Philosophy of Cognitive Science

Summer 2023: July 31-September 1
Course Location: Online

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Course Description:
This class explores philosophical issues that arise in the cognitive sciences, particularly issues concerning the nature of minds and of mental activity. The term "cognitive science" stands for a cooperation of academic fields that attempt to understand the mind scientifically: cognitive science includes psychology, computer science, neuroscience, philosophy and linguistics. The cooperation between these different disciplines has produced a number of plausible models of the mind. We will look at some of these models starting from the idea that the mind is a digital computer and then considering alternatives to this view, such as connectionism and robotics. We will discuss both the plausibility and the problematic implications of each model. The primary aim of the class is to acquaint students with some contemporary accounts of the mind in Anglo/North American thought, and to equip students to critically assess such accounts.

Course Objectives:
Upon successfully completing this course, students will be able to:

- Outline central concepts and key debates in contemporary computational models of the mind.

- Identify, reconstruct and evaluate arguments in philosophical writings.

- Develop analytical writing.

Readings:
All readings for this class are available online.

Online Lectures:
Lectures are delivered asynchronously. They are dedicated to presenting the material to the students. Aside from the introductory lecture, online lectures concern an assigned reading. Students are required to watch the lecture online having read and thought about the assigned reading. You will soon notice that philosophical writings are difficult: you should read them several times before and after having watched a lecture. At a bare minimum, you should do the readings a first time looking for the general claims being made, and a second time paying attention to the details of the arguments. Since some readings are particularly challenging, lectures concerning them are broken up by theme. For some helpful advice on how to read philosophy, please consult the Course Resources module on Canvas.

In order to facilitate reading, study questions for all the assigned readings are posted on Canvas. These questions are intended to guide students through the readings by calling attention to some central features. You don't have to turn in answers to the study questions, but you should try to answer them on your own. Working on the study questions will prepare you for the midterm exam and for the quizzes.

In addition to watching the recorded lectures, students are welcome to make an appointment to speak to the instructor. Office hours are by appointment on Thursdays from 10am to 11am PST.

Assignments and Grading:

Quizzes:	50%	Thursday, August 3
		Thursday, August 10
		Thursday, August 17
		Thursday, August 24
		Thursday, August 31
Midterm Exam:	25%	Friday, August 18
Final Paper	25%	Due on Friday, September 1 at 11.59pm PST

Quizzes:
Quiz 0 is a game and it will not count towards the final grade. You should take it as soon as possible while you complete the Module on Course Mechanics and no later than at the end of the day on the first day of classes. The rest of the quizzes are designed to make sure that you are reading the material and following class lectures. There will be 5 quizzes administered every Thursday. Each quiz is worth 10% of the final grade. The amount of time needed to complete a quiz varies from quiz to quiz.

Some quizzes are multiple choice questions. Some are discussion quizzes that test your comprehension of class material. Failure to take a quiz will result in a failing grade on the quiz. There will be **no** possibility for a late or make-up quiz.

Midterm Exam:
The midterm exam will test your comprehension of the material. The exam will consist of 2 to 4 essay questions. The questions on the exams are based on the study questions. The exam develops your ability to outline central concepts and debates from the readings, explain key arguments and develop analytical writing. In addition to receiving feedback on the exam, an answer key for the exam will be provided so that students can self-assess.

Paper:
The paper requires you to explain and critically evaluate theses and arguments from the readings. Paper topics will be posted on Canvas. The paper is of moderate length (5 pages maximum). The paper builds on the skills and content from the midterm exam, and it adds a critical dimension. Students are asked to evaluate arguments and take an original stance.

Writing philosophy papers can be difficult and new to some of you. For some helpful advice on how to write philosophy papers, you can consult Jim Pryor's website: www.jimpryor.net/teaching/guidelines/writing.html.

Paper Draft Policy: Both the instructor and the teaching assistants are happy to talk about a draft of your paper. However, we find that the most helpful aspect of this consists in our being able to meet and discuss it, rather than us reading the draft and giving you comments. So, the policy on drafts is that we will discuss them with you in a Zoom meeting. We will not read the draft in advance, rather you will be asked to summarize what you have written and then talk about what you find difficult. We will then talk about how to improve the draft. This means that if you want to discuss your draft, you need to set up a meeting with either the instructor or the teaching assistants.

Late/Makeup Assignments:
Please note the scheduled dates of the quizzes and of the midterm exam. Because of the length of the summer class, there will be **no possibility for a make-up**. If you are not able to make an exam or a quiz, you will receive a failing grade on that exam or quiz. Please also note the due date of the final paper. Papers received late will be penalized in points up to a failing grade. There will be *no* extra-credit opportunities in this class.

Disability:

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC). I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu.

Inclusion and Disclosure Statement:

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the Campus Advocacy Resources & Education (CARE) Office by calling (831) 502-2273. In addition, Counseling & Psychological Services (CAPS) can provide confidential, counseling support, (831) 459-2628. You can also report gender discrimination directly to the University's Title IX Office, (831) 459-2462. Reports to law enforcement can be made to UCPD, (831) 459-2231 ext. 1. For emergencies call 911.

Faculty and Teaching Assistants are required under the *UC Policy on Sexual Violence and Sexual Harassment* to inform the Title IX Office should they become aware that you or any other student has experienced sexual violence or sexual harassment.

Academic Integrity:

AI writing tools such as ChatGPT are innovative and exciting resources. However, one of the aims of this class is for students to work on their analytical style of writing. For this reason, **AI Writing tools are not permitted for any of the assigned work in this class**. If you use these tools, your actions would be considered academically dishonest and a violation of UCSC's policies. You are responsible for being familiar with UCSC's policies on plagiarism and proper sourcing. Proper sourcing and good scholarship are expected. Plagiarism is a serious academic offense and will not be tolerated. At a minimum, plagiarism will result in failing this course.

You are encouraged to discuss the material for this class with your peers. However, the quizzes, the exam and the paper have to reflect your own knowledge and your original contribution.

You are allowed to share drafts of your paper with peers and to give and receive comments. But you have to write the paper yourself and the paper should reflect your thought. If a peer suggests, either in conversation or in written comments, a point that constitutes an addition to your paper, and you want to include the point, you need to cite your peer (e.g. write a footnote like:"This point/example/argument was suggested to me in conversation by First Name and Last Name"). You do not need to cite points made by the instructor in the lectures.

You should be able to write the exam and the paper by simply using the material assigned for the class. However, if you feel that something you have read outside of class is particularly relevant and you want to cite it, you need to a) make sure it is obvious that you are citing an outside source, b) give citations as appropriate (i.e. give title and author of the book/article/piece, year of publication or internet address, page numbers etc.), c) make sure that what you are citing is relevant.

If you have any questions or concerns about how to avoid plagiarism and ensure the originality of your work, please ask the instructor. UCLA has helpful tips on avoiding plagiairsm:
http://unitproj.library.ucla.edu/col/bruinsuccess/.

Class Schedule:

Minds as Digital Computers

Week 1 July 31   INTRODUCTION
                      Alan Turing, "Computing Machinery and Intelligence"
Week 2 Aug 7   Jerry Fodor, "The Language of Thought: First Approximations"
                      Stevan Harnad "The Symbol Grounding Problem"
                      Ned Block: "Troubles with Functionalism"

Minds as Connectionist Networks

Week 3 Aug 14   Melanie Mitchell excerpts from *Artificial Intelligence* "Connectionism"
                      Paul Churchland "Cognitive Activity in Artificial Neural Networks"
                      Joy Buolamwini and Timnit Gebru: "Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification"'

Midterm Exam

Fri Aug.18

Minds as Connectionist Networks Continued

Week 4 Aug 21   Jerry Fodor and Zenon Pylyshyn, "Connectionism and Cognitive Architecture: A Critical Analysis"
                      Andy Clark, "Magic words: how language augments human computation"
                      Andy Clark and David Chalmers, "The Extended Mind"

Minds as Artificial (embodied) Brains

Week 5 Aug 28   Melanie Mitchell excerpts from *Artificial Intelligence* "Deep Learning"
Melanie Mitchell excerpts from *Artificial Intelligence* "Robots"
Rodney Brooks "Intelligence without representation"
Tim van Gelder, "What might cognition be if not computation?" (pp. 345–363 only)

Final Paper Due
Fri Sept.01   11.59 pm Pacific Time