This course introduces the interdisciplinary field of cognitive science, a field devoted to the question of how the mind works. In this course, we will draw upon work from philosophy, cognitive psychology, artificial intelligence, neuroscience, linguistics, and anthropology. We will consider such questions as what it means for an organism or agent to be intelligent and/or rational; what it means for knowledge or expertise to be modular or general-purpose; what role evolutionary pressure plays, or has played, on human cognition; what it means to have “common sense,” and the role played by intentionality in an intelligent system.

The course meets on Mondays, Wednesdays and Fridays. There are three texts for the course, available for purchase at the bookstore. They are: Gladstone, *Blink: The power of thinking without thinking*; Friedenberg & Silverman, *Cognitive science: An introduction to the study of mind*, and Haugeland (Editor), *Mind Design II: Philosophy, psychology, and artificial intelligence*. We will read all of the Gladstone book (in the first week of the course); all of the Friedenberg & Silverman book (throughout the term), and many of the chapters in the edited volume by Haugeland (mostly at the end of the term). I've placed one copy of these three books on regular reserve, but recommend you purchase your own copy. Additional assigned readings (there are only a few) have been placed on reserve on the libe's web page. Those readings have been marked [ER] (for “electronic reserve”) on the following schedule. (The password for the ER site is CGSC).

The attached tentative schedule lists the topics we will cover along with assignments. The course is a fairly reading-intensive one. It is strongly suggested that you complete reading assignments before the class meets, and then review the material after lecture.
Class meetings will consist of lectures, several days devoted to discussion, three days of film viewing, and, I hope, a lot of participation! We are fortunate to have students from a variety of disciplines enrolled, and I hope to leverage that expertise to further enhance the value of class meetings for everyone!

**Course requirements**

There will be two midterms, a final project, and two essays, (one based on one of the three films we will view). Grading will be based on the following approximate weights: first essay, 12.5%; essay based on film viewing, 12.5%; first midterm, 25%; second midterm, 25%; final project, 25%. Details on the essays and the final project will be handed out at the relevant time. Formats for the exams will also be discussed ahead of the exams. Course grades are subject to slight upward adjustment for excellent attendance and participation.

All written assignments must be submitted by the due date; a penalty will be incurred for late assignments unless they are accompanied by a notification from the dean of students’ office about unusual circumstances. Make-up exams will only be given if I receive a dean’s notification. You are expected to mark your calendars now for course deadlines, and to plan your work accordingly throughout the semester.

You are also expected to adhere to standards of academic honesty in all of your work, and especially to familiarize yourselves with the website, http://webapps.acs.carleton.edu/campus/doc/information_students/academichonesty/honesty_complete/, which provides information about avoiding plagiarism and using proper citations. (Because this course draws students from so many different disciplines, I will be quite flexible in accepting a variety of citation styles—it’s more important to me THAT you cite your sources of information than HOW you cite it—just use a recognized style and use it consistently).
Class Schedule Fall 2010

Week 1
Mon 9/13  Introduction and Overview
Read (skim): Friedenberg & Silverman, ch. 1

Wed 9/15  Discussion: Blink
Read: Gladwell, chs. 1-3

Fri 9/17  Discussion: Blink continued
Read: Gladwell, chs. 4-6

Week 2
Mon 9/20  Lecture/Discussion: Dual-process theories of cognition
Read: Gladwell, conclusion and afterward
Klacynski [ER]; Haidt [ER]
Short essay assigned

Wed 9/22  Philosophical Approaches to Cognitive Science
Read: Friedenberg & Silverman, ch. 2

Fri 9/24  Film: The Magic of Consciousness
Read: Flanagan [ER]

Week 3
Mon 9/27  Psychological Approaches to Cognitive Science: History
Read: Friedenberg & Silverman, ch. 3
Short essay due

Wed 9/29  Perception and Pattern Recognition,
Read: Friedenberg & Silverman, ch. 4

Fri 10/1  Memory and Attention
Read: Friedenberg & Silverman, ch. 5
Week 4
Mon 10/4  Concepts and Imagery
Read: Finish F & S ch. 5

Wed 10/6  Problem-Solving and Reasoning
Read: Nothing new

Fri 10/8  Film: *Mapping Memory in the Brain* (from “Making your Mind”)
Read: Friedenberg & Silverman, ch. 6

Week 5
Mon 10/11  First Midterm

Wed 10/13  More on Neuroscience
Read: Review Friedenberg & Silverman, ch. 6

Fri 10/15  Neural Nets and Connectionist Models
Read: Friedenberg & Silverman, ch. 6; Rumelhart in Haugeland

Week 6
Mon 10/18  MIDTERM BREAK
Go ahead, take the day off

Wed 10/20  Discussion: How far can connectionist models take us?
Read: Fodor & Pylyshyn in Haugeland

Fri 10/22  Evolutionary Pressures on Cognition
Read: Friedenberg & Silverman, ch. 8

Week 7
Mon 10/25  Linguistics Approaches to Cognitive Science
Read: Friedenberg & Silverman, ch. 9; Pinker, ch. 1 [ER]

Wed 10/27  The Nature of Language
Film: *Koko: A talking gorilla*
Read: Pinker, ch. 11 [ER]; Shanker, Savage-Rumbaugh, & Taylor [ER]

Fri 10/29  Catch up day (in case we get behind!)
Read: Catch up
Week 8
Mon 11/1  Artificial Intelligence and the Turing Test
Read: Friedenberg & Silverman, ch. 10
Haugeland in Haugeland; Turing in Haugeland

Wed 11/3  Machines that Know and Talk and Reason and Recommend
Read: Friedenberg & Silverman, ch. 11; Newell & Simon in Haugeland

Fri 11/5  Discussion: The Frame Problem, and Formalizing “Common Sense”
Read: Minsky in Haugeland; Dreyfuss in Haugeland

Week 9
Mon 11/8  Robotics
Read: Friedenberg & Silverman, ch. 12
Brooks in Haugeland

Wed 11/10 Discussion: Intentionality
Read: Searle in Haugeland; Dennett in Haugeland

Fri 11/12  Catch-up day

Week 10
Mon 11/15 Wrap-up
Read: Friedenberg & Silverman, ch. 13

Wed 11/17  Second Midterm

Thu 11/18-Fri 11/19  Reading Days (KG at conference)

Sat 11/20-Mon 11/22  Exam Days—Work on Final Project (KG back from conference 11/22)

MON 11/22  Final Projects Due  (prefer by 5 pm, to my mailbox)
EARLY submissions welcomed and appreciated!!!!!
Course Bibliography

Texts (available for purchase at the bookstore)


Other Readings (available on E-reserves)


