOCK 6 EXAM AVAILABLE FOR PICKUP AFTER 1:00PM
		Total Spring:	40