



COGNITIVE SCIENCE

Tuesday, Thursday 1:00 – 2:35, Carn 306

I. Instructor

Erica Kleinknecht, Ph.D. Office: Carnegie 301 Phone: x1542 E-mail: eko@pacificu.edu

II. Office Hours

Mondays & Wednesdays, 10 – 12 or by appointment. I will do my best to be in my office during these hours, so you do not need to make an appointment. It doesn't hurt to let me know you intend to come though, just to be safe though.

III. Course Resources

Required Texts

Sobel, C.P. & Li, P. (2013). *The Cognitive Sciences: An Interdisciplinary Approach, 2nd Edition*. Thousand Oaks, CA: Sage.

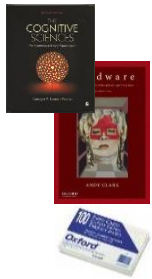
Clark, A. (2014). *Mindware: An Introduction to the Philosophy of Cognitive Science*. New York, NY: Oxford University Press.

Moodle

On the Moodle page you will find things like assignment handouts, PowerPoint slides and/or discussion prompts. In-class resources (slides, prompts) will be available shortly after the class in which they were used.

4 X 6 note cards

Please purchase a set of notecards and bring them to each class period. When I pose questions to the class, I will ask you to write an answer on the card that you will turn in. No card, no credit.



IV. Course Description – Catalogue

By taking a Cognitive Science perspective to the study of mind and mental experience, students are engaged in understanding how Philosophical, Psychological, Neuroscience, and Computational approaches can intersect, yielding a rich and complex picture of what it means to think, reason, and remember. Students gain a deep appreciation for the complexity of the human mind by going beyond the contribution of a single discipline and by challenging themselves to see connections across traditional academic divides.

V. Course Aims & Learning Outcomes

Cognitive scientists seek answers to questions about the nature of mind by integrating different methods of inquiry. Doing so helps them arrive at a richer, more inclusive understanding than what can be achieved within a single discipline. Cognitive Scientists have a “home” discipline in fields like Cognitive Psychology, Philosophy, Neuroscience, Linguistics, or Computer Science (to name the dominant perspectives). However, their work is guided by an understanding of the intersections among these areas of inquiry. The point of intersection (and overlap) among disciplines is where the “truth” about big picture-issues like thinking, reasoning, intelligence, and consciousness resides. Cognitive scientists seek to uncover these truths.

In this class, you will learn about a variety of perspectives and you will be challenged to seek understanding in the intersections.

The broad aim of this course is to help you start thinking like a cognitive scientist. To think like a cognitive scientist though, you need background knowledge. So a large part of the course will emphasize establishing a broader knowledge base. Along the way, we will discuss intersections. The pattern of the class is wave-like: you will dive in, step back and get your bearings, then dive forward further, and step back again. Said more plainly, following the organization of the main text, we will talk about each home discipline's contributions to Cognitive Science one perspective at a time, however, the further we go, the more blending will happen.

By fully engaging in all aspects of the course (both in and out of the classroom), successful students will be able to give reasoned, detailed answers to the following questions:

1. What scientific concept would improve everyone's cognitive tool kit?
2. How is the internet changing the way you think?
3. What do you think about machines that think?

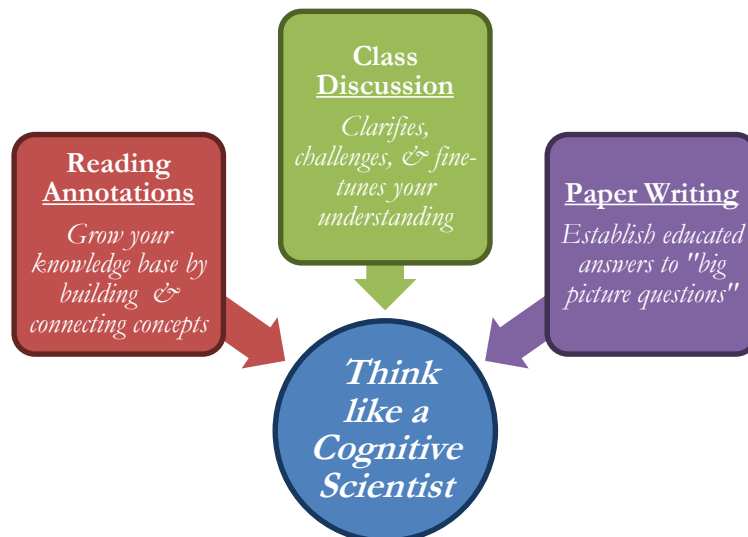
As you build your knowledge and skills with the questions above in mind, you will also gain the following:

- ✓ Understand the basic premises and controversies of Cognitive Psychology, Philosophy of Mind, Cognitive Neuroscience, and AI
- ✓ Attain an interdisciplinarily defined working definition of "mind," "thinking," "intelligence," and "consciousness."
- ✓ Recognition of the complexity and potential of creating artificial models of human cognition
- ✓ Understand why the traditional "disciplinary divides" are holding us back in many ways (but what their value is too)
- ✓ Consider the applied value of this knowledge to relevant endeavors, like clinical practice, medicine, and education
- ✓ Achieve an appreciation for the history in the field of Cog Sci and understand where future directions are pointing

By the end of the term, your thinking about thinking will change. Be prepared for the fact that as you shift from learning about "knowns" to thinking about "unknowns" you may feel a little unsettled. That feeling of unsettledness is okay: there's a lot yet to learn about the nature of mind, and it's important to recognize this.

VI. Course Requirements & Grading: description of activities and the percentage each aspect will contribute to your final grade.

Outcome Goal: *To build a sufficient knowledge base that you can think like a cognitive scientist and challenge "what's known" within a discipline by considering reasonable intersections between related disciplines.*



1. Reading Annotation Forms – 20 points each (20 annotations = 400 points).

My intention is that this class will run like a seminar, but one where discussion is interspersed with more formal/elaborate consideration from me, as needed. To make the class format work (*and for you to get the most out of the class*), you need to come prepared. Completing the reading annotation forms as noted on the schedule (some weeks 1 is due, other weeks 2 are due, depending on the topics and reading complexity) will keep you prepared with comments and questions. I don't expect you to necessarily come to class with each reading fully understood, but I do expect you to have read and spent time thinking about the assigned material.

2. Unit Papers: Thinking like a Cog Scientist -- 100 points each (3 papers = 300 points).

This class is more about thinking that it is about knowing, for reasons that I hope will become increasingly clear throughout the term. In keeping with the "thinking theme" rather than test you on the number of facts you've memorized, I instead will challenge you to use the facts we discuss to write a series of reasoned papers that addresses each of the big picture questions posed in the learning outcomes section above:

1. What scientific concept would improve everyone's cognitive tool kit?
2. How is the internet changing the way you think?
3. What do you think about machines that think?

These questions have been posed to and answered by an array of highly qualified intellectuals around the world and published both in print and on the web. We will use the [free website](#) in class. Your challenge with each paper is to use your naive answer to each question as a baseline against which to compare the more detailed information we have covered to date in class and write a paper about it. Each paper will include the following (note: more detailed handouts will be made available on Moodle too):

- a. Your naive answer to the question
- b. What you think you might need to know, in order to present an more informed answer to the question
 - *Note: you will record responses to "a" and "b" in the first week of classes, for reference and later use*
- c. Summation of at least two published responses to the question
 - *Published responses will come from the array of responses available on this site: <http://edge.org/annual-questions>*
- d. Discussion of relevant course material & class discussions
- e. Conclusion: how has your response and knowledge changed as a result of studying the material? What is your "take" now?

3. Final Consideration – Reflection & In-class Presentation. – 100 points (50 for reflection, 50 for presentation)

The broad course goal is that you acquire knowledge enough to start thinking like a cognitive scientist. Our final exam period will be a presentation day, where you share a measured reflection on your growth. Your task is to prepare a presentation (and give it) on your journey, by developing a presentation with the following information in it:

- Your initial reactions to the start of class, as we dove in to considering what Cognitive Science is.
- A summary of the "muddy waters" aspects of the class, as recorded in your reading annotations, and how the waters have clarified
- Your "a-Ha" moment, when things started to click
- Your reasoned answers to the big picture questions covered in the unit papers
- Which aspects of Cog Sci you find most compelling – that is, what do you think you will continue to think and learn about as you leave this class (whether formally or informally)?
- At our final exam time, you will turn in your written reflection and share your presentation with the class.

4. Professionalism & Class Engagement– 10 points per week (14 weeks of discussion = 140 points total).

As noted above, a successful seminar is one where everyone contributes to the discussion and activities. Our class periods will vary, sometimes I will lead discussion in a more "lecture-y" format, sometimes I will present discussion questions to be handled in groups and then as a class, and other things besides. I will always ask you to turn in evidence of how you engaged in the class period by recording something (prompted by me in class) on your notecards. By turning in the notecards and showing evidence that you did your best on the activity of the day, you will earn your "participation points." I generally only deduct points for unexcused/unexplained absences, a preponderance of negative attitude, regular derailment via non-productive contributions to discussion, or regular silence.

Course Grades – based on the accumulation of points; 940 possible.

Letter grade	Percent range	Point range	Letter grade	Percent range	Point range
A	100-93	940 - 874	C +	79-77	751 - 723
A-	92-90	873 - 846	C	76-73	722 - 686
B+	89-87	845 - 817	C-	72-70	685 - 518
B	86-83	816 - 780	D+	69-67	517 – 629
B-	82-80	779 - 752	D	66-63	628 - 592
			F	<63	< 592

VII. Course Schedule		
Week 1 Feb 2 & 4	<p><u>What is Cognitive Science?</u></p> <p>Tues & Thurs: Course overview</p> <ul style="list-style-type: none"> • DVD “Mind over Matter” • Answer “big picture questions,” The Edge, and third culture • Cognition Basics: qualia, representation, distributed representation, coupling, information processing, embodied cognition, the extended mind hypothesis <p>Homework: Next week’s Reading & Annotations</p>	<i>In class note-taking & participation</i>
	<p>Question 1: What Scientific Concept Would Improve Everyone’s Cognitive Tool Kit? Topics used to inform your thinking about this question: <i>Introduction to Cog Sci (what is it, bookends), Phil of mind, Cognitive psychology</i></p>	
Week 2 Feb 9 & 11	<p><u>Introduction to Cog Sci</u></p> <p>Tues: Clark, Introduction; Discussion Prompts: (a) What point is Clark making, by asking readers to compare rocks, to cats, to people? (b) What is common sense psychology? (c) What types of phenomena does Clark relate to “mindfulness” and where does typical cognitive psych fall in this framework? (d) What does “<i>matter, nicely orchestrated</i>” mean, and what does this have to do with the notions of “<i>reason respecting flow</i>,” and “<i>structural properties</i>” of something intangible? (e) From this reading, conclude with a working definition of the aims of cognitive science</p> <p>Thurs: Sup 1 (<i>Why we still need a mark of the cognitive</i>). Discussion Prompts: (a) What IS a mark of the cognitive? (b) Why is “a mark” necessary, that is, what is the debate this paper centers on and which side does the author take? (c) What scientific and philosophical issues are challenged in this paper? (d) How is the title question answered? (e) How do you think Adams would answer the third big picture question, “<i>What do you think about machines that think?</i>”</p> <p>Homework: Reading & Annotations</p>	<p><i>Tues: RA for Clark’s Intro</i></p> <p><i>Thurs: RA Sup 1</i></p>
Week 3 Feb 16 & 18	<p><u>Cog Sci Bookends: A look back and a look to the future</u></p> <p>Tues: S&L, Chp 1. Discussion prompts: (a) What were the early questions (in the history of the study of mind) and ideas about brain-behavior relations? How were these questions first addressed? (b) What role does understanding Intelligence play, in fleshing out the study of Cog Sci?</p> <p>Thurs: Relating Psych to Neuro, Sup 2. Skipping ahead to the present day, in this paper Marshall lays out the modern challenges we face in the study of Cog Sci. Discussion prompts: (c) What is the tension that currently exists regarding differing entry point in to the study of cognition? (d) What are the perspectives considered, and the shortcomings of each? (e) What is Marr’s tri-level hypothesis, and what does this hypothesis state, about the study of mind? (f) How can the “embodied” perspective potentially frame that tension into a workable research agenda?</p> <p>Homework: Reading & Annotations</p>	<p><i>Tues: RA S&L Chp 1</i></p> <p><i>Thurs: RA Sup 2</i></p>
Week 4 Feb 23 & 25	<p><u>Topics in Cog Sci: Concepts</u></p> <p>Tues: Sup 3 (What Concepts Have to Be). In <i>Mindware</i> Andy Clark spends a lot of time critiquing Jerry Fodor’s defense of the RTM (representational theory of mind). To gain an appreciation of his critiques, let’s spend some time discussing Fodor’s perspective. This chapter is a logical defense RTM and an explanation of what a theory of concepts needs to be, to work with the RTM. As you read, focus on these discussion prompts: (a) Define representation theory of mind, in Fodor’s terms; (b) what are concepts, and where do they fit, in the RTM perspective? (c) what does semantics have to do with concepts? (d) How is knowledge (concepts) acquired and shared socially? (e) what’s wrong with the direction of cognitive science, according to Fodor?</p>	<i>Tues: RA Sup 3</i>

	<p>Thurs: S&L Chp 2, pgs 27 - 52. A psychological discussion of concepts via overview of several different empirical theories. You will note that these theories are very different from Fodor's, at least on the surface. Discussion prompts: (a) Define and distinguish concepts from categories; (b) explain the gist of the differing ideas on what categories are; (c) what evidence is given to support each "view" noted in "b"? (d) how does category loss support the premise of categories as presented in the chapter? (e) discuss the relations between categories of knowledge and mental representations, including propositional networks; (f) how does this information line-up with Fodor's perspective?</p> <ul style="list-style-type: none"> • Homework: Note: give your selves a lot of time to read and prepare your annotations this week. 	<p><i>Thurs: RA S&L, pp. 27 - 52</i></p>
<p>Week 5 March 1 & 3</p>	<p>Topics in Cog Sci: Memory</p> <p>Tues & Thurs: S&L, Chp 2, pgs 53 – 77. The second half of the chapter covers how knowledge is acquired and used, otherwise known as Memory. Keeping in mind that you can spend a whole semester on just this half of the chapter (e.g., Psy 314), let's take some time to think about the relations between memory and concepts. Discussion prompts: (a) What is a script and how is it represented in mind? (b) what is mental imagery, and how does it's representation differ from scripts? (c) problem solving is about using knowledge in real world situations. Explain what this means, in terms of the representation of information in mind; (d) two different memory models are presented: summarize each. (e) Relate this information to Fodor's conception of RTM.</p> <ul style="list-style-type: none"> ○ TUES – Scripts, Imagery, Problem solving ○ THURS – Memory Models <p>Homework: Reading & Annotations (<i>fji -- you have a lot to read for next week too</i>); Work on Paper 1</p>	<p><i>* Make time to discuss first paper</i></p> <p><i>Tues: RA S&L pp. 53 - 77</i></p> <p><i>Thurs: < sigh ></i></p>
	<p>Question 2: How is the internet changing the way you think? Topics used to inform your thinking about this question: <i>Cognitive Neuroscience, Mindware as Software, Intro to A/I</i></p>	
<p>Week 6 March 8 & 10</p>	<p>Topics in Cog Sci: Cognitive Neuroscience</p> <p>Tues: S&L, Chp 4: Technology & Neuroscience Research. This reading presents what's known from both cognitive and clinical neuroscience perspectives. Discussion prompts: (a) How does each scanner work, that is, what is the operational definition of cognitive (said another way, what leaps in logic are taken, when scan data is generalized to cognition)? (b) explain how scans have advanced our understanding of basic skills like language, memory, and disorders;</p> <p>Thurs: Sups 4 - 6: Taking a critical look at neuroscience research. This set of readings takes a very critical view of the status quo in neuroscience research. Please read carefully and be open to re-thinking what you thought you knew about advances in neuroscience and it's contribution to helping us understanding cognition. Discussion Prompts: by selecting from all three readings, answer the following (a) critically evaluate the limits of scans – what don't they tell us? (b) what errors in reasoning do many of us – experts included – fall victim too when reading about neuroscience research? (c) Miller's main point is that we are making a mistake if we simply equate brain-states to mental states – what evidence does he give to back this claim? (d) Miller states that there are real costs to making the errors in interpretation he discusses at length – what are they? (e) in this context, interpret the following quote: we must "<i>keep an open mind, but not so open that our brains fall out;</i>" (f) Does the levels of analysis perspective also considered by Marshall help, or hurt here? (g) what should happen, going forward?</p> <p>Homework: Reading & Annotations; Work on Paper 1</p>	<p><i>Tues: RA S&L Chp 4</i></p> <p><i>Thurs: RA for Sups 4 – 6 (I think you can do this on one form...)</i></p>

<p>Week 7 March 15 & 17</p>	<p><u>Topics in Cog Sci: Mindware as Software</u></p> <p>Tues & Thurs: Clark, Chp 1. With a critical examination of theory and research in cognition and neuroscience under your belts, you are now ready to take a closer look at Andy Clark's Philosophy of Mind positions. Discussion prompts: (a) What does the analogy that makes up the chapter title mean? (b) Following, comment on the "syntax-semantics" discussion. What does this add, to the explanatory power of the title analogy? (c) Define the machine-functionalism perspective and consider its power as an explanation for thinking. (d) What is the pizza & consciousness puzzle, or the "computation & information" quandary? What does it mean, to say that "<i>simulation is not the same as instantiation?</i>" (e) Include examples to denote why the computation story is so compelling.</p> <p>Homework: Reading & Annotations; Work on Paper 1</p>	<p><i>Tues: RA for Clark Chp 1</i></p> <p><i>Thurs: Paper 1 Due</i></p>
<p>Week 8 March 22 & 24</p>	<p><i>Spring Break</i></p>	
<p>Week 9 March 29 & 31</p>	<p><u>Topics in Cog Sci: Artificial Intelligence</u></p> <p>Tues: S&L, Chp 5. Discussion prompts. (a) understand the applied and the basic aims of AI endeavors; (b) recognize the rich history and progressive accumulation of achievements toward the ends noted in point "a"; (c) articulate the profound impact Alan Turing had on progress towards achieving these aims and know to what the Turing Test addresses. Has anything ever passed the TT?</p> <p>Thurs: Sup 7: Is google making me stupid? With advances in "smart technology" come concerns about what this means for our own "smarts." Nicolas Carr presents a compelling discussion of this concern – that technology is changing our brains, and not in a good way. Let's take a moment to consider his concerns. Discussion prompts: (a) What is the premise of Carr's argument? Who/what is the position he's countering? (b) Summarize his perspective, and comment on its "cog sci" validity. Do his concerns line-up with material we've covered thus far?</p> <p>Homework: Reading & Annotations</p>	<p><i>Tues: RA for S&L Chp 5 due</i></p> <p><i>Thurs: RA Sup 7</i></p>
<p>Week 10 April 5 & 7</p>	<p><u>Topics in Cog Sci: Machine Intelligence</u></p> <p>Tues: S&L, Chp 6, pp. 187 – 214; In this portion of the chp S&L cover similar ground as did Clark, in Chp 1. Discussion prompt. (a) Note the overlap and extension between material in S&L and Clark Chp1.</p> <p>Thurs: Clark, Chp 2. After establishing the machine functionalism perspective in Chp1, here, Clark presents challenges to it. Discussion prompts. (b) What is the Chinese Room experiment, and what message does the thought experiment convey about the aims of AI? (c) discuss what intelligent machines and expert systems illustrate, regarding the complexity of mentalistic discourse. (c) how close are these machines to accurately modeling human behavior? (d) Compare human to artificial brains. What's the bag of tricks Clark refers to and why consider such a thing? That is, explain the debate the bag-of-tricks captures, between AI and Evolutionary Neuroscience.</p> <p>Homework: Reading & Annotations, Start Paper 2</p>	<p><i>Tues: RA S&L Chp 6 (partial)</i></p> <p><i>Thurs: RA Clark Chp 2</i></p>
<p>Week 11 April 12 & 14</p>	<p><u>Topics in Cog Sci: Connectionism</u></p> <p>Tues: S&L, Chp 6, pp. 215 – 251; In this portion of the chapter, S&L review recent history to now, regarding AI attempts to become increasingly neurally plausible. Discussion Prompt: (a) Explain the growth in this regard. What was the promise of early perceptrons and why did they fail? (b) How are Rodney Brooks modern projects different from the early perceptrons, and why are they so promising?</p>	<p><i>Tues: RA S&L Chp 6 (partial)</i></p>

	<p>Thurs: Clark, Chp 3. Here Clark makes a case for modern AI by revisiting common sense psychology positions and introducing the philosophical perspective of a “design stance.”</p> <p>Discussion Prompts: (c) Explain the representational theory of mind and its relation to common sense psychology; (d) compare and contrast what a mental representation is to a human vs a machine; (e) explain the differences in the terms “realism,” “eliminativism,” and “an intentional stance;” (f) explain what connectionism is and its relation to Donald Hebb’s articulation of cell assemblies and phase sequencing (i.e., S&L pps 102-104); (g) discuss the advances made in robotics, with the application of connectionism elements</p> <p>Homework: Reading & Annotations; Work on Paper 2</p>	<p>Thurs: RA Clark <i>Chp 3 due</i></p>
	<p align="center">Question 3: What do you think about machines that think?</p> <p align="center"><i>Topics covered to help inform your answer to this question: Introduction to the extended mind hypothesis; Psycholinguistics</i></p>	
<p>Week 12 April 19 & 21</p>	<p>Topics in Cog Sci: Perception, Action, & the Brain</p> <p>Tues & Thurs: Clark, chp 5. In this chapter, Clark picks up with some ideas handled early in the semester, in the Marshall paper. Discussion Prompts: (a) What was wrong, and what was right, about Marr’s 3-level framework? (b) Is it entirely necessary to assume that we store knowledge to guide action? What’s the alternative option? (c) Explain what’s meant by calling the brain an organ for “environmentally situated control.” (d) Comment on what this chapter implies about Descartes famous statement “<i>I think, therefore I am.</i>” (e) What does the puppy project imply about the validity of comparative psych endeavor?</p>	<p><i>Tues: Paper 2 Due</i></p> <p><i>Thurs: RA for Clark</i> <i>Chp 5 due</i></p>
<p>Week 13 April 26 & 28</p> <p><i>*WPA</i></p>	<p>Role of Linguistics in Cog Sci</p> <p>Tues only this week: S&L, Chp 8, pp 281-298. If AIs truly think, they need language. Here we change gears to consider the basics of language systems. Discussion Prompts: (a) We often think of language as a distinct cognitive faculty, but at its core, it too is a complex sensory-perceptual pattern matching process. Explain this statement further, from the perspective of developmental linguistics; (b) what does the study of language acquisition tell us, about the organization and functionality of the human brain? (c) how is this understanding enriched by studying bilingualism? (d) what is the bilingual advantage? (e) what’s gained by studying special cases of language learners, like feral children?</p>	<p><i>Tues: RA S&L Chp 8</i> <i>(partial)</i></p> <p><i>Thurs: <sigh></i></p>
<p>Week 14 May 3 & 5</p>	<p>Role of Linguistics in Cog Sci</p> <p>Tues & Thurs: S&L, Chp 8, pp 299 – 315. In the second half of the chapter, S&L consider how far linguists come, in terms of modelling language. They additionally broach the premise of Psycholinguistics, i.e., the role of language in shaping thought & behavior. Discussion Prompts: (a) Compare and contrast the study of language loss (i.e., neurological case studies) to the study of feral children. What is the collective message conveyed, about the role of language in higher cognitive functions? (b) revisit the idea of computation when it comes to language – in what way is language computational? Does this invalidate Clark’s earlier discussed argument that the brain isn’t just an informational/computational device? (c) Discuss the two-way street idea presented at the end of the chapter, regarding the relations between language and thought.</p> <p><i>Note: depending on our timing, we might start Clark Chp 9 this week, Thurs</i></p>	<p><i>Tues: RA S&L Chp 8</i> <i>(partial)</i></p>
<p>Week 15 May 10</p>	<p>Philosophy & the Extended Mind hypothesis</p> <p>Tues: Clark, chp 9. Here Clark picks up the “extended mind hypothesis” to set the stage for the position that we can model the mind, but that to do so, we need to drastically change our metaphor and redraw our boundaries about what constitutes “mind.” Discussion Prompts. (a) Picking up where we left off in our chp 5 discussion, if the brain’s function is to respond to environmental challenge, then where are the boundaries of thought & mind? Include the “vehicle vs. content” distinction in your answer. (b) What does the extended mind hypothesis do to the traditional explanations of Intelligence (i.e., Sternberg, Gardener)? That is, what does</p>	<p><i>Tues: RA Clark Chp 9</i> <i>+ Paper 3</i></p>

	intelligence entail, in this alternative framework Clark proposes? (c) Explain how gestures serve as the connecting element, creating the loop between brain & environment. Do gestures supplement, illustrate, or complete (i.e., provide turbo-drive) thoughts? (d) what does the extended mind hypothesis mean for the progress of fields like cognitive psychology? That is, let's revisit the first supplemental reading and consider the direction future academic endeavors might go, as scholars continue to grapple with the nature of mind and brain. (e) Think about what our connections to technology mean for our cognitive adaptability – is there a difference, for example, between typing and writing by hand?	
FINAL: SAT May 14th	Final Presentations From 3 - 5:30 we will celebrate how our thinking has changed, as a result of taking this class. Presentations delivered and reflections turned in.	

VIII. Supplemental Reading Reference Information

Reading Number	Reference Information
1	Adams, F. (2010). Why we still need a mark of the cognitive. <i>Cognitive Systems Research</i> , 11, 324 – 331.
2	Marshall, P.J. (2009). Relating psychology to neuroscience: Taking up the challenge. <i>Perspectives in Psychological Science</i> , 4, 113-125.
3	Fodor, J. A. (1998). What concepts have to be. In <i>Concepts: Where Cognitive Science Went Wrong</i> , pp. 23 - 39. Oxford Cognitive Science Series, Clarendon Press, Oxford, UK.
4	Dobbs, D. (2005). FMRI: Fact or Phrenology? <i>Scientific American Mind</i> , 16, 24 – 31.
5	Bloom, P. (2006). Seduced by the flickering lights of the brain: FMRI images have captivated headline writers, grant committees and the public beyond their actual scientific worth. <i>Seed Magazine.com</i> , retrieved 7/5/2006.
6	Carr, N. (2008). What the internet is doing to our brains: Is google making us stupid? <i>The Atlantic Monthly</i> , 302(1), 56 – 63.
7	Miller, G. A. (2010). Mistreating psychology in the decades of the brain. <i>Perspectives on Psychological Science</i> , 5, 716 – 743.

IX. Focal Studies Inclusion

This class is part of Focal Study #46: The Science & Philosophy of the Mind.

IX. Course/ University Policies

From the Pacific University Faculty Handbook, section 4.1.3: The Classroom Relationship between Faculty Members and Students

The professor in the classroom and in conference should encourage free discussion, inquiry, and expression. Student performance should be evaluated solely on an academic basis, not on opinions or conduct in matters unrelated to academic standards. Students should be free to take reasoned exception to the data or views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they enroll. Students should have protection through orderly procedures against prejudiced or capricious academic evaluation. At the same time, students are responsible for maintaining standards of academic performance established for each course in which they enroll. Students must also recognize that, as members of a community of learners, they have an obligation to be responsible members of that community, and that the exercise of their freedom of expression must not impinge on the rights of others in their quest for learning. In addition, students must acknowledge the responsibility of the professor to create and preserve an environment conducive to the learning of all students.

In addition to following the policy noted above, I expect that all students will both read and respect Pacific University's policies as described in the current course catalogue for the College of Arts and Sciences. In particular, it is your responsibility to become familiar with following policies:

- Course withdrawal
- Course completion and the assignment of an "Incomplete" grade
- Academic Conduct

Academic honesty. Pacific University has no tolerance for academic dishonesty. It is university policy that all acts of academic dishonesty be reported to the Assistant/Associate Dean. Per the College of A&S, sanctions that may be imposed for academic dishonesty range from an "F" for the assignment, an "F" for the course, and suspension or dismissal from the university. Forms of academic dishonesty include, but are not limited to, plagiarism, fabrication, cheating, tampering with grades, forging signatures, and using electronic information resources in violation of acceptable use policies. Plagiarism is the use of someone else's words, ideas, or data without proper documentation or acknowledgment; it may entail self-plagiarism (i.e. reusing/resubmitting your own work without approval). Quotations must be clearly marked, and sources of information must be clearly indicated in all student work. Please consult the Academic Conduct Policies in the A&S Catalog for further detail.

In this class, if a student is suspected of cheating, plagiarizing, or otherwise misrepresenting his or her work, I will take appropriate actions to investigate the matter. This is particularly important to attend to when writing papers and citing published material. As noted above, improper citations and improper paraphrasing can constitute plagiarism. If you are uncertain of whether your work constitutes plagiarism, please ask me about it BEFORE turning the work in, I am always happy to talk with you about it and to proofread your work. First instance documented violations of the academic honesty code will result in a grade of "0" for that assignment or test. If the problem persists, further action will be taken.

Late Papers. Late papers will be accepted up to three days (not class periods) after the due date, with the following penalty:

One day	= 5% deduction
Two days	= 10% deduction
Three days	= 15% deduction
Three + days	= 0

Inclement Weather Policy. The College of Arts and Sciences will remain open on all snow days, as most students live on campus, unless the President rules that the University should close to assure the safety of all students, faculty, and staff. Please check the University Web Pages for weather-related bulletins if you are uncertain.

Accommodated Learners (Learning support services). If you have documented challenges that will impede your learning in any way, please contact our LSS office in Scott Hall (ext.2107). The Director will meet with students, review the documentation of their disabilities, and discuss the services that Pacific offers and any appropriate ADA accommodations for specific courses.

Tutoring and Learning Center (TLC). The TLC is located in Scott Hall 127. The center focuses on delivering one-on-one and group tutoring services for math and science courses and writing skills in all subjects. Students should consult with the center's director for information on tutoring available for other subjects. Day and evening hours; walk-ins welcome!

X. Reading annotation form

NAME:

<i>Which reading does this annotation support? Record the <u>Chapter/Article Title</u> here:</i>
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A. Respond to these prompts BEFORE completing the reading

1. What does this reading appear to be about? (*Glance at the reading and denote/ list in brief – no need for elaborate detail; do your best to use your own words though, that is, paraphrase*)

2. What do you know already about this topic? Using the discussion prompts as your guide, take a moment to challenge yourself and jot down what comes to mind (*your response here should be as long as it needs to be, to fully challenge yourself. You may list, no need to write extensively*).

B. A. Respond to these prompts AFTER completing the reading

Read the article or chapter, and take notes as you do so, making sure to paraphrase. Refer to your notes and the reading itself as you prepare and type your answers to the remaining prompts.

3. What was the reading really about? Summarize the reading by recording your paraphrased notes here as they pertain to the specific discussion prompts listed in the syllabus. Use this format/script as your guide for what to report:

- **Introduction:** your summary of the intent and scope of the reading
- Your answers to the **discussion prompts**, using details from the reading as supporting evidence
- **Other inclusions:** aspects of the reading you deem worthy of comment but not covered in the prompts
- **Conclusion**

4. Compare and/or contrast your response to prompts 2 & 3 to show how your reading added to your knowledge. In some cases though, you may already know quite a bit about a particular topic. If that is the case, remark on how this reading fine-tuned what you already knew. That is, in this section, you might write about one of the following: (a) This reading added to my knowledge base because it was new to me; (b) This reading served as a refresher on knowledge I already possess; (c) This reading offered a new perspective on a topic I've read before, so now I understand it differently.

5. Clear & Muddy Waters: remark on two evaluative points:

- Which aspect of the reading was the **easiest** for you to follow/understand, and why?
- Which aspect of the reading was the **most difficult** for you to follow/understand and why?
- What would you most like to **discuss further** in class?

6. Connections. Comment on how this reading connects to previous material (usually readings but class discussion can be included here too) covered in this class (*note: for the first reading, connect it to our first-week class discussion & video viewing*).

7. Additional comments or questions? You can get it off your chest here.