

Cognitive Science

Phil/Arti/Psych 3550

(Prerequisite: PSYC 1101 or PHIL 1000 or EPSY 2020)

Instructor: Dr. Wright

Time: 2:00- 3:15 Tues. and Thurs.

Office: 101 c Peabody Hall

Email: sawright@uga.edu

Required Texts: Andy Clark, *Mindware*

John Haugeland, *Mind Design II*

Website: Sign in at webct.uga.edu

Course Topic:

In this course we will seek to learn more about human cognition by looking at attempts that have been made to simulate it by creating artificial intelligences. By trying to create systems that can perform cognitive tasks we can better understand how our own thinking is achieved by discovering the limitations and difficulties in artificial implementation. Many of these results challenge our original ideas about the structure of our cognitive lives and about how our cognitive abilities are generated.

Course Goals:

The goals of this course are to familiarize you with recent developments in cognitive science, and then to present the issues and controversies that these developments have raised. As a result of working through these debates, you should come to a full understanding of the arguments for each side. Finally, through the course of this class you should come to a conclusion about where you stand on these various issues, and be able to defend that position with your new understanding.

Assignments:

Reading Assignments: This is a reading intensive class. Carefully reading and re-reading the assigned articles is as important an element of this class as anything that you turn in. You are expected to come to class every day having read and understood the assigned material, and ready to discuss that material. Your preparation for this class is essential because I will be calling on students to answer questions and comment on the reading from the beginning of every class period. Using this understanding we will then be able to move on and critically discuss the reading. Such critical discussion is the main activity of philosophy, and is

crucial in the development of your own viewpoints and arguments for those viewpoints. Your participation in the discussion will be reflected in your participation grade, and you will not do well in this unless you come to class having read and thought about the readings.

In many of the readings for this class, the authors will be trying to convince you to agree with their position on an issue. So, fully understanding an article involves not only knowing what the author says, but also thinking critically about the arguments the author gives in favor of what they say. In addition you should be thinking about the reasons you have to either agree or disagree with the author. Since this is a complex activity, reading philosophy may take you significantly longer than reading materials in other subjects.

Writing Assignments:

Short Commentaries: In order to encourage you to read our authors critically and to think about your own opinion, you will be asked to contribute to the WebCT discussions on the readings approximately once each week. Your contribution may be a question that the reading has left you with, a comment on the reading, or a response to the commentaries that others have posted. Commentaries should be at least 200 words long, and should demonstrate that you have carefully done the reading. Your commentaries should be posted on WebCT by the end of the day before the class in which we will discuss the reading. Your dates to contribute will be determined by your last name; see the schedule on WebCT for exact dates. Your short commentaries will make up 10% of your grade.

Papers: During the course of the semester, you will be asked to write two 5-8 page papers. In each paper you will be asked to present an issue and then argue in favor of your own position on that issue. You will also be asked to consider at least one objection to your position, and respond to that objection. Each paper will determine 30% of your grade.

If you choose, you may re-write your first paper. Your grade on the re-write will replace your original grade. (Your grade will be replaced even if your re-write has a lower grade than your original paper.)

Attendance and Participation: I expect you to come to each class prepared to discuss the assigned material. Participation in class discussion will help you to better understand the material, and to correct and refine your own view of the issues and arguments. From time to time I may have in-class activities or quizzes, and these will also count toward your participation grade. Your attendance and participation will determine 10% of your grade.

Because there is a waitlist for this class, any student missing two or more class meetings in the first two weeks will be dropped from the class.

Final Exam: The final exam will be optional. It will be in-class, closed book, and cumulative. It may contain a variety of question formats, including essay, short answer, and fill-in-the-blank. The final will be held on December 11 from 3:30 to 6:30. If you choose to take the final exam, it will determine 40% of your final grade and will replace the grade on your lowest-scored paper.

Grade Appeals:

Any dispute you have about any grade must be presented to me in a one-page typewritten explanation within one week of my handing back the graded material.

Plagiarism/Cheating:

It is very important that all work you submit in this class be your own original words and ideas. You are allowed, even encouraged, to talk to each other before the exam and about your writing assignments. However, all the work you turn in must be your own ideas, in your own words, and any reference to anyone else's words or ideas should be clearly cited. Any instance of plagiarism on written assignments or cheating on in-class exams will result in your failing this class, and will be reported to the University.

*All academic work must meet the standards contained in "A Culture of Honesty."
All students are responsible to inform themselves about those standards before performing any academic work.*

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

Reading and Assignment Schedule

Any changes to this schedule will be posed on WebCT

18-Aug	Introduction to Class
20-Aug	<i>Mindware</i> Intro, Chapter 1, Appendix 1
25-Aug	Turing "Computing Machinery and Intelligence"
27-Aug	<i>Mindware</i> Chapter 2 Newell and Simon "Computer Science as Empirical Inquiry: Symbols and Search"
1-Sep	
3-Sep	Searle "Minds, Brains, and Programs"
8-Sep	
10-Sep	<i>Mindware</i> Chapter 3
15-Sep	Fodor Psychosemantics, Chapter 1 Dennett "True Believers: The Intentional Strategy and Why it Works"
17-Sep	Churchland "Eliminative Materialism and the Propositional Attitudes"
22-Sep	
24-Sep	
29-Sep	<i>Mindware</i> Chapter 4
1-Oct	Rumelhart "The Architecture of Mind"
2-Oct	First Paper Due 6:00 pm Churchland "On the Nature of Theories: A Neurocomputational Perspective"
6-Oct	
8-Oct	Fodor and Pylyshn "Connectionism and Cognitive Architecture"
13-Oct	
15-Oct	<i>Mindware</i> Appendix II
20-Oct	Jackson "Epiphenomenal Qualia"
22-Oct	Denett "What RoboMary Knows"
27-Oct	
29-Oct	<i>Mindware</i> Chapter 5 and 6
30-Oct	First Paper Re-Writes Due 6:00 pm
3-Nov	Brooks "Intelligence Without Representation"
5-Nov	Fodor "Why Paramecia Don't Have Mental Representations"
10-Nov	
12-Nov	<i>Mindware</i> Chapter 7 and 8
17-Nov	Van Gelder "Dynamics and Cognition" Keijzer and Bem "Behavioral Systems Interpreted as Autonomous Agents and as Coupled Dynamical Systems: A Criticism"
19-Nov	
1-Dec	<i>Mindware</i> Chapter 9
3-Dec	
8-Dec	Second Paper Due 6:00 pm
11-Dec	Final Exam 3:30-6:30 pm