

DRAFT COURSE OUTLINE – SUBJECT TO CHANGE
PHILOSOP 9230B / PSYCHOL 9230B
Issues in Philosophy, Psychology & Neuroscience
M 2:30-5:30, STVH 1145

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This course explores areas of common interest between philosophy, psychology and neuroscience, including: consciousness, computation, representation, modularity, and embodiment, from both scientific and philosophical perspectives. We will also explore methodological issues, including the power and limitations of fMRI and other brain imaging technologies, and the structure of scientific inference.

Course Requirements

1. Readings as assigned
2. Attendance and participation in class discussion
3. Lead class discussion on one or more topics/articles
4. End-of term paper (< 5,000 words), or two shorter papers (<3,000 words each), or an experimental design proposal (see below)

I take it that the first three requirements need little explanation (although we will talk in class about tips for leading a good discussion). I am loath to put very prescriptive requirements on the term paper(s), because good philosophical writing comes in many forms, and at many lengths (and the variety may be even greater for interdisciplinary projects). The ideal paper will engage both philosophical and empirical literature.

I will distribute a couple of guides to good academic writing in general, but the appropriate format, structure, and length of your term paper will ultimately be driven by its specific aims. We will have ample time to discuss individual projects as the term progresses. Meanwhile, I'll offer this: start developing a sense of who *you* think are the best writers, and what you think are the best articles, in your particular area of interest, and seek to emulate those examples.

Experimental design proposal

Finally, you have the option to research a topic of your choosing in cognitive psychology/cognitive neuroscience, and propose a study to address some open question in the area of your research. The proposal should be about 8-10 pages, in APA format.

The final proposal will include an **Introduction** containing a review of the primary literature to provide background information pertinent to your research proposal, as well as a statement of your hypothesis or research question; a **Methods** section outlining the design of an experiment that would help answer the research question; an **Expected Results** section in which you describe the possible outcomes of your study that would, and those that would not, support your hypothesis; and a brief **Discussion** section in which you discuss the broader implications and potential impacts of your study.

The topic can be anything, and it is most important that it be of interest to you. In researching and refining the topic you should look for two sorts of opportunities: ongoing research projects where a next step in research is fairly obvious, and topics on which there is disagreement, where a new study might shed light on the disagreement. The ideal proposal will be one that uses empirical methods to make progress on a shared topic of interest across philosophy and psychology.

When writing your proposal, imagine using it to convince the head of a lab to let you run the experiment. Be sure to address the questions the lab head might have, such as: what will we learn from this experiment? Why is it important to know that—that is, what are the possible broader implications? Ideally, the design should be such that you would be able to actually run the experiment. In practice, most studies require substantial refinement after their first formulation, and that will surely be the case here, but use the ideal as a goal to shoot for.

There will be a number of stages for the assignment, as follows. I'll assign specific due dates prior to the beginning of the term.

1 page proposal for a topic, including at least three preliminary citations from the primary literature.

2-3 page refined proposal, including *at least* five appropriate citations. This revision should start to look a lot more like an introduction.

1-2 pages describing a **specific** research question/hypothesis, and outlining a preliminary experimental approach to exploring the question.

~8-10 page final research paper/proposal due, including: a review of the primary literature; a statement of your hypothesis or research question; the design of an experiment that might help answer the research question; a section on the expected results if your hypothesis is correct, and what you might see if it is not; and a brief discussion of the broader implications of the study.

Some advice

One important thing about this course: there is a vast literature on every one of the topics we will dip into here. The object of the selection is not to be comprehensive, but to choose readings that will spark the philosophical and psychological imagination, lead to fruitful discussion, and ultimately inspire you to dive into one of the subjects in much greater depth. They also have the function, for those interested in taking advantage of the Rotman/BMI partnership, of helping you develop the cross-disciplinary vocabulary that will help you be successful as a philosopher among scientists, and a successful scientist among philosophers.

Grading

2-paper option: Paper 1 40% of grade; paper 2 60% of grade

1-paper option/experimental design proposal: 100% of grade

Course Schedule (NB: Readings subject to change given sufficient notice)

Jan 6: Course Introduction

Readings: Thagard 2009; Stanford Encyclopedia "Philosophy of Neuroscience"
<https://plato.stanford.edu/entries/neuroscience/>

Jan 13: Embodiment (1)

Readings: Fodor 1981; Newell & Simon 1975; Shapiro 2011, Ch 1-2; Anderson 2013

Jan 20: Embodiment (2)

Readings: Anderson 2014 Ch 5; Wilson & Golonka 2013; Kaufer & Chemero 2015 Ch 5; Ch 9

Jan 27: Perception

Readings: Milner & Goodale 2006, 1-24; 43-66; Clark 2001; Akins 1996

Feb 3: Consciousness (1)

Readings: Chalmers 1995; Dennett 1988; 2001

Feb 10: Consciousness (2)

Readings: Owen 2006; Shea & Bayne 2010; Milner & Goodale 2006, 120-144; Bayne et. al 2016a; Fazekas & Overgaard 2016; Bayne et. al 2016b

<Reading Week>

Feb 24: Brain imaging (1)

Readings: Posner et al 1988; Anderson 2015; Coltheart 2006; Roskies 2009

DUE: Paper 1 (for those choosing a 2-paper option)

Mar 2: Brain imaging (2)

Readings: Poldrack 2010; Kriegeskorte & Kievit 2013; Richie et al 2017

Mar 9: Memory (1)

Readings: De Brigard 2014; Robins 2016; 2019

Mar 16: Memory (2)

Readings: Bussey & Saksida 2007; Hassan et al 2015; Cowell et al 2019

Mar 23: Modularity & Evolution

Readings: Fodor 1985; 2008; Prinz 2006; Barrett & Kurzban 2006; Anderson & Finlay 2014

Mar 30: Two or three or four views of brain function

Readings: Wiese & Metzinger 2016; Raja 2018; Deco et al 2011; Bolt et al 2017.

Apr 17: Final paper due

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