NGG 573: Neuroscience Core III 2020

Course Directors: Maria Geffen, Franz Weber

Time: MWF, 10:00am-12:00pm
Location: 140 John Morgan Building (Barchi Neuroscience Library); labs meet in 210 Stemmler

Text : *The Human Brain* (John Nolte [N]; any version) and *Principles of Neural Science* (Kandel & Schwartz [K&S]; 5th Edition). If you do not want to purchase these texts, copies of Kandel are on reserve in the Biomedical Library. Nolte is available through Penn Library's subscription to ClinicalKey; see also the course Canvas website for the link. Additional readings are found in the "2020 Readings" folder on the course's Canvas website.

Goals of Core III
(1) Learn the basic structural features of the vertebrate brain at the macroscopic scale (gross = major subdivisions, major connecting tracts).
(2) Learn to find your way around the brain using the various available maps (atlases) at the corresponding levels of scale: This gets easy as you accomplish goal #1.
(3) Have an understanding and appreciation of our current understanding of systems and integrative neuroscience.

Grading: Take-home Exams (80% total), in-class practical (15%), and class participation (5%).
Tests will be distributed electronically via Canvas and will be returned electronically to the designated folder on Canvas. Tests will be given after the completion of certain units and will need to be returned within **72 hours**. We will discuss this more in class. Text in **bold red** below highlight those days when a test will be distributed. These tests may include lectures from one or more topics and one or more lectures.

Day	*Date*	*Topic*	*Lecturer*
W	Jan 15	Course overview and anatomy lab 1	Maria Geffen/Yale Cohen/Franz Weber
F	Jan 17	Meninges/vasculature and lab 2	Yale Cohen
M	Jan 20	MLK; no class	MLK; no class
W	Jan 22	Lab 3	Edward Lee/Yale Cohen
F	Jan 24	Pathology	Edward Lee
M	Jan 27	Brain Dissection	Yale Cohen
W	Jan 29	Brain Dissection	Yale Cohen
F	Jan 31	In class practical	Yale Cohen/Maria Geffen
M	Feb 3	Practical	Yale Cohen/Maria Geffen
W	Feb 5	Basics: Development; K&S 52-56	Jonathan Raper
F	Feb 7	Basics: Development; K&S 52-56	Jonathan Raper
M	Feb 10	Comp. neuroscience 1	Maria Geffen
W	Feb 12	Comp. neuroscience 2	Konrad Kording
F	Feb 14	Vision 1; development	Michael Arcaro

M	Feb 17	Vision 2; K&S 25-29	Dieog Contreras
W	Feb 19	Vision 3; K&S 25-29	Russell Epstein
F	Feb 21	Auditory system 1; K&S 30-31	Steven Eliades
M	Feb 24	Auditory system 2; K&S 30-31	Maria Geffen
W	Feb 26	Olfactory system; N18; K&S 25-29	Jay Gottfried
F	Feb 28	Taste; N18; K&S 25-29	Joel Mainlaind
M	Mar 2	Hunger	Amber Alhadeff
W	Mar 4	Somatosensory system	Wenqin Luo
F	Mar 6	Eye movements; K&S 39-40	Long Ding
M	Mar 9	Spring break	
W	Mar 11	Spring break	
F	Mar 13	Spring break	
M	Mar 16	Hippocampus & Neurogenesis	Amelia Eisch
W	Mar 18	Hippocampus & Learning	Kimberly Christian
F	Mar 20	Hippocampus & Plasticity	Yale Cohen
M	Mar 23	Fear and amygdala	Steven Thomas
W	Mar 25	Memory models	Anna Schapiro
F	Mar 27	Sleep & Development	Matt Kayser
M	Mar 30	Sleep & Neural circuits	Franz Weber
W	Apr 1	Circadian Rhythms	David Raizen
F	Apr 3	Sleep in drosophila	Julie Williams
M	Apr 6	Sleep & depression	Philip Gehrman
W	Apr 8	Nucleus Accumbens & Addiction	Heath Schmidt
F	Apr 10	Psychiatric disorders	Joe Zhou
M	Apr 13	Addiction	John Dani
W	Apr 15	Epigenetics & depression	Liz Heller
F	Apr 17	Stress & depression	Seema Bhatnagar
M	Apr 20	No class	
W	Apr 22	BMI	Flavia Vitale
F	Apr 24	TMS	Roy Hamilton
M	Apr 27	DBS	Tim Lucas
W	Apr 29	2p imaging	Ethan Goldberg