

Special Topics Course: Neuroscience, Popular Press and Government Policy

Instructor: Dr. Margarita Kaplow

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Meeting Time: Monday, Wednesday 11:00 am -12:15 pm - Meyer 760

Office Hours: Wednesdays, 12:30pm-1:30pm - Meyer 1021 or by appointment

Prerequisites: *INTRONS (NEURL-UA 100), Molecular and Cellular Biology I (BIOL-UA 21)*

Co-requisites: *Behavioral and Integrative Neuroscience (NEURL-UA 220)*

Course Objective:

The main objective of this course is to closely examine the relationship between neural science research, popular media, and government policy. Students will analyze scientific research papers and discuss the dissemination of results to the general public. Students will be assigned a scientific article in the field of neuroscience to present to the class. Presentations will be followed by a discussion of popular press articles corresponding to the neuroscience research article previously discussed in class. Students will critique both scientific journal articles and corresponding popular press articles, discussing the strengths and weakness of each article. Topics of discussion will include: How are the innovations in the field of neuroscience communicated to the public? What details are edited and filtered out when communicating neuroscience to the public? What are benefits and disadvantages of editing the specific results of a research article? What is the right balance for communicating research and should limitations be included? What findings are typically highlighted in popular media and why? Students will also discuss the impact of neuroscience research on shaping government policy.

Learning Objectives

- 1) To master critical and analytical skills through the evaluation and critique of scientific literature.
- 2) To learn the broad impact of neuroscience research to the general public.
- 3) To sharpen scientific communication skills.
- 4) To learn the significance of neuroscience in shaping government and health policy.
- 5) To develop effective communications skills when discussing neuroscience to the general public.

Grading and Evaluation

- Presenting neuroscience research article- 20%
- Homework and In Class Assignments-20%
- Attendance and Participation - 20%
- Final Project- 40%
 - Writing component- 20%
 - Presentation- 20%

Oral presentation I (scientific paper presentation) - Students will be assigned one scientific article that they will individually present to the class. Presentation will encompass detailed evaluation of figures. Students are required to discuss the significance of results. Students should emphasize the broader impact of the study during their presentation. Students will critique the presentations of their peers. The format of the presentation will be discussed in detail during class.

Homework- Homework questions will require students to read and analyze the scientific research article. Weekly assignments will also involve reading and popular press article corresponding to the scientific paper previously presented during the week. Homework questions will focus on specific passages of both articles. Students will be required to either write a short review of the popular press article or answer questions regarding articles. Students will discuss the weakness and strengths of popular press article during class time.

In Class Assignments- This will be collaborative and involve case study assignments, designing experiments, problem solving, researching a specific neuroscience topic relevant to the general public, generating novel ideas and communicating science clearly to lay audiences.

Attendance and Participation- Students are required to be active participants during lecture, homework review, group discussions and presentations. Attendance is mandatory. Missing three class lectures will result in a 2% drop in your overall class grade. Please do not be late to class since this is disruptive during presentations and discussions. Students arriving more than 15 minutes late to class will not be permitted to attend class and will be considered absent for the lecture.

FINAL RESEARCH PROJECT-

Oral Presentation II- Students will research a neuroscience academic paper that they consider to have broad significance to the general public. The research article must be approved by the instructor. Students will present this scientific paper to the class and unlike the presentation earlier in the semester they are expected to focus on the overall impact of the paper. Why should their article be featured in NPR Science Friday or the NY Times? Students will make a strong case to the class on the broad implications of their research article. Students should only present the most important figures of the paper, one to two figures maximum.

A review of your scientific paper- You will be required to write a one page summary of your scientific paper. Emphasize the significance of the journal article. Write this review as if you are writing a piece for popular press/media. You will have the opportunity to revise your scientific review. 10% of your grade will be from your original draft and 10% of your grade will come from the revised version of your review.

Required reading:

There will be no required textbook for this course. I will provide primary research articles, popular press articles and review articles for topics covered during lecture on NYU classes. You will be required to read research articles and popular press articles before each class meeting. Please follow the schedule posted on the syllabus and make sure you turn in homework writing assignments on time. Late work will not be accepted and will result in a zero for that homework assignment.

COURSE POLICY:

- No devices in class, unless the assignment requires it.
- Please adhere to the NYU's policy on plagiarism and cheating. Plagiarism will be reported to the Neural Science Director of Undergraduate Studies and the Associate Dean of Students.

****Syllabus schedule is subject to change depending on the pace of class discussions****

Date	Topic	Reading -Assignment Due
1/22/2018	Lecture 1-The intersection between Neuroscience, Media, Policy	<i>Brain Initiative-Assessment</i>
1/24/2018	Lecture 2-Autism-In class assignment	(1) <i>Whole genome sequencing resource identifies 18 new candidate genes for autism spectrum disorder</i>
1/29/2018	Popular Press Article (1a)	(1a) <i>Wired :Scientists 18 genes have been linked to Autism Spectrim Disorder , Homework #1</i>
1/31/2018	Lecture 3 +4 - Microbiome and Brain + Immunity	<i>REVIEW Papers</i>
2/5/2018	Student Presentation -microbiome (2) (Popular press article (2a)	(2) <i>Cell:Microbiota Modulate Behavioral and Physiological Abnormalities Associated with Neurodevelopmental Disorders (2a) NPR segment</i>
2/7/2018	Lecture 4- Immunity and the Brain cont.-	<i>REVIEW Papers</i>
2/12/2018	Student Presentation -schizophrenia and immunity (3),Popular press article (3a)	(3) <i>Schizophrenia risk from complex variation of complement component 4 (3a)Scientists Move Closer to Understanding Schizophrenia's Cause- Ho</i>
2/14/2018	<i>POLICY ASSIGNMENT</i>	<i>CTE or ZIKA - in class assignment</i>
2/19/2018	NO CLASS/President's Day	NO CLASS/President's Day
2/21/2018	NO CLASS	NO CLASS
TBA	MAKE UP CLASS - TBA	<i>POLICY ASSIGNMENT</i>
2/26/2018	Dr. Heather Dean	<i>Scientists, Advocacy and Policy</i>
2/28/2018	Student presentation(4)-	(4) <i>Retrovirus like Gag Protein Arc1 Binds RNA and Traffic Across Synaptic Boutons</i>
3/5/2018	Popular Press article (4a)	<i>The Atlantic: Brain Cells Share Information with Virus Like Capsules- Homework #4</i>
3/7/2018	Learning and Memory(Lecture 5)student presentation	(5) <i>Nature: Gamma frequency entrainment attenuates amyloid and modifies microglia</i>
3/12/2018	NO CLASS/SPRING RECESS	NO CLASS/SPRING RECESS
3/14/2018	NO CLASS/ SPRING RECESS	NO CLASS/SPRING RECESS
3/19/2018	Popular Press article (5a)	<i>The Atlantic: Beating Alzheimer's with Brain Waves,Radiolab:Bringing gamma back- Homework #5</i>
3/21/2018	Student presentation (6)	(6) <i>Nature:Bidirectional switch of the valence associated with a hippocampal contextual memory engram-</i>
3/26/2018	Guest Lecturer-Molly Webster, Radiolab WNYC	<i>Radiolab:Bringing gamma back</i>
3/28/2018	Popular press article (6a)	<i>Time: Erasing Bad Memories May Soon Be Possible- Homework #6</i>
4/2/2018	Innovative technologies and Neuroscience(Lecture 6)- Student presentation (7)	(7) <i>Nature:The brain adapts to dishonesty</i>
4/4/2018	Popular press article (7a)	<i>NY Times: Why Big Liars Often Start as Small Ones- Homework#7</i>
4/9/2018	Student presentation (8)	(8) <i>Structural variants in genes associated with human Williams-Beuren syndrome underlie stereotypical hypersociability in domestic dogs</i>
4/11/2018	Popula press article (8a)	(8a) <i>NY Times: Why are dogs so friendly? The answer maybe in two genes</i>
4/16/2018	FINAL PROJECT PRESENTATIONS/ 2 students per class meeting	<i>TBA</i>
4/18/2018	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	<i>TBA</i>
4/23/2018	FINAL PROJECT PRESENTATIONS/ 2 students per class meeting	<i>TBA</i>
4/25/2018	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	<i>TBA</i>
4/30/2018	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	<i>TBA</i>
5/2/2018	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	<i>TBA</i>