PHIL 246: Foundations of Cognitive Science

Spring 2019 Syllabus (**v3**)

Instructor: Alexis Wellwood

Lectures	MW 3:30-4:50pm, SAL 101
Instructor	**'Alexis', 'Professor Wellwood'**
	`wellwood@usc.edu`
Alexis' office hours	W 1-2pm, MHP 105A (or by appointment)
If your lab section is one of...	F 8-8:50am, MHP B7B
	F 9-9:50am, VKC 211
	F 12-12:50pm, MHP B7B
	F 1-1:50pm, MHP B7B
...then your TA is	**Oscar Barragan**
	`oscarlbarragan@gmail.com`
Oscar's office hours	Fri 10-11am, & 1:30-2:30pm, STO 115
If your lab section is one of...	Th 9-9:50am, MHP B7B
	Th 10-10:50am, MHP 102
...then your TA is	**Douglas Wadle**
	`wadle@usc.edu`
Douglas' office hours	Fri 1-3pm, MHP B5C

Course description

This course is an introduction to the foundational questions animating the interdisciplinary field of cognitive science. For example: How much of what we know is learned (i.e., based on experience) rather than innate? How much of what we we're able to do, cognitively, is the result of just plain smarts, as opposed to specific cognitive faculties 'designed' to carry out certain tasks? How is what we know represented or recorded in the mind, and how do we come to speak what we believe to be true? How different are our minds from those of other animals? Is it possible to build an artificial mind? We explore how questions like these are posed and addressed in philosophy, cognitive psychology, linguistics, neuroscience, and computer science, and how contemporary experimental research aims to shed light on their answers. Students should emerge from the course with a deeper appreciation of the richness (and sometimes strangeness) of how minds work, and more advanced skills in reading and synthesizing information from a variety of different fields.

Intended learning outcomes

1. Familiarity with central ideas in the philosophy of mind and cognitive science.

2. Understanding how experience depends on concepts, categories, and processes in one's 'mind design'.

3. Ability to evaluate how formal and experimental study bears on core issues in the study of mind.

4. Understanding of and hands-on experience with the scientific method.

Prerequisites

There are no formal course prerequisites.

Communications and the course website

This course uses Blackboard. Between class meetings, we will keep in touch through Blackboard and by email. **Please make sure to check Blackboard and your email regularly.**

Requirements

Required materials: Please acquire *The Philosophy of Cognitive Science* by Mark J. Cain. All other readings will be posted to Blackboard. Lab sections require the use of a personal computer.

Basis for assessment:

Assessment type	% of final grade
Lab section attendance & participation	**20**
Short assignments	3 @ 5%ea $\rightsquigarrow$ **15**
Exams	3 @ 15%ea $\rightsquigarrow$ **45**
Lab report	**20**
Total	**100**

Lab attendance & participation (20%): You will enroll in one section of Laboratory. They meet for the first time in the second week of the semester, and weekly thereafter. Lab sections will help to elucidate and supplement lecture topics through discussion, exercises, and activities, and are critical to accomplishing the course goals. For certain activities, additional readings and handouts will be provided.

Short assignments (3 @ 5%ea = 15%): Three graded short assignments. The instructions will be distributed at least a week before the assignment is due.

Exams (3 @ 15%ea = 45%): Three in-class exams, primarily in multiple choice format, covering material from lectures, readings, and lab sections. Approximately 80% of each exam will consist in non-cumulative questions (i.e., covering 1/3 of the course material since the start of class, or the previous exam). The remaining 20% can cover material from any portion of the course covered so far.

Lab report (20%): You will design, implement, and run a small experiment in language understanding. Your lab report will detail the motivation, methods, and results of your experiment, as well as explain how those results bear on a significant issue in cognitive science.

Policies and notes

1. **Submitting your assignments**. Your submitted assignments must bear your name, that of the course, and that of your TA. They must be typed, printed, and stapled (if multiple pages). They are due at the start of your lab section meeting (i.e., within the first 10 minutes) in the week that they're due.

2. **Submitting your lab reports**. Submitted by email to your TA; more specific instructions TBA.

3. **Scheduling changes**. The course schedule is subject to revision. We will flag any changes to the schedule in class and on Blackboard. The exam dates and lab report due date will not change, and we will work hard to not change the due dates of assignments.

4. **Absences & missed exams**. Absences cannot be made up, and there are no make-up exams. If you must miss a lab section or an exam due to a medical or family emergency, you must provide official documentation. In this case, (i) your absence will be excused and (ii) either a make-up exam will be scheduled or your grade will be calculated without the missed exam.

5. **Late assignments**. If you have a good reason for being unable to complete an assignment on time, you must discuss it with your TA or with Alexis well in advance of the due date (at least five days). A third of a letter grade will be deducted for each day late (e.g., a B+ becomes a B). We will not accept assignments that are more than a week late. Documented extraordinary hardship and emergencies will be dealt with on a case-by-case basis.

6. **Questioning your grades**. If you have a question about a grade you received on an assignment or exam, first try to resolve it with your TA. If you two cannot come to a resolution, you may seek one from me. I will then grade the paper or exam, at which point your grade may go up or it may go down, and whichever way it goes this will stand as your final grade for the assignment or exam. You have ten days after the date on which assignments/exams are returned to question a grade. Thereafter, there will be no discussion of grade changes; the same policy applies to final course grades.

7. **Devices**. Please mute all cellphones, tables, and laptops, and do not use them in class for any purpose including texting, messaging, browsing, etc. Studies have shown that students learn better by taking handwritten notes, later transcribing them onto computers.

8. **Instructor office hours**. Your instructor and TAs very much enjoy discussing questions and ideas with students, and so we strongly encourage and welcome you to come visit during office hours or at an alternative time. You do not need to make an appointment to see us during our scheduled office hours. If you'd like to meet at another time, send an email requesting an appointment.

9. **Ask questions!**. Always ask questions or let us know when you don't understand something. Our aim is to make the material we are studying as transparent and accessible as possible. Let us know if we haven't achieved our goal. I especially encourage you to ask questions during lecture, as others may have the same or a closely-related question, and so those students will benefit from you asking too!

10. **Academic conduct**. You must write up your work on your own, and you must complete the exams on your own. Plagiarism — presenting someone else's ideas as your own, either verbatim or recast in your own words — is a serious academic offense with serious consequences. Familiarize yourself with the discussion of plagiarism in *SCampus*, Part B, Section 11, "Behavior Violating University Standards", `policy.usc.edu/scampus-part-b`. Other forms of academic dishonesty are equally unacceptable.

Students with disabilities

Any student requiring academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please have the letter delivered to me our your TA as early in the semester as possible. DSP is located in GFS 120 and is open 8:30am - 5:00pm, Monday through Friday. You can also reach them by telephone at 213-740-0776.

Support systems

- Student Counseling Services (SCS) – 213-740-7711 – **24/7 on call**
  Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. `engemannshc.usc.edu/counseling`

- National Suicide Prevention Lifeline – 1-800-273-8255
  Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. `www.suicidepreventionlifeline.org`

- Relationship and Sexual Violence Prevention Services (RSVP) – 213-740-4900 – **24/7 on call**
  Free and confidential therapy services, workshops, and training for situations related to gender-based harm. `engemannshc.usc.edu/rsvp`

- Sexual Assault Resource Center
  For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: `sarc.usc.edu`

- Office of Equity and Diversity (OED)/Title IX Compliance – 213-740-5086
  Works with faculty, staff, visitors, applicants, and students around issues of protected class. `equity.usc.edu`

- Bias Assessment Response and Support
  Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. `studentaffairs.usc.edu/bias-assessment-response-support`

- The Office of Disability Services and Programs
  Provides certification for students with disabilities and helps arrange relevant accommodations. `dsp.usc.edu`

- Student Support and Advocacy — 213-821-4710
  Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. `studentaffairs.usc.edu/ssa`

- Diversity at USC
  Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. `diversity.usc.edu`

- USC Emergency Information
  Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. `emergency.usc.edu`

- USC Department of Public Safety – UPC: 213-740-4321 – HSC: 323-442-1000.
  Provides overall safety to USC community; **24-hour emergency or to report a crime**. `dps.usc.edu`

Course overview

Here is an overview of the structure of the course. More details will be posted on Blackboard. Any modifications to this structure will be announced in class and on Blackboard. Only the required readings from Cain are listed; others will be announced and posted on Blackboard.

Lectures

Module		Core reading
1	Nature & nurture	Cain ch. 1
2	The computational theory of mind	Cain chs. 2-3
3	*Brief: Vision*	
4	Concepts & their acquisition	Cain ch. 4
5	Language & its acquisition	Cain ch. 5
6	*Brief: Reasoning & heuristics*	
7	The conscious, social, moral, essentialist	see Blackboard
8	Minds & brains	Cain ch. 6
9	*Brief: Artificial intelligence*	

Lab sections

Week	Topic
2	Cognitive science & the scientific method
3	Formal: set theory
4	Formal: basic logical notation
5	Formal: functions & algorithms
6	Application: Syntactic analysis
7	Application: Semantic analysis
8	Experiment: Topic
9	Experiment: Design
10	Experiment: Creation
11	Experiment: Collecting data
12	Experiment: Writing up results
13	R analysis: Usage
14	R analysis: Statistics
15	R analysis: Graphing

Important dates

Week	Note
1	**No lab** section meetings
2	
3	Martin Luther King Day, no class on **Jan 21**
	Assignment 1 , due **in lab**
4	
5	Exam 1 , **Feb 6th** in class
6	
7	President's Day, no class on **Feb 18**
	Assignment 2 , due **in lab**
8	
9	
⤳	USC Spring Break, no class on **Mar 11** or **Mar 13**
10	Exam 2 , **Mar 20th** in class
11	
12	
13	Assignment 3 , due **in lab**
14	
15	Exam 3 , **Apr 22** in class
⤳	Lab report, due **May 3** (emailed to TA)