PSYC 80 Tues/Thurs 2-3:50pm

Advanced Neuroscience Seminar and Annual Meeting:
Topics on the cutting edge in neuroscience

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Course Description

This advanced undergraduate seminar course will explore topics and issues that are on the cutting edge in the field of neuroscience. Our vehicle for this exploration will be the Program for the Annual Meeting of the Society for Neuroscience. The Program for the meeting is published in July, and the meeting will be held this year from November 12 to 16 in Washington, DC. The instructor in concert with the students will select several topics that are the subject of special lectures, panels, keynote addresses and poster presentations at the upcoming annual meeting. Each week we will read and discuss several original articles surrounding the topic for one of the lectures, panels or addresses. By November 12 we will be intimately familiar with the content of theses presentations. The class will then join the instructor at the annual meeting in Washington and attend these presentations. Students will also select and attend presentations of personal interest and keep a journal of what they learn at the meeting. Upon returning, we will first discuss the assigned presentations and the meeting in general. Subsequently, students will prepare and delivery presentations on a neuroscience topic of personal interest using information and research obtained at the annual meeting. Students will also prepare an in-depth final paper on their presentation topic.

A primary goal of the course is to launch students into the field of neuroscience by exposing them to contemporary themes, theories, and research in various aspects of neuroscience. Students will have opportunity to experience the annual meeting first hand, which is attended by over 30,000 neuroscientists from around the world. This experience is designed to make neuroscience "come alive" for the students, and to provide them with valuable opportunities to meet world-renowned researchers, prospective graduate mentors, and possibly future employers. Student will also have the chance to develop important professional skills through critical evaluation of research, exposure to different presentation styles, and preparation of an in-depth research paper and oral presentation.

Class attendance is mandatory and students can benefit from the class only from full participation. The x-hour is scheduled only twice, but additional hours may be scheduled if class is unexpectedly cancelled b/c of weather, etc.

Grading

Class participation: 35%; Annual Meeting Journal: 15%; Final Paper: 30%, Presentation: 20%

Course Schedule

Week 1 Sept. 22: Course introduction and planning

Week 2 Sept 27: Synapse development, plasticity, and receptor trafficking (Dave)
Sept 28: **(X hour):** Object processing pathways (Dave)

Week 3 Oct 4: Neuroplasticity and abused drugs including opioid systems (Katie, Arianne, Cassie)
Oct 6: Ethics of Cognitive Enhancement (Jennifer, Annie)

Week 4 Oct 11: Messengers of life and death (Chadd, Emilie, Katarina)
Oct 13: Neurobiology of schizophrenia, focus on cortical deficits (Patty, Tim)

Week 5 Oct 18: The aging brain (Richard, Justine, Lauren)
Oct 20: Stem cells and brain tumors (Rachel, Jennifer)

Week 6 Oct 25: Glial involvement in synaptic transmission and epilepsy (Katarina, Sophia)
Oct 27: Neurobiology of ADHD (Tim, Cassie, Arianne)

Week 7 Nov 1: Sensory discrimination: codes, perception, memory, decision making (Justine, Annie)
Nov 3: Developmental changes in emotional and cognitive function (Lauren, Patty, Rachel)

Week 8 Nov 8: Genes and sleep (Chadd, Katie)
Nov 10: Motor system and motor dysfunction (Emilie, Sophia, Richard)

Week 9 Society for Neuroscience Meeting (Nov 12-16)

Week 10 Nov 22: Meeting debriefing, workshop on professional skills
Nov 24: No class – Thanksgiving Break

Week 11 Nov 29: In class presentations
Nov 30 **(X hour)**: In class presentations

Final exam day - Dec 4: final paper due by 5pm (via blitz)