

Cellular Neuroscience (G16.2005001 / NEURL-GA 2201)

Course Directors

Mitch Chesler
NYC Public Health Bldg
455 First Ave, Rm 875
212-263-6318
Mitchell.Chesler@nyumc.org

Adam Carter
Center for Neural Science
4 Washington Pl, Rm 788
212-998-3882
adam.carter@nyu.edu

Location / Time

Lectures will meet on Mon and Wed from 9:30 – 11:00 am (unless otherwise noted)

Classes are split between the two campuses:

Downtown: TBD

Uptown: TBD

Labs will meet on Fridays from 2:00 – 5:00 pm

Downtown: TBD

Conferences will meet on Fridays from 2:00 – 5:00 pm

Downtown: TBD

Uptown: TBD

Assigned Reading

Molecular and Cellular Physiology of Neurons, 2nd Edition (Gordon Fain)

Handouts

Grading

Three in-class closed book exams with a choice of questions (25% each)

Laboratory and conference participation (25% total)

A>93% A->90% B+>87% B>83% B->80% C+>77% C>73% C->70% D+>67% D>63%

Passing = B or better.

Syllabus – Fall 2018

DATE	DAY	TOPIC	FACULTY	LOCATION	READING
Sept 5	W	Lecture 1: Introduction to neurons	Tsien	SOM	Fain 1
Sept 7	F	Lab 1: Electron microscopy (group 1)	Aoki	CNS	Assigned
Sept 10	M	Lecture 2: Cell biology of neurons 1	Ringstad	SOM	Assigned
Sept 12	W	Lecture 3: Cell biology of neurons 2	Ringstad	SOM	Assigned
Sept 14	F	Lab 2: Electron microscopy (group 2)	Aoki	CNS	Assigned
Sept 17	M	Lecture 4: Passive properties	Chesler	SOM	Fain 2
Sept 19	W	Lecture 5: Membrane potentials	Chesler	SOM	Fain 3
Sept 21	F	Lab 3: Simulations 1	Reyes	CNS	Assigned
Sept 24	M	Lecture 6: Action potentials 1	Carter	CNS	Fain 5
Sept 26	W	Lecture 7: Action potentials 2	Carter	CNS	Fain 5
Sept 28	F	Lab 4: Simulations 2	Reyes	CNS	Assigned
Oct 1	M	Lecture 8: Na ⁺ & Ca ²⁺ channels	Tsien	SOM	Fain 6
Oct 3	W	Lecture 9: K ⁺ channels & diversity	Tsien	SOM	Fain 7
Oct 5	F	EXAM #1 COVERING LECTURES 1 – 9		SOM	
Oct 8	M	No Class – Fall Recess			
Oct 10	W	Lecture 10: Gap junctions & electrical synapses	Long	SOM	Assigned
Oct 12	F	Conference 1: Gap junctions	Long	SOM	Assigned
Oct 15	M	Lecture 11: Presynaptic transmission 1	Basu	SOM	Fain 8
Oct 17	W	Lecture 12: Presynaptic transmission 2	Basu	SOM	Fain 8
Oct 19	F	Conference 2: Presynaptic transmission	Basu	SOM	Assigned
Oct 22	M	Lecture 13: Postsynaptic transmission 1	Tritsch	SOM	Fain 9
Oct 24	W	Lecture 14: Postsynaptic transmission 2	Tritsch	SOM	Fain 10
Oct 26	F	Conference 3: Postsynaptic transmission	Tritsch	SOM	Assigned
Oct 29	M	Lecture 15: Dendrites & integration	Carter	CNS	Assigned
Oct 31	W	Lecture 16: Neural circuits	Carter	CNS	Assigned
Nov 2	M	No Class – SFN meeting			
Nov 5	M	No Class – SFN meeting			
Nov 7	W	No Class – SFN meeting			
Nov 9	F	EXAM #2 COVERING LECTURES 10 – 16		SOM	
Nov 12	M	Lecture 17: Intracellular signaling 1	Ringstad	SOM	Fain 11
Nov 14	W	Lecture 18: Intracellular signaling 2	Ringstad	SOM	Fain 12 / 13
Nov 16	F	Conference 4: Intracellular signaling	Ringstad	SOM	Assigned
Nov 19	M	Lecture 19: Neuromodulation	Tritsch	SOM	Assigned
Nov 21	W	No Class – Thanksgiving Recess			
Nov 23	F	No Class – Thanksgiving Recess			
Nov 26	M	Lecture 20: Synaptic plasticity 1	Froemke	SOM	Fain 14
Nov 28	W	Lecture 21: Synaptic plasticity 2	Froemke	SOM	Fain 14
Nov 30	F	Conference 5: Synaptic plasticity	Froemke	SOM	Assigned
Dec 3	M	Lecture 22: Sensory transduction 1	Nagel	SOM	Fain 15
Dec 5	W	Lecture 23: Sensory transduction 2	Nagel	SOM	Fain 16
Dec 7	F	Conference 6: Sensory transduction	Nagel	SOM	Assigned
Dec 10	M	Lecture 24: Homeostatic plasticity	Long	SOM	Assigned
Dec 12	W	EXAM #3 COVERING LECTURES 17 – 24		SOM	