

Integrated Studies 002: Decisions and Learning
University of Pennsylvania
Spring 2016

Teaching Team Information

Cognitive Neuroscience

Professor Joe Kable, Richards Building D505, kable@sas.upenn.edu, 215-746-3873
Office Hours: Mondays, 2:00-3:00 p.m. and by appointment

Philosophy

Professor Karen Detlefsen, Cohen Hall 466, detlefse@sas.upenn.edu, 215-898-5560
Office Hours: Thursdays, 1:15-2:45 p.m. and by appointment

Seminars

Dr. Jean-Paul Cauvin, Cohen Hall 175, jcauvin@sas.upenn.edu
Office Hours: Tuesdays, 12:30-2:00 p.m. and by appointment

Dr. Michelle M. Pinto, College Hall 308A, pintomi@sas.upenn.edu
Office Hours: Tuesdays, 9:00-10:30 a.m. and by appointment

Dr. Julio R. Tuma, Williams Hall 646, tuma@sas.upenn.edu
Office Hours: Tuesdays, 12:30-2:00 p.m. and by appointment

Texts

There is one text for the course, available at the Penn Book Center, 130 South 34th Street (just off Walnut Street), 215-222-7600:

The Student's Guide to Social Neuroscience by Jamie Ward, paperback version (ISBN-13: 978-1848720053; ISBN-10: 184872005X). Psychology Press.

In addition to this text, readings for the Cognitive Neuroscience and Philosophy streams are available on the Canvas course website.

Key Dates:

Thursday, January 14: Introduction to “Decisions and Learning” with full Teaching Team

Friday, January 15: First Seminar Session

Sunday, January 31: Draft of Philosophy Correspondent A’s Letter #1 due **to professor** by submission to Canvas at 9 p.m.

Thursday, February 4: Graded drafts of Philosophy Correspondent A’s Letter #1 returned to students

Monday, February 8: Philosophy Correspondent A’s Letter #1 due **to letter writing partner** by submission to Canvas at 9 p.m.

Tuesday, February 9: In-class Cognitive Neuroscience Methods Quiz

Tuesday, February 16: Draft of Philosophy Correspondent B’s Letter #1 due **to professor** by submission to Canvas at 9 p.m.

Sunday, February 21: Graded drafts of Philosophy Correspondent B’s Letter #1 returned

Tuesday, March 1: Cognitive Neuroscience Short Paper #1 due in hard copy at the beginning of class

Friday, March 4: Integration Essay 1 due by submission to Canvas at 9 p.m.

Thursday, March 17: Philosophy Correspondent B’s Letter #1 due **to letter writing partner** through Etherpad and by submission to Canvas at 9 p.m.

Monday, March 28: Philosophy Correspondent A’s Letter #2 due **to letter writing partner** through Etherpad and by submission to Canvas at 9 p.m.

Tuesday, April 5: Cognitive Neuroscience Short Paper #2 due in hard copy at the beginning of class

Friday, April 8: Philosophy Correspondent B’s Letter #2 due **to letter writing partner** through Etherpad and by submission to Canvas at 9 p.m.

Sunday, April 17: Philosophy Correspondent A’s Letter #3 due **to letter writing partner** through Etherpad and by submission to Canvas at 9 p.m.

Friday, April 22: Integration Essay 2 due by submission to Canvas at 5 p.m.

Tuesday, April 26: Philosophy Correspondent B’s Letter #3 due **to letter writing partner** through Etherpad and by submission to Canvas at 9 p.m.

Wednesday, April 27: In-class discussion with philosophy letter writing partner about correspondence

Tuesday, May 3: Cognitive Neuroscience Short Paper #3 due in hard copy at Professor Kable’s office by 5 p.m.

Friday, May 6: Further Reflections on Philosophy Correspondence due by submission to Canvas at 9 p.m.

If you intend to miss class for religious holidays that are not observed by the university, you must inform the appropriate professor of your anticipated absences by January 29 if you wish to request that alternative arrangements be made. For the university’s policy on religious holidays, see: <http://provost.upenn.edu/policies/pennbook/2013/02/13/policy-on-secular-and-religious-holidays>

Assessment and Course Grade Breakdown

You will receive one single grade for Integrated Studies 002.
Each of the two streams and the Seminar is worth one third of this single grade.

The grade breakdown for each stream is as follows:

Cognitive Neuroscience

Participation (in class discussions and out-of-class web surveys): 10%
Methods Quiz: 20%
Short Paper #1: 20%
Short Paper #2: 20%
Short Paper #3: 30%

Philosophy

Draft of Letter #1: 10%
Letter #1: 20%
Letter #2: 25%
Letter #3: 25%
Further Reflections on Philosophy Correspondence: 20%

Seminar

Attendance & Participation: 20%
Integration Essay 1: 20%
Integration Essay 2: 30%
Group Presentation: 30%

Seminar Times & Locations:

Please attend the seminar assigned to you by the Registrar:

- 301 Dr. Tuma, Fridays 10:00-10:50, Arch 110
- 302 Dr. Tuma, Fridays 11:00-11:50, Arch 110
- 303 Dr. Cauvin, Fridays 11:00-11:50, Cohen 392
- 304 Dr. Cauvin, Fridays 12:00-12:50, Cohen 392
- 305 Dr. Pinto, Fridays 12:00-12:50, College Hall 311A
- 306 Dr. Pinto, Fridays 1:00-1:50, College Hall 311A

Weekly Theme	Cognitive Neuroscience Tuesdays 10:30 a.m.-12:00 p.m. ARCH 208	Philosophy Wednesdays 2:00-3:30 p.m. ARCH 208	Integrative Session Thursdays 10:30 a.m.-12:00 p.m. ARCH 208	Seminar Fridays 10-11; 11-12; 12-1; and 1-2 Various locations
WEEK 1a: January 13-15 Introduction		January 13: NO CLASS (Monday schedule)	January 14: Introduction to “Decisions and Learning” with Teaching Team	January 15: Seminar: Welcome Back and Syllabus Review
WEEK 1b: January 19-22 Individual Decision Makers: Reasoning and Decisions	January 19: Decision-making under certainty: is there a neural signal of value or utility? Background: • Ward, Chapters 2 & 4 (esp. pp. 88-99) Target article: • Chib V, Rangel A, Shimojo S, O’Doherty JP (2009). Evidence for a common representation of decision values for dissimilar goods in human ventromedial prefrontal cortex. <i>Journal of Neuroscience</i> , 29, 12315-12320.	January 20: The human mind and a classic expression of the human mind • René Descartes, <i>Meditations on First Philosophy</i> , Meditations 1 and 2	January 21: Integrative Lecture by Dr. Detlefsen	January 22: Seminar
WEEK 2: January 26-29 Individual Decision Makers: Risk and Decisions	January 26: Decision-making under risk and uncertainty: how does the brain encode uncertainty? Background: • Ward, Chapters 2 & 4 (esp. pp. 88-99) Target article: • Hsu M, Bhatt M, Adolphs R, Tranel D, Camerer CF (2005). Neural systems responding to degrees of uncertainty in human decision-making. <i>Science</i> , 310, 1680-1683.	January 27: Ethics of Belief and Religion 1: Prudential belief • Blaise Pascal, “The Wager”	January 28: Integrative Lecture by Dr. Cauvin	January 29: Seminar Sunday, January 31: Draft of Philosophy Correspondent A’s Letter #1 due <u>to professor</u> by submission to Canvas at 9 p.m.
WEEK 3: February 2-5 Individual Decision Makers: Uncertainty and Decisions I	February 2: From utility to choice: how do we decide when to decide? Target article: • Shadlen MN & Newsome WT (1996). Motion perception: seeing and deciding. <i>PNAS</i> , 93, 628-633.	February 3: Ethics of Belief and Religion 2: Evidence and the need to act • The W.K. Clifford-William James Debate	February 4: Integrative Lecture by Dr. Kable Graded drafts of Philosophy Correspondent A’s Letter #1 returned	February 5: seminar Monday, February 8: Philosophy Correspondent A’s Letter #1 due <u>to letter writing partner</u> by submission to Canvas at 9 p.m.

Weekly Theme	Cognitive Neuroscience Tuesdays 10:30 a.m.-12:00 p.m. ARCH 208	Philosophy Wednesdays 2:00-3:30 p.m. ARCH 208	Integrative Session Thursdays 10:30 a.m.-12:00 p.m. ARCH 208	Seminar Fridays 10-11; 11-12; 12-1; and 1-2 Various locations
<p>WEEK 4: February 9-12 Individual Decision Makers: Uncertainty and Decisions II</p>	<p>February 9: Delay of gratification: when should we eat the marshmallow? Background: • Mischel W, “In Stanford University’s Surprise Room,” <i>The Marshmallow Test</i>, Chapter 1 Target article: • Kidd C, Palmeri H, Aslin RN (2013). Rational snacking: young children’s decision-making on the marshmallow task is moderated by beliefs about environmental reliability. <i>Cognition</i>, 126, 109-114.</p> <p>Cognitive Neuroscience Methods Quiz</p>	<p>February 10: Ethics of Belief and Religion 3: Skepticism and gullibility • David Hume, “Of Miracles”</p>	<p>February 11: Integrative Lecture by Dr. Tuma</p>	<p>February 12: Seminar</p>
<p>WEEK 5: February 16-19 Individual Learners: Failure</p>	<p>February 16: Learning value: what role does error play in learning? Background: • Montague R, “Sharks Don’t Go On Hunger Strikes,” <i>Your Brain is (Almost) Perfect</i>, Chapter 4 Target article: • Waelti P, Dickinson A, Schultz W (2001). Dopamine responses comply with basic assumptions of formal learning theory. <i>Nature</i>, 412, 43-48.</p> <p>Draft of Philosophy Correspondent B’s Letter #1 due to professor by submission to Canvas at 9 p.m.</p>	<p>February 17: Philosophy of Education 1: Failure • Aislinn O’Donnell, “Another Relationship to Failure: Reflections on Beckett and Education” • Article on the work of Carol Dweck, “Praising Intelligence”</p>	<p>February 18: Integrative Lecture by Dr. Pinto</p>	<p>February 19: Seminar</p> <p>Sunday, February 21: Graded drafts of Philosophy Correspondent B’s Letter #1 returned</p>

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WEEK 6: February 23-26 Individual Learners: Habits	February 23: Habits and goals: are there distinct neural systems for habitual actions? Background: • Duhigg C, “The Habit Loop,” <i>The Power of Habit</i> , Chapter 1 Target article: • Killcross S & Coutureau E (2003). Coordination of actions and habits in the medial prefrontal cortex of rats. <i>Cerebral Cortex</i> , 13, 400-408.	February 24: Philosophy of Education 2: Interruption of habits • Andrea English, “Transformation and Education: The Voice of the Learner in Peters’ Concept of Teaching”	February 25: Integrative Lecture by Dr. Detlefsen	February 26: Seminar
WEEK 7: March 1-4 Social Decisions: Thinking about the Human World	March 1: Theory of mind: are there parts of the brain specialized for thinking about other people? Background: • Ward, Chapter 6 Target article: • Saxe R & Kanwisher N (2003). People thinking about thinking people: the role of the temporo-parietal junction in “theory of mind.” <i>NeuroImage</i> , 19, 1833-1842. Cognitive Neuroscience Short Paper #1 due in hard copy at the beginning of class	March 2: Social Philosophy 1: Human and other minds: machines • John R. Searle, “Minds, Brains, and Programs” (Searle’s Chinese Room thought experiment)	March 3: Integrative Lecture by Dr. Cauvin	March 4: Seminar Integration Essay 1 due by submission to Canvas at 9 p.m.
SPRING BREAK NO CLASSES	March 8	March 9	March 10	March 11

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WEEK 8: March 15-18 Social Decisions: Conformity and Preferences	March 15: Social influence: is conformity driven by changes in preference? Background: <ul style="list-style-type: none"> • Ward, Chapters 3 (esp. pp. 55-61) and 8 (esp. 194-199) Target article: <ul style="list-style-type: none"> • Zaki J, Schirmer J, Mitchell JP (2011). Social influence modulates the neural computation of value. <i>Psychological Science</i>, 22, 894-900. 	March 16: Social Philosophy 2: When is it harmful to conform? <ul style="list-style-type: none"> • Natalie Stoljar, “Autonomy and Adaptive Preference Formation” 	March 17: Integrative Lecture by Dr. Kable Philosophy Correspondent B’s Letter #1 due to letter writing partner by submission to Etherpad at 9 p.m. (and also submission to Canvas for instructor)	March 18: Seminar
WEEK 9: March 22-25 Social Decisions: Altruism and Selfishness	March 22: Altruism: why do we voluntarily makes sacrifices for others? Background: <ul style="list-style-type: none"> • Ward, Chapters 7 (esp. pp. 157-65) and 8 (esp. 184-193) Target article: <ul style="list-style-type: none"> • Harbaugh W, Mayr U, Burghart D (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. <i>Science</i>, 316, 1622-1625. 	March 23: Social Philosophy 3: Egoism and Altruism <ul style="list-style-type: none"> • Bernard Williams, “Egoism and Altruism” • Joel Feinberg, “Psychological Egoism” Lecture by Dr. Tuma	March 24: Integrative Lecture by Dr. Tuma	March 25: Seminar MONDAY March 28: Philosophy Correspondent A’s Letter #2 due to letter writing partner by submission to Etherpad at 9 p.m. (and also submission to Canvas for instructor)

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WEEK 10: March 29-April 1 Social Decisions: The Social World of Humans and Other Animals	March 29: Competitive interactions: what's the best strategy in rock-paper-scissors? Background: <ul style="list-style-type: none"> • Ward, Chapter 7 (esp. pp. 166-77) • Nasar S, "Nash's Rival Idea," <i>A Beautiful Mind</i>, Chapter 10 Target article: <ul style="list-style-type: none"> • Flynn Martin C, Bhui R, Bossaerts P, Matsuzawa T, Camerer CF (2014). Chimpanzee choice rates in competitive games match equilibrium game theory predictions. <i>Scientific Reports</i>, 4, 5182. 	March 30: Social Philosophy 4: Human and other minds: other animals <ul style="list-style-type: none"> • Daniel J. Povinelli and Steve Giambone, "Inferring Other Minds: Failure of the Argument by Analogy" 	March 31: Integrative Lecture by Dr. Detlefsen	April 1: Seminar
WEEK 11: April 5-8 Social Decisions: Cooperation, Punishment, Forgiveness	April 5: Cooperation: what sustains cooperation? Background: <ul style="list-style-type: none"> • Pinker S, "Revenge," <i>The Better Angels of Our Nature</i>, Chapter 8 Target article: <ul style="list-style-type: none"> • Knoch D, Pascual-Leone A, Meyer K, Treyer V and Fehr E (2006). Diminishing reciprocal fairness by disrupting the right prefrontal cortex. <i>Science</i>, 314, 912-915. Cognitive Neuroscience Short Paper #2 due in hard copy at the beginning of class	April 6: Social Philosophy 5: Punishment and forgiveness <ul style="list-style-type: none"> • David Novitz, "Forgiveness and Self-Respect" 	April 7: Integrative Lecture by Dr. Kable	April 8: Seminar Philosophy Correspondent B's Letter #2 due to letter writing partner by submission to Etherpad at 9 p.m. (and also submission to Canvas for instructor)

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WEEK 12 April 12-15 Social Decisions: Emotions and Punishment	April 12: Emotions and decision making: what is the role of anger is social decision-making? Background: <ul style="list-style-type: none"> • Ward, Chapters 4 (esp. pp. 71-88) & Chapters 10 (esp. pp. 239-51) Target article: <ul style="list-style-type: none"> • Crockett M, Clark L, Tabibnia G, Lieberman MD, Robbins TW (2008). Serotonin modulates behavioral reactions to unfairness. <i>Science</i>, 320, 1739. 	April 13: Social Philosophy 6: Punishment and anger <ul style="list-style-type: none"> • Charles L. Griswold, “The Nature and Ethics of Vengeful Anger” 	April 14: Integrative Lecture by Dr. Detlefsen	April 15: Seminar Sunday, April 17: Philosophy Correspondent A’s Letter #3 due to letter writing partner by submission to Etherpad at 9 p.m. (and also submission to Canvas for instructor)
WEEK 13 April 19-22 Social Decisions: Markets and Ethics	April 19: The brain in the marketplace: why are marketers starting to use brain data? Background: <ul style="list-style-type: none"> • Wardlaw JM, et al. (2011). Can it read my mind? – What do the public and experts think of the current (mis)uses of neuroimaging? <i>PLoS ONE</i>, 6, e25829. Target article: <ul style="list-style-type: none"> • Falk EB, Berkman ET, Lieberman MD (2012). From neural responses to population behavior: neural focus group predicts population-level media effects. <i>Psychological Science</i>, 23, 439-445. 	April 20: Social Philosophy 7: Ethics and business <ul style="list-style-type: none"> • Robert L. Arrington, “Advertising and Behavior Control” 	April 21: Integrative Lecture by Dr. Pinto	April 22: Seminar Integration Essay 2 due by submission to Canvas at 5 p.m.
WEEK 14: April 26-27 Conclusion	April 26: Last chance to have all your questions answered with full Teaching Team in attendance! Philosophy Correspondent B’s Letter #3 due to letter writing partner by submission to Etherpad at 9 p.m. (and also submission to Canvas for instructor)	April 27: Discussion of Philosophical Correspondence with your writing partner in preparation for your Further Reflections on Philosophy Correspondence LAST DAY OF CLASSES		

Tuesday, May 3: Cognitive Neuroscience Short Paper #3 due in hard copy at Professor Kable’s office by 5 p.m.

Friday, May 6: Further Reflections on Philosophy Correspondence due by submission to Canvas at 9 p.m.