Special Topics Course: Neuroscience, Popular Press and Government Policy

Instructor: Dr. Margarita Kaplow **email:** mkaplow@nyu.edu

Meeting Time: Monday, Wednesday 9:45 am -10:55 am - Meyer 807

Office Hours: Monday, Wednesday 11:00am-12pm - Meyer 801 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 sharper 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 (read and answer questions pertaining to popular press article)-20%
- Attendance , Participation, in-class assignments - 20%
- Final Project- 40%
    Writing component- 20%
    Presentation- 20%

Oral presentation I (scientific paper presentation) - Students will be assigned to a group for the first presentation. Each group will be assigned one scientific article that they will present to the class. Presentations 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- Weekly assignments will involve reading and analyzing a popular press article corresponding to the scientific paper previously presented during the week. Homework will focus on specific passages of the article. Students will be required to either write a short review of the popular press article or answer questions regarding popular press article. Students will discuss the weakness and strengths of popular press article during class time.

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. Missing more than three classes may result in an “unofficial withdrawal”. Please do not be late to class as 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.

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.

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

Date	Topic	Reading -Assignment Due
1/23/2017	Lecture 1-The intersection between Neuroscience, Media, Policy	*Brain Iniative-Assessment*
1/25/2017	Autism(Lecture 2)/ In class assignment	*(1) Nature: De novo mutations revealed by whole-exome sequencing are strongly associated with autism*
1/30/2017	Popular press article (1)	*NY Times:Scientists Link Gene Mutation to Autism Risk- and (1) Nature: De Novo..,* ***Homework #1***
2/1/2017	Microbiomes and the Brain(Lecture 3) /Student presentation (2) - gut biome and autism	*(2)Cell:Microbiota Modulate Behavioral and Physiological Abnormalities Associated with Neurodevelopmental Disorders*
2/6/2017	Popular press article (2)	*NPR:Gut Bacteria Might Guide The Workings Of Our Minds-* ***Homework #2***
2/8/2017	Student Presentation -schizophrenia and immunity (3)	*(3) Schizophrenia risk from complex variation of complement component 4*
2/13/2017	Popular press article (3)	*Scientists Move Closer to Understanding Schizophrenia's Cause-* ***Homework #3***
2/15/2017	The influence of media on scientific research (Lecture 4)- CTE and Zika	*Science Translational Medicine:Repetitive blast exposure in mice and combat veterans causes persistent cerebellar dysfunction.*
2/20/2017	**NO CLASS/President's Day**	**NO CLASS/President's Day**
2/22/2017	In class assignment/policy(1) -	*Science Friday: After Concussion, What Blood Can Reveal About the Brain-* ***In class assignment #1***
2/27/2017	Student presentation (4)	*(4) Nature: Gamma frequency entrainment attenuates amyloid and modifies microglia*
3/1/2017	Popular press article (4)	*The Atlantic: Beating Alzheimer's with Brain Waves,Radiolab:Bringing gamma back-* ***Homework #4***
3/6/2017	"Unbroken Brain: A Revolutionary New Way of Understanding Addiction."	Maia Slavitz work
3/8/2017	**Guest Lecturer_Maia Slavitz, TIME magazine**	
3/13/2017	**NO CLASS/SPRING RECESS**	**NO CLASS/SPRING RECESS**
3/15/2017	**NO CLASS/ SPRING RECESS**	**NO CLASS/SPRING RECESS**
3/20/2017	**Guest Lecturer-Molly Weber, Radiolab WNYC**	***Radiolab:Bringing gamma back***
3/22/2017	Lecture on Brain Imaging (Lecture 5)- Student presentation (6)	*(5) Nature:The brain adapts to dishonesty*
3/27/2017	Popular press article (6)	*NY Times: Why Big Liars Often Start as Small Ones-* ***Homework#5***
3/29/2017	In class assignment/policy -Catch up	**In class assignment #2/policy**
4/3/2017	Student Presentation (6)	*(6) Cell Reports:Major Shifts in Glial Regional Identity Are a transcriptional hallmark of human brain aging*
4/5/2017	Popular press article (6)	*NY Mag: To understand the brain's aging, focus on more than neurons-* ***Homework#6***
4/10/2017	Learning and Memory(Lecture 6) / Student presentation (7)	*(7) Nature:Bidirectional switch of the valence associated with a hippocampal contextual memory engram-*
4/12/2017	Popular press article (7)	*Time: Erasing Bad Memories May Soon Be Possible-* ***Homework #7***
4/17/2017	FINAL PROJECT PRESENTATIONS/ 2 students per class meeting	*TBA*
4/19/2017	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	*TBA*
4/24/2017	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	*TBA*
4/26/2017	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	*TBA*
5/1/2017	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	*TBA*
5/3/2017	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	*TBA*
5/8/2017	FINAL GROUP PRESENTATIONS/ 2 students per class meeting	*TBA*