Instructor: Joe Kable (kable@psych.upenn.edu), office hours TBA, Richards D505

Course Description: This course will introduce students to neuroeconomics, a field of research that combines economic, psychological, and neuroscientific approaches to study decision-making. The course will focus on our current understanding of how our brains give rise to decisions, and how this knowledge might be used to constrain or advance economic and psychological theories of decision-making. Topics covered will include how individuals make decisions under conditions of uncertainty, how groups of individuals decide to cooperate or compete, and how decisions are shaped by social context, memories, and past experience.

Course Objectives: The main objectives for this course are:
- To familiarize students with the methods and techniques that are used in neuroeconomics
- To survey some of the major questions neuroeconomists have asked and what answers they have found to these questions
- To develop student’s ability to think critically about the strengths and weaknesses of research they encounter
- To enable students to think creatively about research, particularly in terms of formulating hypotheses and designing ways to test hypotheses
- To encourage students to apply the concepts from this course to gain a better understanding of themselves and their world

Readings: Readings will posted on Canvas, and will include tutorial introductions, popular science writing, and primary scientific articles.

Format: This class will use a team-based learning approach, and substantial portion of class time will involve working in teams to answer questions about the readings and solve problems. These activities will be supplemented by lectures, as well as discussion and activities involving the entire class.

Course requirements: Evaluations will be based on individual (25%) and team quizzes (25%), participation in surveys and activities (10%), and a paper that students will work on over the course of the entire semester (10% per assignment x 4 assignments).

Course Outline

1/16 INTRODUCTION

1/21 METHODS

1/23 NEUROANATOMY


1/28 & 1/30 VALUATION & UTILITY


Fellows LK & Farah MJ (2007). The role of ventromedial prefrontal cortex in decision making: judgment under uncertainty or judgment per se? Cerebral Cortex, 17, 2669-74.

2/4 & 2/6 RISK & UNCERTAINTY

Chapter from “How Not to Be Wrong”


2/11 & 2/13 CHOICE, FROM PERCEPTION TO ACTION


2/18 & 2/20 DELAY OF GRATIFICATION

Mischel W, “In Stanford University’s Surprise Room,” The Marshmallow Test, Chapter 1

Target article:


2/25 & 2/27 VALUE LEARNING I

Montague R, “Sharks Don’t Go On Hunger Strikes,” Your Brain is (Almost) Perfect, Chapter 4

Target article:


3/3 & 3/5 VALUE LEARNING II

Duhigg C, “The Habit Loop,” The Power of Habit, Chapter 1

### 3/17 & 3/19 SOCIAL CONFORMITY

Scientific American article on Solomon Asch


### 3/24 & 3/26 SOCIAL PREFERENCES


### 3/31 & 4/2 COOPERATION


### 4/7 & 4/9 STRATEGIC CHOICE

Nasar S, “Nash’s Rival Idea,” A Beautiful Mind, Chapter 10


### 4/14 & 4/16 CONSUMER NEUROSCIENCE


### 4/21 & 4/23 NEUROFINANCE

Background Reading:


4/28 WRAP-UP