Description
Neuroeconomics. Neuromarketing. Neurocommunications. Neuropolitics. Neurolaw. Over the past decade or so we’ve witnessed the emergence of neuroeverything but do we really need neuroscience to understand, predict, and enhance human cognition and behavior? In this advanced seminar our goal is to collectively evaluate whether modern human neuroscientific research has brought us closer to solving common and historically persistent challenges related to human decision making and behavior that would make the world a better place for everyone. We'll focus on a broad range of decisions people make related to growing up and growing old, spending money, judging and interacting with others, maintaining emotional, cognitive, and physical health, and ensuring the world is a fair and just place. This is a new course and I am a new professor at Duke. You can read course evaluations from a similar advanced undergraduate seminar I taught at Yale here and here.

Format, Enrollment, Recommended Prior Coursework
All students should be prepared for in-class discussion of the reading material. There is no textbook; all readings will be provided on Sakai. To maximize discussion, enrollment will be limited to approximately 16 students. Some basic knowledge of human neuroimaging (especially fMRI) is required. To be eligible for the course, you must have completed at least one of the following courses (or other demonstration of human neuroscience knowledge e.g., significant research experience):
- Cognitive Neuroscience (NEUROSCI 212 / PSY 257)
- Decision Neuroscience (NEUROSCI / PSY 258)
- Social and Affective Neuroscience (NEUROSCI / PSY 280)
- Functional Neuroimaging (NEUROSCI 382 / PSY 303)

Requirements and Grading
Half of your grade will be based on a combination of class participation (20%), in-class activities (“jumpstarts”; 5%), and your weekly reaction papers (25%). The other half will be based on your mid-term paper/project proposal (10%) and draft (15%) and your final paper/project (25%).

Weekly Reaction Papers: Each week you will be asked to write a summary and reaction to the readings. Along with an evaluation of the research, include one or two specific questions from readings and one bigger picture question that applies to most of the readings for that week. The purpose of these reaction papers is to prepare everyone for the weekly class discussions but also to enhance your scientific reading, comprehension, and translation skills. Many of the readings are very technical and dense so they will take
some effort to process. We will discuss reading strategies on the first day of class. The first few weeks may be challenging, but I promise that you will be impressed with your own improvement during the course. Please include citations in these papers. Please be concise (600 words max; fewer is better). Due weekly by 4pm on Sunday before class on Sakai. Papers are graded on a 20 point scale with a 5 point deduction if submitted after the deadline, and another 5 point deduction if submitted after 9:00 pm Monday before class. After that, the paper must be submitted within a week to earn any credit. Your lowest weekly score will be dropped from the final grade. If you want more feedback on your reaction papers or want tips on scientific reading and writing, please come to office hours. I’ll be happy to help.

Class Participation: Participation will be evaluated on your complete reading and consideration of the material, thoughtfulness and creativity of your comments during discussion, ability to identify connections between the comments of others and specific examples from the readings, and thinking that extends beyond the core readings. Each student will also select two days during the semester to "jumpstart" the discussion (sign-ups need to be completed on Sakai before the second day of class). At the minimum this should include a verbal and visual summary of the main points of the readings for the week. For the visual summary, a slide or two is acceptable but drawing on the board is much preferred. This can include an explanation of figures from the paper or a model diagram suggested by the reading. Another way to meet this requirement is through a demonstration at the beginning of class. I will demonstrate examples of each of these during the first and second class. Students will start jumpstarting on the third class meeting. If you miss class, you lose the participation points for that day (more on this below).

Paper Proposal and Mid-term Draft: The final paper can be a literature review, a magazine-style article, a set of 2–3 published blog posts, a video/vlog, a policy recommendation, a research proposal, or an experimental report. All students must meet with the instructor at least once to discuss paper/project topic before fall break starts (10/6). Please come to this meeting with 3 possible topic ideas. A one-page proposal and sample reference list with at least 5 sources is due on 10/6 before 6pm. A 4–5 page / 1500 word draft of the final paper/project is due on 10/27 before 6pm. The proposal will be graded on a 10-point scale and the draft on a 50-point scale. Late proposals will lose 1 point for every 24 hours late and drafts will lose 5 points for every 24 hours late.

Final Paper: The final paper or project report is due on 12/8 before 6pm. What you submit should be equivalent to about 10 pages / 3000 words; one-inch margins; double-spaced; references in APA or NLM style. The paper will be graded on a 100-point scale. Late papers will lose 10 points for every 24 hours late. It is better to submit a less than perfect paper than to lose the points.

Exceptions: To ensure a consistent and fair policy for all course participants, instructor permission is required for extensions beyond any deadline or missed classes BEFORE the deadline or class is missed. Note that your lowest week's reaction paper and participation scores will be dropped. To make up for an excused absence and missed participation in class, I will accept a second reaction paper based on an unassigned, related journal article assigned by the instructor (worth up to 20 points). This option is not available for classes missed without prior instructor approval.
Academic Honesty; Using Sources and Plagiarism: Make sure you read and fully understand the Duke Community Standard and always comply with Duke Academic Integrity policies. The library has information and a video focused on avoiding plagiarism. Be sure to always give credit where credit is due!

SCHEDULE AND READINGS

Note: This is a tentative schedule. 
Readings may change with two week’s notice.

8/29  Introduction and Overview


This Is Your Brain on Podcasts. Freakonomics Radio. October 12, 2016.


9/5  When Is The Brain Fully Developed?


Insight Into the Teenage Brain: Adriana Galván at TEDxYouth@Caltech. February 2013.


9/12  Do We Really Understand Our Emotions?


Hamann, S. (2012). *What can neuroimaging meta-analyses really tell us about the nature of emotion?*. *Behavioral and Brain Sciences*, 35(03), 150-152.

Scherer, K. R. (2012). *Neuroscience findings are consistent with appraisal theories of emotion; but does the brain “respect” constructionism?*. *Behavioral and Brain Sciences*, 35(03), 163-164.


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**9/19 Can We Control Our Feelings and Behavior?**


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**9/26 INDIVIDUAL PROJECT MEETINGS INSTEAD OF CLASS** (no readings or reaction paper)

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**10/3 How Do We See, Feel, and Think About Other People?**


**10/6**  *Paper/Project Proposal due*

**10/10**  *No class (Fall break)*

**10/17**  *Can You Remember…?*


**10/24**  *Are Our Feelings Real?*


Optional:

10/27  Paper/Project Draft due

10/31  Are You Doing What’s Good For You Now?


11/7  Are You Doing What’s Good For You Later?


A Consensus on the Brain Training Industry from the Scientific Community. Stanford Center on Longevity, Oct 20, 2014


11/14  Are We Spending Our Money Wisely?


### 11/21 Are We Spending Our Money On The Stuff We Care About Most?


### 11/28 INDIVIDUAL PROJECT MEETINGS INSTEAD OF CLASS (no readings or reaction paper)

### 12/5 Is the World Fair and Can We Make It Better?


### 12/8 Final Paper/Project due