PHIL 4483, Section 002, CR #13682

Special Topics: Philosophy of Cognitive Science

HSS 3005

TR 2-3:15pm

Instructor: Dr. Michele Merritt

Office: HSS 4072

Office Hours: TR 12:45-1:45pm, or by appointment

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**Course Description**

Advanced study of selected topics in philosophy. Content will vary. May be repeated for a maximum of 9 hours credit. Prerequisite, 9 hours of philosophy.

Philosophy and Cognitive Science overlap in several important ways. First, under the more general heading of Philosophy of Science, which is an examination of explanation, methodology, and the like, Philosophy of Cognitive Science more specifically seeks answers to these sorts of questions pertaining to the mind. So, for example, a question we might ask in this domain would be something like *what explanatory power does neuroscience have for a comprehensive picture of cognitive architecture?* Philosophy and Cognitive Science also intersect by way of inferring from findings in the sciences of thinking (neuroscience, psychology, robotics, etc) new or improved answers to age-old philosophical questions about the mind. For instance, if we find out that chimps do in fact possess a ‘theory of mind’ – an ability researchers have until now thought only humans possess – what does that say about the nature of *human* thinking and how do we (or can we) separate ourselves from other animals? Last, there is a point of intersection between Philosophy and Cognitive Science that concerns the ways in which theoretical frameworks get constructed and deployed in studies pertaining to cognition. In some sense, this is the juncture at which philosophy has the most to offer Cognitive Science – indeed, it is the point at which philosophers step in and point out inconsistencies in conceptually schema, ask important questions about methods, and ideally, help guide the way to more comprehensive inquiry.

This course will be an exploration of all three of these crucial junctures between Philosophy and Cognitive Science. We will cover the historical precedent set for needing a course such as this – namely, the Philosophy of Mind, the advent of Neuroscience, and the like – as well as the fundamentals of current Cognitive Science. The course will proceed mainly *topically*, and will include, but will not be limited to the following issues: Perception, Action, Connectionism, Artificially Intelligent Systems, Organism-Technology Interfaces, Language, Cognitive Extension, Modularity, and Animal Cognition.

**Program Outcomes:**This course contributes to the following program-level outcomes:  
  
1) Students will understand central issues and theories in philosophy (from among the major areas of metaphysics, epistemology, and value theory).  
2) Students will be able to analyze and explain complicated ideas.  
3) Students will be able to analyze arguments.  
4) Students will be able to evaluate arguments.

**Specific Course Outcomes**

Successful completion of this course implies that students will have gained an appreciation for the major topics and debates in the philosophy of cognitive science and will be able to effectively communicate – verbally or in written language – those issues. This course will also help prepare students for graduate study, in philosophy, but also in related fields such as psychology, cognitive science, and computer science.

**Assessment of Learning Outcomes**

Besides the required assignments described below, student learning outcomes will be assessed by way of an embedded question within an assignment intended to gauge to what extent students have met the Program and Course Outcomes listed herein.

**Required Materials**

Clark, A. (2014). *Mindware: An Introduction to the Philosophy of Cognitive Science,* 2nd Edition, Oxford University Press.

Other required readings will be available on Blackboard.

\*\*Please note that if materials are required, this means you must have them and bring them to class every day. The university bookstore often sells used copies at significantly discounted rates or rents books. Please talk to me if you need additional assistance in figuring out how to obtain your required materials.

**Grading Scale**

90-100 points = A

80-89 points = B

70-79 points = C

60-69 points = D

Below 60 points = F

**Grade Distribution**  % of Final Grade

***Short Response Papers*** **30%**

3 short papers will be due throughout the semester. Each one will consist in a brief synopsis of an assigned reading, along with some commentary and analysis of the central argument(s) or idea(s) of the reading. The papers will be due *before* we are scheduled to discuss them in class, with the idea being that you challenge yourself to make sense of the reading and grapple with the arguments ahead of class time. See schedule below for due dates and assigned corresponding assigned readings.

***Longer Paper***  **20%**

Toward the end of the semester, you will write a longer paper (6-8 pages) that ties together several readings and ideas from the course and develops an *argument* about some topic or debate. More details will be given as the due date approaches.

***Presentation on One Optional Reading* 10%**

There are several optional readings listed on the syllabus. These readings correspond to the topic(s) we are discussing that day, by either augmenting, challenging, or in some way responding to the other authors we have been reading.

***Class Participation* 20%**

Attending class is vital to the development of ideas. It is also crucial that you participate, both in class discussion and in online discussions whenever they arise. I will take attendance each day, but I am most concerned with your overall participation during class time and during virtual class assignments. Missing more than 30% of the course will result in automatic failure. Likewise, I reserve the right to mark you absent for the day, even if you are physically in attendance, if you are late, disruptive, distracted, or otherwise not engaged. Monopolizing class discussions and/or derailing discussions is also grounds for losing points in this category. Please see below for the University-wide attendance policy to which I also adhere.

***Take-Home Final Exam* 20%**

At the end of the semester, I will assign several questions that require short essay responses. You can take these questions home and work on them on your own time, use course materials, notes, etc, and will turn the exam in to me by the specified date/time. Since this exam is ‘open-book’, I will expect excellent writing and comprehensive answers that draw on texts we have discussed.

*Response Paper Required Sets (due on or before the date we are scheduled to discuss them in class:*

Set 1 (choose one)

Turing, *Computing Machinery and Intelligence*

Clark, Chapter 2

Clark, Chapter 3

Dennett, *Real Patterns*

Set 2 (choose one)

Clark, Chapter 4

Clark, Chapter 5

Clark, Chapter 8

Colombetti: “Enaction, Sense-Making, and Emotion”

Set 3 (choose one)

Hurley: “Animal action in the space of reasons”

Newen & Bartels: “Animal minds and the possession of concepts”

Clark, Chapter 11

Guo, et al: Left gaze bias in humans, rhesus monkeys and domestic dogs

**The “Fine Print”**

Students are expected to adhere to all guidelines in the Student Bulletin and Student Handbook (found online at astate.edu). In addition to all the guidelines therein, students in this class are expected to comply with the following:

* + Arrive to class on time and stay for the entirety of the class. If not, I reserve the right to mark you as absent for the day
  + Attendance Policy: Missing more than 8 classes results in automatic failure from the course. Participation is weighted heavily, so I suggest missing no more than 3 classes to maintain good standing in this regard. The only excused absences will be documented and will pertain to university sanctioned events, illness, family emergency, or inclement weather. (Attending a routine dental appointment during my class is NOT an excused absence, e.g.).
  + Inclement Weather Policy: Information on campus closure can be found on the ASU web page, KASU, and local radio and television stations. If inclement weather prevents you from being able to come to class and campus is not closed, please call the university for further instruction.
  + Technology Policy: laptops, phones, etc are not to be used during class time without prior approval from me. Quickly checking your phone is fine, but extended use of technology that I deem inappropriate will result in me asking you to put it away for good or leave the class. This includes headphones, or any other distraction. Talk to me about your note-taking style or specific learning strategies and we might be able to work something out, but otherwise, put away the technology for the hour and fifteen minutes we have together.
  + Cheating: Just Don't Do It! I reserve the right to maximally penalize you if I catch you cheating in any way (including failing you from the course). If you are unsure about what constitutes plagiarism, just ask. Better to be safe than sorry. Here is the official statement from the Handbook:

**Academic Misconduct Policy:**

Plagiarism (the act of taking and/or using the ideas, work, and/or writings of another person as one’s own) is a serious offense against academic integrity which could result in failure for the paper or assignment, failure for the course, and/or expulsion from Arkansas State University. Cheating is an act of dishonesty with the intention of obtaining and/or using information in a fraudulent manner. For further information, including specifics about what constitutes plagiarism or cheating, see ASU’s Academic Integrity Policy at: <http://studentconduct.astate.edu/AcademicIntegrity.html>.

* + If you have a disability which makes it difficult for you to succeed in this course, please contact me as soon as possible. Your privacy will be respected and every effort will be made to meet your needs. All students requesting accommodations for disabilities should be registered through ASU’s Disability Services (870 972 3964). If Disabilities Services determines you should be able to take tests in their office, it is your responsibility to schedule the test for the same time and date as the exam is administered to other students.
  + Policy on Missed Assignments/Make up work: The only reasons I will accept late or missed assignments are documented emergencies, illnesses, deaths in the family, or weather related issues.
  + Email Policy: You must email me with essential information, such as who you are, what class of mine you are in, and what your question or concern is. I try to adhere to the 24 hour response rule of thumb – if I have not responded to you within 24 hours, feel free to send a followup, but be aware that if you have not addressed me properly, told me who you are and what exactly you need, I reserve the right not to respond.
  + Negative Points: I reserve the right to take away points already earned on assignments for cheating, disrespectful behavior, or any other violations of the university and course policies.
  + Inclusiveness Policy: I am part of the SafeZone community network of trained AState faculty/staff/students who are available to listen and support you. As a SafeZone Ally, I can help you connect with resources on campus to address problems you face that interfere with your academic success, particularly issues of sexual violence, hateful acts, or concerns faced by individuals due to sexual orientation/gender identity. My goal is to help you be successful and to maintain a safe and equitable campus. As well, I will not tolerate any acts of hate or violence in my classroom and by agreeing to take this course, you also agree not to enact any intolerance.
  + The Arkansas State University Writing Center is a comfortable learning space in which ALL members of the A-State community can receive feedback on their writing. Qualified, friendly writing consultants will help at any stage of the process, from deciphering assignment sheets to providing feedback on writing projects that are nearly finished, and will help with any writing occasion, whether it be personal, academic, or professional. The Writing Center is located on the Dean B. Ellis Library’s first floor in the Learning Commons and will be open Monday, Tuesday and Wednesday 10-8, Thursday and Friday 10-4. We offer in-person tutoring and Skype sessions. You can utilize the center by dropping in, setting up an appointment in person or via phone at (870) 972-3451 during business hours, scheduling weekly appointments with the same tutor, or attending one of our many Discipline Drop-In Hours across campus in the Colleges of Agriculture and Technology and Business. For more information, visit: http://www.astate.edu/college/humanities-and-social-sciences/departments/english-and-philosophy/writing-guide/writing-lab/.

Week 1 (Jan 16 + 18) – Introduction, Historical Backdrop, What is Cognitive Science?

Clark, Introduction and Appendix I

***\*\*Note that Jan 18, we will not meet in class. You will have an assignment online. See Blackboard for details.***

***Assignments Due: Syllabus Quiz (by 1/23 at 11:59pm; Begin working on Collaborative Wiki/Outline of “History of Philosophy of Mind to Now” (due 1/30 at 11:59pm)***

Week 2 (Jan 23 + 25) – Core Themes

Clark, Chapter 1

Von Eckardt: “The Explanatory Need of Representations in Cognitive Science”

Thagard: “Cognitive Architectures”

***\*\*Note that Jan 23 and 25 we will not meet in class. You will have an assignment online. See Blackboard for details.***

***Assignments Due: Continue working on Collaborative Wiki/Outline of “History of Philosophy of Mind to Now” (due 1/30 at 11:59pm); Discussion Board on Representations and other Trends in Cognitive Science (due 1/30 at 11:59pm)***

Week 3 (Jan 30 + Feb 1) – Symbol systems and Machine Minds

Clark, Chapter 2

Turing, *Computing Machinery and Intelligence*

Optional: Dreyfus, from *What Computers Still Can’t Do*

Week 4 (Feb 6 + 8) – Patterns and Computations

Clark, Chapter 3

Dennett, *Real Patterns*

Optional: Dennett: “Back From the Drawing Board”

***Last day to turn in Response Paper 1***

Week 5 (Feb 13 + 15) – Connectionism

Clark, Chapter 4

SEP entry on Connectionism - online

Optional: McClelland et al: “Letting Structure Emerge”

Week 6 (Feb 20 + 22) – Action, Perception, and Dynamic Systems

Clark, Chapter 5

Clark, Chapter 7

Optional: Selections from Macknik & Martinez-Conde: “Sleights of Mind: What the Neuroscience of Magic Reveals about our Everyday Deceptions”

Week 7 (Feb 27 + Mar 1) – Extending the Bounds of Cognition

Clark, Chapter 8

Clark, Chapter 9

Optional: Gallagher: “The Socially Extended Mind”

Week 8 (Mar 6 + 8) – Enactivism

Clark, Chapter 10

Colombetti: “Enaction, Sense-Making, and Emotion”

Optional: Aizawa: “Consciousness: Don’t Give up on the Brain”

***Last day to turn in Response Paper 2***

Week 9 (Mar 13 + 15) – Predictive Engines

Clark, Chapter 11

Selections from Clark “Surfing Uncertainty”

Week 10 (Mar 20 + 22) – Spring Break

Week 11 (Mar 27 + 29) – Animal Cognition

Hurley: “Animal action in the space of reasons”

Newen & Bartels: “Animal minds and the possession of concepts”

Optional: Penn, Holyoak, and Povinelli: “Darwin’s Mistake: Explaining the discontinuity between human and nonhuman minds”

Week 12 (Apr 3 + 5) – More Animal Cognition – Canines

Guo, et al: Left gaze bias in humans, rhesus monkeys and domestic dogs.

Merritt, “Dismantling Standard Cognitive Science: It’s Time the Dog has Its Day”

***Last day to turn in Response Paper 3***

***Assignment Due: Discussion Board on Animal Minds***

Week 13 (Apr 10 + 12) – And More Animal Cognition! – Birds, Fish, and Beyond

Balda, et al: Spatial and Social Cognition in Corvids: An Evolutionary Approach

Balcombe, from “What a Fish Knows”

Optional: Wilcox and Jackson, “Jumping Spider Tricksters: Deceit, Predation, and Cognition

Week 14 (Apr 17 + 19) – Special Issue: Nativism vs. Empiricism

Spelke: “Nativism, empiricism, and the origins of knowledge”

Samuels: “Innateness in cognitive science”

***Assignment Due: Long Paper (April 19 by 11:59pm)***

Week 15 (Apr 24 + 26) – Special Issue: Neuroethics

Levy: “Neuroethics: A new way of doing ethics”

Rini: “Feedback from moral philosophy to cognitive science”

***Take-Home Final Exam Due April 30 (by 11:59pm)***

Honors Addendum:

Students enrolled in this course under the Honors heading will be expected to complete an extra assignment as described below. The revised grading distribution is also detailed below.

“Design a Study” Assignment – This extra assignment is intended to encourage synthesis of all the discussions and materials of the course in the form of a projected study/experiment that you would like to see carried out in order to answer a specific question about cognition. Ideally, after reading findings and methodologies from many of the experiments we cover in class, you will use one or more of these as a model, but will design your own study, such that you ask 1. A specific research question (like, do non-human animals have a theory of mind?), 2. Develop a way you might test this (one that ideally avoids any pitfalls of experimental invalidity, etc.), and 3. Discuss what sorts of results you would expect to obtain, what they would mean in terms of answering your question(s), and if you did not obtain the results you expected, how you would go about retesting in the future. More specific information about this assignment will be given as the due date draws closer. The due date will be the last week of classes, where you will also be expected to present your experimental setup to the class.

Grade Distribution for Honors Students

Long Paper: 20%

Response Papers: 30%

Presentation of an Optional Reading: 10%

Class Participation: 10%

Take-Home Final Exam: 20%

Design an Experiment: 10%