

## **SOCIAL NEUROSCIENCE | PSYCH-UA 300.1.007**

FALL 2015 | Monday 2:00-3:50 pm | Meyer 465

**Instructor:** Dr. David Amodio

**E-mail:** [david.amodio@nyu.edu](mailto:david.amodio@nyu.edu)

**Phone:** 212.998.3875

**Office:** Room 437, 6 Washington Place

**Office Hours:** By appointment

**Twitter:** @david\_m\_amodio

**Instructor:** Dr. Jay J. Van Bavel

**E-mail:** [jay.vanbavel@nyu.edu](mailto:jay.vanbavel@nyu.edu)

**Phone:** 212.992.9627

**Office:** Room 452, 6 Washington Place

**Office Hours:** By appointment

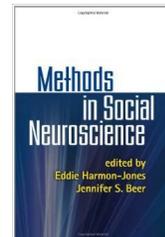
**Twitter:** @jayvanbavel

**Course Website:** available on NYU Classes (via your NYU Home account)

### **Readings**

You are responsible for the assigned readings each week (not the additional readings). Most of them will be available on the course website. All articles will be posted on the course web site. However, you are encouraged to buy a copy of the Harmon-Jones and Beer text (\$44 on Amazon.com).

Harmon-Jones, E., & Beer, J. S. (2009). *Methods in social neuroscience*. Guilford Publications: New York.



### **Course Description**

This course provides an overview of topics in the emerging field of Social Neuroscience. We will focus on how theories and methods of neuroscience may be used to address classic questions of social psychology from new and informative angles. The goal of this course is to give you a broad background in social neuroscience research and methods so that you may (a) be a critical consumer of this literature, (b) broaden the way you think about connections between the mind, brain, and behavior in the context of the social world, and (c) most importantly, apply these ideas to inform your own ideas and future research in psychology.

### **Course format and grades**

Class assignments are designed to develop your ability to think critically and creatively, moderate discussion, present ideas and write—fundamental skills for a career in

psychology or related fields. Your assigned work should be theory-driven, clear, and concise. **Late assignments will be deducted 5% for every day they are late.** Please contact us at least a week before the due date if you require an extension due to an anticipated conflict or delay.

## Course requirements

1. **Readings:** All students are expected to read each of the assigned readings. Additional readings are required for the presenters, but optional (though recommended) for everyone else. Required readings should always be completed **before** the class for which they are assigned.
2. **Class participation (10%):** Classes will include discussions of the readings, and the success of the course depends on everyone's full engagement. Participation will be graded.
3. **Class presentations (10%):** Each student will give a short (~15 min) presentation of one of the designated readings. Presentations should provide a clear and concise description of the purpose of the study, its method and results, and a critical analysis of its contributions and limitations. Powerpoint/Keynote slides may be used for the presentations. Presenters will then lead the class in further discussion of the paper, along with the instructor.
4. **Pop Quizzes (10%):** There will be 3-5 unannounced quizzes, each with one basic, straightforward question pertaining to the required readings for that day. If you have read the day's assignments, the answer should be obvious.
5. **Exams (70%):** The course includes two non-cumulative exams. Each exam will cover the readings, lectures, and content of class discussions for the period it covers. Exams will include a set of short answer items and essay questions.

Some of the material covered on exams will be from your assigned readings, and other material will come from lectures (not in your reading). So attending lectures regularly is important in order to do well in the course. Although lecture slides for each week's lectures will be posted on the class website, these are for review purposes only and *will not substitute for regular attendance at class sessions* in terms of preparation for exams.

Make-up exams will be scheduled only in the event of a documented emergency (e.g., serious illness, death in the family). Excused absences for University sponsored events (field trips, athletic trips) and medical / personal emergencies **must be documented**. In such cases, you must contact Professor Jay Van Bavel and the TA, by phone or email **prior** to the exam. Penalties will be imposed for late papers. Students who are unable to complete the required work on time are advised to drop the course.

**Social media bonus marks (up to 2%):** This is your one-and-only opportunity to bolster your grade. To be fair, every student has the opportunity to earn bonus marks. To take advantage of this opportunity, email us all of your extra credit activities in a **single email** by 11:59pm on **the last day of class (Dec 15<sup>th</sup>)**. No late work will be accepted for bonus marks. If you are concerned about your mark, please complete all of these activities.

**Wikipedia (1%):** Compose (or *substantively* edit) a wiki entry directly related to the course. Email us a screen capture of the entry before *and* after your edits.

**Twitter (1%):** Compose and post one tweet about a recently published *research article* related to the content we have covered in class. Your tweet must communicate the core point of the paper and provide a link to the article. To get your grade you must email us a copy of your tweet.

## Grading

Grades will be based on the points you earn. A curve **will not** be used in this course.

- Exams (35 points each): 70%
- Class presentation: 10%
- Class participation: 10%
- Pop Quizzes: 10%

### Grade brackets:

- A: 93-100
- A-: 90-92
- B+: 87-89
- B: 83-86
- B-: 80-82
- C+: 77-79
- C: 73-76
- C-: 70-72
- D+: 67-69
- D: 60-66
- F: <60

If you have questions or concerns about your grades you should meet with one of the professors to discuss them. We will not debate grading concerns during or immediately after class (unless we made an obvious error).

To have your assignment or exam re-graded you need to submit a brief one-page typed description of your concerns and why you deserve a better mark. You must submit this request within one week of receiving your grade on an assignment (e.g., don't wait until you receive your final grade in the course to ask us to re-grade your mid-term from two months ago). Please bear in mind that you must have a substantive argument for why you deserve a better grade. It is not convincing to argue that you "worked hard". At a top

university like NYU, almost everyone is working hard. As such, hard work is necessary, but not sufficient for a top grade. Also note that we will re-grade the entire assignment and your grade on any part can go up or down.

we use this policy for two reasons: (1) This policy keeps it fair for students who don't ask for a new grade, and (2) most students only want to select certain questions to be re-graded, but there are often other questions where a grade was generous. This policy usually means that only students who truly deserve a better grade will usually ask to be re-graded. This policy only applies if you want us to re-grade your assignment or exam. We will be happy to meet with you to discuss your exam and why you received any grade.

## Topic and Assignment Schedule

### Calendar At a Glance

| Week | Date    | Topic                                     |
|------|---------|---|
| 1    | Sept 7  | No class (Labor Day)                      |
| 2    | Sept 14 | Welcome and Overview (D)                  |
| 3    | Sept 21 | Perceiving People + fMRI methods (J)      |
| 4    | Sept 28 | Thinking about the Self and Others (D)    |
| 5    | Oct 5   | Attitudes & Evaluation + EMG methods (J)  |
| 6    | Oct 13* | Emotion + EEG Methods (D)                 |
| 7    | Oct 19  | Social Attachment & Exclusion (J)         |
| 8    | Oct 26  | <b>Exam 1</b>                             |
| 9    | Nov 2   | Goals & Self-Regulation (D)               |
| 10   | Nov 9   | Group Processes (J) + Hormone Methods     |
| 11   | Nov 16  | Prejudice & Stereotyping (D)              |
| 12   | Nov 23  | Morality & Politics (J)                   |
| 13   | Nov 30  | Neuroeconomics (J) + TMS and tDCS Methods |
| 14   | Dec 7   | Controversies & Future Directions (D)     |
| 15   | Dec 14  | <b>Exam 2</b>                             |

## Course readings

### September 14: History and Overview of Topics and Methods in Social Neuroscience

Stanley, D. & Adolphs, R. (2013). Toward a neural basis for social behavior. *Neuron*, 80, 816-826.

## Chapter 1 in Harmon-Jones & Beer: Overview of Social Neuroscience Methods

### *Additional reading:*

Cacioppo, J. T., & Berntson, G. G. (1992). Social psychological contributions to the decade of the brain: Doctrine of multilevel analysis. *American Psychologist*, *47*, 1019-1028.

Cacioppo, J. T., & Petty, R. E. (1983). Foundations of social psychophysiology. In J. T. Cacioppo & R. E. Petty (Eds.), *Social Psychophysiology: A sourcebook* (pp. 3-36). New York: Guilford Press.

Ochsner, K.N., Lieberman, D. (2001). The emergence of social cognitive neuroscience. *American Psychologist*, *56*, 717-734.

## **September 21: Perceiving People + fMRI methods**

### Chapter 14 in Harmon-Jones & Beer: fMRI Methods

Kanwisher, N., McDermott, J., & Chun, M. (1997) The Fusiform Face Area: A Module in Human Extrastriate Cortex Specialized for the Perception of Faces. *Journal of Neuroscience*, *17*, 4302-4311.

Adolphs. R., Gosselin, F., Buchanan TW, Tranel D, Schyns P, Damasio AR. (2005). A mechanism for impaired fear recognition after amygdala damage. *Nature*, *433*, 68-72.

### *For presentations:*

Engell, A. D., Haxby, J. V., & Todorov, A. (2007). Implicit trustworthiness decisions: Automatic coding of face properties in human amygdala. *Journal of Cognitive Neuroscience*, *19*, 1508-1519.

Saxe, R., & Powell, L. (2006). It's the thought that counts: Specific brain regions for one component of theory of mind. *Psychological Science*, *17*, 692-699.

## **September 28: Thinking about the Self and Others**

Amodio, D. M., & Frith, C. D. (2006). Meeting of minds: the medial frontal cortex and social cognition. *Nature Reviews Neuroscience*, *7*, 268-277.

Kelley, W. M., Macrae, C. N., Wyland, C. L., Caglar, S., Inati, S., & Heatherton, T. F. (2002). Finding the self?: An event-related fMRI study. *Journal of Cognitive Neuroscience*, *14*, 785-794.

### *For presentations:*

Grezes, J., Frith, C. & Passingham, R. E. (2004). Brain mechanisms for inferring deceit in the actions of others. *Journal of Neuroscience*, *24*, 5500–5505.

Mitchell, J. P., Macrae, C. N., & Banaji, M. R. (2006). Dissociable medial prefrontal contributions to judgments of similar and dissimilar others. *Neuron*, *50*, 655-663.

### **October 5: Attitudes & Evaluation + EMG methods**

Chapter 5 in Harmon-Jones & Beer: EMG Methods

Dimberg, U., Thunberg, M., & Elmehed, K. (2000). Unconscious facial reactions to emotional facial expressions. *Psychological Science*, *11*, 86-89.

Cunningham, W. A., Van Bavel, J. J., & Johnsen, I. R. (2008). Affective Flexibility: Evaluative Processing Goals Shape Amygdala Activity. *Psychological Science*, *19*, 152-160.

#### *For presentations:*

Lieberman, M. D, Ochsner, K. N., Gilbert, D. T., & Schacter, D. L. (2001). Do amnesics exhibit cognitive dissonance reduction? The role of explicit memory and attention in attitude change. *Psychological Science*, *12*, 135-140.

McClure, S. M., Li, J., Tomlin, D., Cypert, S., Montague, L. M., & Montague, P. R. (2004). Neural correlates of behavioral preference for culturally familiar drinks. *Neuron*, *44*, 379-387.

### **October 13: Emotion + EEG Methods**

Chapter 9 in Harmon-Jones & Beer: EEG Methods

Ochsner, K., Gross, J.J. (2005). The cognitive control of emotion. *Trends in Cognitive Sciences*, *9*, 242-249.

Harmon-Jones, E., & Sigelman, J. (2001). State anger and prefrontal brain activity: Evidence that insult-related relative left prefrontal activation is associated with experienced anger and aggression. *Journal of Personality and Social Psychology*, *80*, 797-803.

#### *For presentations:*

Gross, J.J., & Levenson, R.W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology*, *106*, 95-103.

Amodio, D. M., Devine, P. G., & Harmon-Jones, E. (2007). A dynamic model of guilt: Implications for motivation and self-regulation in the context of prejudice. *Psychological Science, 18*, 524-530.

### **October 19: Social Attachment & Exclusion + Sex Hormone Methods**

Young, L.J., Wang, Z., & Insel, T. R. (1998). Neuroendocrine bases of monogamy. *Trends in Neurosciences, 21*, 71-75.

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*, 290-292.

#### *For presentations:*

Somerville, L.H., Heatherton, T.F., and Kelley, W.M. (2006). Anterior cingulate cortex responds differentially to expectancy violation and social rejection. *Nature Neuroscience, 9*, 1007-1008.

Coan, J. A., Schaefer, H. S. & Davidson, R. J. (2006). Lending a hand: Social regulation of the neural response to threat. *Psychological Science, 17*, 1032-1039.

### **October 26: Midterm Exam**

### **November 2: Goals & Self-Regulation**

Amodio, D. M., Bartholow, B. D., & Ito, T. A. (2014). Tracking the dynamics of the social brain: ERP approaches for social cognitive & affective neuroscience. *Social Cognitive & Affective Neuroscience, 9*, 385-393.

Schmid, P. C., Kleiman, T., & Amodio, D. M. (2015). Power effects on cognitive control: Turning conflict into action. *Journal of Experimental Psychology: General, 144*, 655-663.

T.A. Hare, C.F. Camerer, A. Rangel. (2009). Self-control in decision-making involves modulation of the vmPFC valuation system. *Science, 324*, 646-648.

#### *For presentations:*

Berkman, E. T., & Lieberman, M.D. (2010). Approaching the bad and avoiding the good: Separating action and valence using dorsolateral prefrontal cortical asymmetry. *Journal of Cognitive Neuroscience, 22*, 1970-1979.

Lopez, R.B., Hofmann, W., Wagner, D.D., Kelley, W.M., & Heatherton, T.F. (2014). Neural predictors of giving in to temptation in daily life. *Psychological Science, 25*, 1337-44.

**November 9: Group Processes + Hormone Methods**

Chapter 4 in Harmon-Jones & Beer: Sex Hormone Methods

Cikara, M., & Van Bavel, J.J. (2014). The neuroscience of intergroup relations: An integrative review. *Perspectives on Psychological Science*, *9*, 245-274.

De Dreu, C.K.W., Greer, L.L., Handgraaf, M.J.J., Shalvi, S., Van Kleef, G.A., Baas, M., Ten Velden, F.S., Van Dijk, E., Feith, S.W.W., (2010). The neuropeptide oxytocin regulates parochial altruism in intergroup conflict among humans. *Science*, *328*, 1408–1411.

*For presentations:*

Van Bavel, J. J., Packer, D. J., & Cunningham, W. A. (2008). The neural substrates of in-group bias: A functional Magnetic Resonance Imaging investigation. *Psychological Science*, *11*, 1131-1139.

Cikara, M., Botvinick, M. M., & Fiske, S. T. (2011). Us versus them: Social identity shapes neural responses to intergroup competition and harm. *Psychological Science*, *22*, 306-313.

**November 16: Prejudice & Stereotyping**

Amodio, D. M. (2014). The neuroscience of prejudice and stereotyping. *Nature Reviews Neuroscience*, *15*, 670-682.

Cunningham, W. A., Johnson, M. K., Raye, C. L., Gatenby, J. C., Gore, J. C., & Banaji, M. R. (2004). Separable neural components in the processing of Black and White Faces. *Psychological Science*, *15*, 806-813.

Amodio, D. M., Harmon-Jones, E., Devine, P. G., Curtin, J. J., Hartley, S. L., & Covert, A. E. (2004). Neural signals for the detection of unintentional race bias. *Psychological Science*, *15*, 88-93.

*For presentations:*

Richeson, J. A., Baird, A. A., Gordon, H. L., Heatherton, T. F., Wyland, C. L., Trawalter, S., & Shelton, J. N. (2004). An fMRI examination of the impact of interracial contact on executive function. *Nature Neuroscience*, *6*, 1323-1328.

Amodio, D. M. (2009). Intergroup anxiety effects on the control of racial stereotypes: A psychoneuroendocrine analysis. *Journal of Experimental Social Psychology*, *45*, 60-67.

**November 23: Morality and politics**

Van Bavel, J.J., FeldmanHall, O., & Mende-Siedlecki, P. (2015). The neuroscience of moral cognition: From dual process to dynamic systems. *Current Opinion in Psychology*, *6*, 167-172.

Oxley, D. R., Smith, K. B., Alford, J. R., Hibbing, M. V., Miller, M. S., Hatemi, P. K., & Hibbing, J. R. (2008). Political attitudes vary with physiological traits. *Science*, *321*, 1667-1670.

*For presentations:*

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral Judgment. *Science*, *293*, 2105-2108.

Amodio, D.M., Jost, J.T., Master, S.L., & Yee, C.M. (2007). Neurocognitive correlates of liberalism and conservatism. *Nature Neuroscience*, *10*, 1246-1247.

### **November 30: Neuroeconomics + TMS Methods**

Chapter 11 in Harmon-Jones & Beer: TMS Methods

Knoch, D., Pascual-Leone, A., Meyer, K., Treyer, V., & Fehr, E. (2006). Diminishing reciprocal fairness by disrupting the right prefrontal cortex. *Science*, *314*, 829-832.

Bechara, A., Damasio, H., Tranel, D., & Damasio, A. R. (1997). Deciding advantageously before knowing the advantageous strategy. *Science*, *275*, 1293-1295.

*For presentations:*

Mehta, P. H., & Josephs, R. A. (2006). Testosterone change after losing predicts the decision to compete again. *Hormones and Behavior*, *50*, 684-692.

Baumgartner, T., Heinrichs, M., Vonlanthen, A., Fischbacher, U., & Fehr, E. (2008). Oxytocin Shapes the Neural Circuitry of Trust and Trust Adaptation in Humans. *Neuron*, *58*, 639-650.

### **December 7: Controversies and Future Directions**

Amodio, D. M. (2010). Can neuroscience advance social psychological theory? Social neuroscience for the behavioral social psychologist. *Social Cognition*, *28*, 695-716.

Vul, E., Harris, C., Winkielman, P. & Pashler, H. (2009). Puzzlingly high correlations in fMRI studies of emotion, personality, and social. *Perspectives on Psychological Science*, 3, 274-290.

### **Course website**

Log in and you should see this course. If you don't, please let us know. Readings, grades, assignments and handouts will be posted online. There is also a discussion board for questions. If you have a question you can email us, or post it online. If several people email a similar question we will post it on the website. Please treat the website as a collective resource to ask questions of common interest and share ideas with one another. If you have a dispute or concern with another member of the class, please email us directly and do not try to deal with it on the course website.

### **Academic Conduct**

All work must be your own. NYU uses *Turnitin*, which can automatically detect plagiarism. If you cheat, you will be caught. Cheating or plagiarism will be reported through official university channels, and the consequences will be severe. If you are unwise enough to plagiarize, the minimum punishment is usually failure in the course. If the case of plagiarism or cheating is especially blatant, you may be expelled from the university. The assignments are designed for what you can do based on what we are covering in this class and the skills you have already learned.