

**PHILOSOPHY OF COGNITIVE SCIENCE AND ARTIFICIAL  
INTELLIGENCE/PHILOSOPHY & COGNITIVE SCIENCE  
PHIL3501/CGSC3004**

Carleton University, Fall 2015

**Day/Time:** Tuesdays, 8:35am – 11:25am **Location:** River Building 1200

Dr. Myrto Mylopoulos

**Office:** 3A47 Paterson Hall **Office Telephone:** 613-520-2600 x3943  
**Office Hours:** Tuesdays and Thursdays, 1 – 3pm (and by appointment)  
**E-mail:** Myrto.Mylopoulos@carleton.ca

### **Course Description**

Cognitive science is the interdisciplinary study of the mind, with contributions from philosophy, psychology, neuroscience, linguistics, artificial intelligence, and anthropology. This course will examine foundational philosophical issues and questions that arise within this field and guide it in important ways. Topics include: mental representation, action, perception, concepts, language, emotion, and consciousness. We will consider these topics by engaging with influential contemporary readings in philosophy, as well as classical and leading empirical research.

### **Course Materials**

- Required text: The Cambridge Handbook of Cognitive Science, edited by K. Frankish and W. Ramsey, Cambridge University Press, 2012 (ISBN-10: 0521681901). Available for purchase at the Carleton University Bookstore or online.
- All other required readings and additional resources will be made available on cuLearn.

### **Course Requirements**

<b>Course Component</b>	<b>Percentage of Final Grade</b>
Essays (x2)	40%
Critical Reading Responses (x10)	30%
Final Exam	30%

### **Readings**

Readings will be assigned for every class session. All readings are required, except for those marked as 'optional' on the course syllabus. While optional, you

are strongly encouraged to do these readings, as they'll help both to fill in the background for and expand on some of the material we'll be covering in class. Please ensure you complete all required readings for a class session before that session. Come prepared to discuss them.

### **Critical Reading Responses**

Each week (starting in Week 3) you will be asked to submit a **critical** response to the material/readings from the prior week. Each response should be **250 – 400 words**.

These responses are intended to give you an opportunity to critically reflect, in writing, on the main claims, arguments, or theories you encounter in the readings. As such, you should not merely summarize the material you are addressing, though of course some summary will be necessary.

The responses will be graded on a 3-point scale, with each point being worth 1% of your final grade. An above satisfactory response will receive 3 points, a satisfactory response will receive 2 points, and a below satisfactory response will receive 1 point.

Responses should be submitted via cuLearn and are due **before** the start of class. I will not accept late responses for any reason.

You may, and indeed are encouraged to, use ideas you develop in these responses as the basis for your essays.

### **Essays**

You will write two major essays in this course. The first (**1500 – 1750 words**) is tentatively due on **Oct. 20** and worth **15%** of your final grade. The second (**2000 – 2250 words**) is tentatively due on **Nov. 24** and worth **25%** of your final grade.

We will discuss topics/guidelines for these essays in class at least two weeks in advance of the due date.

### **Final Exam**

The final exam will be a combination of multiple choice and written answer questions. It will be held during the final exam period (Dec. 9 – Dec. 21) and worth 30% of your final grade.

We will discuss in more detail the format and material to be covered at least two weeks in advance of the final exam date.

## **Class Attendance**

Attendance is mandatory. You are expected to arrive to each class on time and to be present and engaged for the entire duration of the class. If you are excessively late or absent (more than twice), it will negatively impact your final grade. A sign-in sheet will be passed around at the beginning of each class.

If you miss class due to religious or medical reasons, you will not be penalized, but you must provide me with proper documentation.

For any class you miss for whatever reason, you are responsible for the readings and for catching up on the lecture material for that day.

## **Participation**

I expect you all to be active participants in this course. This means, among other things, coming to class having done the readings carefully and prepared to discuss them, asking questions during class, responding to questions asked by myself or a classmate, and visiting office hours to discuss any material you're not clear on. Such participation will make the class **much** more enjoyable and rewarding for all of us.

## **Electronic Devices in the Classroom**

The use of mobile phones in class is not permitted. Please turn them off (or silence them) and put them away. The use of laptops for the **sole purpose** of note-taking is permitted. If I see that you are using your laptop for other purposes, however, I will ask you not to use your laptop in class again.

## **Office Hours and Availability**

My regular office hours are as stated up top. I'll be happy to meet you at other days/times as well—just make arrangements with me over email or in person.

I will do my best to respond to your emails within 24 hours, but I may not always be able to do so. (And I'll be slower on weekend or holidays.) If you think your message will require a lengthy reply from me, please arrange to come and see me in person instead.

## **Tentative Course Reading/Topics Schedule (subject to change as needed)**

**\*Items marked with a 'P' are philosophy readings and items marked with an 'E' are experimental readings**

### **Week 1 (Sept. 8): Introduction**

- Brook, A. (2009), "Philosophy In and Philosophy of Cognitive Science" (P)

**Week 2 (Sept. 15): History and Foundations**

- CHCS chapter 1
- Fodor, J. (1981), "The Mind-Body Problem" (P)
- Optional: Hatfield, G. (2002), "Psychology, Philosophy, and Cognitive Science" (P)
- Optional: Akins, K. (2001), "More Than Mere Coloring" (P)

**Week 3 (Sept. 22): The Representational Theory of Mind**

- CHCS chapter 2
- Dennett, D. (1981), "True Believers: The Intentional Strategy and Why It Works" (P)
- Haugeland, J. (1990), "The Intentionality All-Stars" (P)
- Optional: Fodor, J. (1987), "Meaning and the World Order" (P)
- Optional: Block, N. (1998), "Semantics, Conceptual Role" (P)
- Optional: Millikan, R. (1989), "Biosemantics" (P)

**Week 4 (Sept. 29): Mental Architecture**

- CHCS chapter 3
- Fodor, J. & Pylyshyn, Z. (1988), "Connectionism and Cognitive Architecture: A Critical Analysis" (P)
- Plaut, D.C. (2000), "Connectionist Modeling of Language: Examples and Implications" (E)
- Optional: Churchland, P. & Sejnowski, T. J. (1990), "Neural Computation and Neural Representation" (P)
- Optional: Rumelhart, D. E. & McClelland, J. L. (1986), "On Learning the Past Tenses of English Verbs" (E)

**Week 5 (Oct. 6): Artificial Intelligence**

- Searle, J. (1980), "Minds, Brains and Programs" (P)
- Block, N. (1995), "The Mind as Software on the Brain" (P)
- Optional: Turing, A. (1950), "Computing Machinery and Intelligence" (P)

**Week 6 (Oct. 13): Perception**

- CHCS chapter 4
- MacPherson, F. (2012), "Cognitive Penetration of Colour Experience" (P)
- Vetter, P. & Newen, A. (2014), "Varieties of Cognitive Penetration in Visual Perception" (E)
- Optional: Pylyshyn, Z. (1999), "Is Vision Continuous with Cognition?" (P)
- Optional: Hansen, T. et al (2006), "Memory Modulates Color Appearance" (E)

**Week 7 (Oct. 20): Action – FIRST ESSAY DUE**

- CHCS chapter 5
- Pacherie, E. (2014), "Can Conscious Agency Be Saved?" (P)

- Wegner, D. (2003), “The Mind’s Best Trick: How We Experience Conscious Will” (E)
- Optional: Clark, A. (2007), “What Reaching Teaches: Consciousness, Control, and the Inner Zombie” (P)
- Optional: Libet, B. (1985), “Unconscious Cerebral Initiative and the Role of Conscious Will in Voluntary Action” (E)

**Week 8 (Oct. 27): Fall Break, No Class**

**Week 9 (Nov. 3): Reasoning**

- CHCS chapter 7
- Goldman, A. (1993), “Epistemic Folkways and Scientific Epistemology” (P)
- Tversky, A. & Kahneman, D. (1993), “Probabilistic Reasoning” (E)
- Optional: Kornblith, H. (1993), “Our Native Inferential Tendencies” (P)
- Optional: Hornberger, J. (2001), “Introduction to Bayesian Reasoning” (E)

**Week 10 (Nov. 10): Concepts**

- CHCS chapter 8
- Prinz, J. (2005), “The Return of Concept Empiricism” (P)
- Rosch, E. (1978), “Principles of Categorization” (E)
- Optional: Machery, E. (2010), “Précis of *Doing without Concepts*” (P)
- Optional: Carey, S. (2011), “Précis of *The Origin of Concepts*” (E)

**Week 11 (Nov. 17): Language**

- CHCS chapter 9
- Chomsky, N. (1975), “On Cognitive Capacity” (P)
- Evans, N. & Levinson, S. (2009), “The Myth of Language Universals” (E)
- Optional: Reines, M. F. & Prinz, J. (2009), “Reviving Whorf: The Return of Linguistic Relativity” (P)
- Optional: Boroditsky, L. et al (2003), “Sex, Syntax, and Semantics” (E)

**Week 12 (Nov. 24): Emotions – SECOND ESSAY DUE**

- CHCS chapter 10
- Griffiths, P. (2004), “Emotions as Natural and Normative Kinds” (P)
- Ellsworth, P. & Scherer, K. (2013), “Appraisal Processes in Emotion” (E)
- Optional: Prinz, J. (2006), “Is Emotion a Form of Perception?” (P)
- Optional: Schnall et al (2008), “Disgust as Embodied Moral Judgment” (E)

**Week 13 (Dec. 1): Consciousness**

- CHCS chapter 11
- Lau, H. & Rosenthal, D. M. (2011), “Empirical Support for Higher-Order Theories of Conscious Awareness” (P)
- Kouider, S. & Dehaene, S. (2007), “Levels of Processing During Non-Conscious Perception: A Critical Review of Visual Masking” (E)
- Optional: Strick, M. et al (2011), “A Meta-Analysis on Unconscious Thought Effects” (E)

## Department of Philosophy and Carleton University Policies (2015-16)

### **Assignments:**

Unless specifically told otherwise by their instructors, students:

- must not use a plastic or cardboard cover or paper clips
- must staple the paper (there is a stapler on the essay box)
- must include the following:
  - student name
  - student number
  - course number and section
  - instructor's name
- No assignments will be accepted after the last day for handing in term work – see dates in next column.
- Assignments handed in through the essay box (just inside the glass doors, Paterson Hall, Floor 3A) must be dropped into the box by **4:15** on a regular business day in order to be date-stamped with that day's date. Assignments handed in after 4:15 or on a non-business day will be stamped as having been handed in on the next business day.
- Students are required to keep copies of their assignments. If your paper is lost at any point, you will be considered not to have submitted it if you cannot produce a copy immediately on request.

### **Deferrals for Term Work:**

If you miss a final examination and/or fail to submit a final assignment by the due date because of circumstances beyond your control, you may apply for a deferral of examination/assignment. For deferred examinations, you must apply within 5 working days after the scheduled date of your exam. To apply for deferral of a final assignment, you must apply within 5 working days of the last scheduled day of classes. Visit the Registrar's Office for more information.

### **Plagiarism:**

It is the responsibility of each student to understand the meaning of 'plagiarism' as defined in the Undergraduate or Graduate Calendars, and to avoid both committing plagiarism and aiding or abetting plagiarism by other students. (Undergraduate Calendar Academic Regulations, section 14.3, or <http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/acadregsuniv14/>)

### **Academic Accommodation:**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** write to your professor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www2.carleton.ca/equity/>

**Religious obligation:** write to your professor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www2.carleton.ca/equity/>

**Academic Accommodations for Students with Disabilities:** The **Paul Menton Centre** for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send your **Letter of Accommodation** at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (*if applicable*). After requesting accommodation from PMC, meet with your professor to ensure

accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (*if applicable*) at <http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/>

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at <http://www2.carleton.ca/equity/>

### **Important Dates:**

Sept. 2	Classes start.
Sept. 4	Classes follow a Monday schedule.
Sept. 7	Labour Day - University closed.
Sept. 18	Last day for registration and course changes in Fall and Fall/Winter courses.
Sept. 30	Last day for entire fee adjustment when withdrawing from Fall term or two-term courses.
Oct. 12	Thanksgiving Day – University closed.
Oct. 26-30	Fall Break – no classes.
Nov. 24	Last day for tests or examinations in courses below 4000-level before the Final Examination period.
Dec. 7	Last day of classes, Fall term. Last day for handing in term work and the last day that can be specified by a course instructor as a due date for Fall term courses.
Dec. 7	Last day to withdraw from Fall term courses (academic purposes only).
Dec. 8	No classes or examinations take place. Review classes may be held, but no new material may be introduced.
Dec. 9-21	Final examinations for Fall courses, mid-terms for Fall/Winter courses. Exams are normally held all seven days of the week.
Dec. 21	Take-home exams are due.
Jan. 6	Winter term classes begin.
Jan. 19	Last day for registration and course changes in Winter term classes.
Jan. 31	Last day for entire fee adjustment when withdrawing from winter courses or winter portion of two-term courses.
Feb. 15-19	Winter Break, no classes.
Mar. 24	Last day for tests or examinations in courses below 4000-level before the Final Examination period.
Mar. 25	Good Friday – University closed.
Apr. 8	Last day of Fall/Winter and Winter term classes. Last day for handing in term work and the last day that can be specified by a course instructor as a due date for term work for Fall/Winter and Winter term courses.
Apr. 8	Last day to withdraw from Fall/Winter and Winter term courses (academic purposes only).
Apr. 9-10	No classes or examinations take place. Review classes may be held, but no new material may be introduced.
Apr. 11-23	Final Examinations. Exams are normally held all seven days of the week.
Apr. 23	Take-home exams are due.

### **Addresses:**

Department of Philosophy:	3A35 Paterson Hall <a href="http://www.carleton.ca/philosophy">www.carleton.ca/philosophy</a> 520-2110
Registrar's Office:	300 Tory <a href="http://www.carleton.ca/registrar">www.carleton.ca/registrar</a> 520-3500
Student Academic Success Centre:	302 Tory <a href="http://www.carleton.ca/sasc">www.carleton.ca/sasc</a> 520-7850
Writing Tutorial Service:	4 <sup>th</sup> Floor, Library <a href="http://www1.carleton.ca/sasc/writing-tutorial-service/">http://www1.carleton.ca/sasc/writing-tutorial-service/</a> 520-6632
MacOdrum Library	<a href="http://www.library.carleton.ca/">http://www.library.carleton.ca/</a> 520-2735