

**PHI/PSY 525, Spring 09, sec 001**  
**WN 114, T/Th, 11:45-1:00**

**Dr. Ronald Endicott, WI 455, 515-6195,**  
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**Course Description:** This course provides an introduction to a number of issues in Cognitive Science, a multi-disciplinary study of the mind that includes Cognitive Psychology, Neuroscience, Behavioral Biology, Psycholinguistics, Artificial Intelligence, Logic, and the Philosophy of Mind.

**Grading:** There are 3 exams (tf, mc, and essay) and one term paper (argumentative research), each counting 25% of the course grade. The third exam is taken on the day of finals, April 30. Grading Scale: 80-82 (B-), 83-86 (B), 87-89 (B+), etc. Class participation decides borderline cases. A student's signature on any test or assignment means that the student neither gave nor received unauthorized aid. In order to receive a grade of S, students are required to take all exams, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) is subject to university deadlines. Refer to the Registration and Records calendar for deadlines. For more details refer to

[http://www.ncsu.edu/policies/academic\\_affairs/courses\\_undergrad/REG02.20.15.php](http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.15.php)

**Term Paper:** The student may follow any format (MLA, Chicago Manual of Style, etc.). The paper should be 8-10 pp. in length, not counting the bibliography. The paper should contain a thesis statement in the first paragraph, then a description of the position or research, followed by arguments and evidence pro and con. The paper must incorporate material from all required readings that concern the topic + 4 additional sources from the NCSU library (book or journal article). The student must request and obtain the professor's approval of the paper topic via email by April 9. A hard-copy of the paper is due in class on April 23.

**Attendance:** Attendance is strongly encouraged. Make-up exams with an excused absence must be taken the week the student returns to class. See the student handbook or:

[http://www.ncsu.edu/policies/academic\\_affairs/courses\\_undergrad/REG02.20.3.php](http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG02.20.3.php)

**Required Readings:** Steven Pinker, *How the Mind Works* (W.W. Norton 1997), \$14.00 used; Paul Thagard, *Mind: Introduction to Cognitive Science*, 2<sup>nd</sup> ed. (MIT Press, 2005), \$25.00 used; articles from the *Stanford Encyclopedia of Philosophy* (SEP) are found at <http://plato.stanford.edu>; articles placed on *Electronic Reserve* (e-reserve) are found on the link 'Reserves' at <http://www.lib.ncsu.edu>; articles cited below with electronic access from *NCSU Library Journals* are found on the link 'Journal List' at the same web page.

**Academic Integrity:** see the handbook, code of student conduct, or

[http://www.ncsu.edu/policies/student\\_services/student\\_discipline/POL11.35.1.php](http://www.ncsu.edu/policies/student_services/student_discipline/POL11.35.1.php)

**Student Disabilities:** Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with Disability Services Office (<http://www.ncsu.edu/dso/>) located at 1900 Student Health Center, Campus Box 7509. 515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at

[http://www.ncsu.edu/policies/academic\\_affairs/courses\\_undergrad/REG 02.20.1.php](http://www.ncsu.edu/policies/academic_affairs/courses_undergrad/REG 02.20.1.php)

**Learning Environment:** NC State provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and

federal law and/or NC State policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at [http://www.ncsu.edu/policies/campus\\_environ](http://www.ncsu.edu/policies/campus_environ) or [http://www.ncsu.edu/equal\\_op](http://www.ncsu.edu/equal_op). Any person who feels he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 515-3148.

### **Part I. Current Issues: Human and Animal Minds**

**WK 1 (Jan 8) Introduction to Cognitive Science**, Thagard, 7-10; Thagard, 'Cognitive Science,' SEP; Gardner, 'Cognitive Science: The First Decades,' e-reserve.

**WK 2 (Jan 13, 15) The Notion of an Intelligent Mind**, T, Thagard, 3-10; Pinker, 60-62; Th, Pinker, 40-41, 179-205, 355-356; Anderson, 'Animal Cognition,' secs 2-3; Hurley and Nudds, 'The Questions of Animal Rationality: Theory and Evidence,' e-reserve; Herman, 'Exploring the Cognitive World of the Bottlenose Dolphin,' e-reserve.

**WK 3 (Jan 20, 22) Primates and the Theory of Mind Debate**, T, Pinker, 329-333; Anderson, 'Animal Cognition,' SEP sec 4.2; Gallup, 'Can Animals Empathize? Yes,' e-reserve; Gallup, 'Chimpanzees: Self-Recognition,' Science 167 no. 3914 (1970); Th, Povinelli, 'Can Animals Empathize? Maybe Not,' e-reserve; Povinelli, 'Escaping the Argument by Analogy,' from Folk Physics for Apes, e-reserve, esp. pts 2-3.

**WK 4 (Jan 27, 29) The Problem of Human Irrationality**, T, Thagard, 34-42; Pinker, 333-351; Leda Cosmides, "The logic of social exchange: has natural selection shaped how humans reason? Studies with the Wason selection task," Cognition 31 No.3 (1989); Th, Anderson, Lepper, and Ross, 'Perseverance of Social Theories: The Role of Explanation in the Persistence of Discredited Information,' J. Per. Soc. Psy. 39 no.6 (1980).

**WK 5 (Feb 3, 5) Review and First Exam (Th)**

### **Part II. Theoretical Approaches to the Nature of Mind**

**WK 6 (Feb 10, 12) The Background of Behaviorism**, T, Pinker, 62-3, 180-82, 387-89; Graham, 'Behaviorism,' SEP, secs 1-5; Nisbett and Wilson, 'Telling More Than We Can Know,' Psy. Rev. 84 no.3 (1977); Th, Graham, 'Behaviorism,' SEP, secs 7-8; Tolman, 'Cognitive Maps in Rats and Men,' e-reserve; Chomsky, 'Review of B.F. Skinner's Verbal Behavior,' e-reserve.

**WK 7 (Feb 17, 19) Cognitivism via Psycholinguistics**, T, Thagard, 50-51; Pinker, 84-88; Pinker, 'Language Acquisition,' e-reserve; Crain and Nakayama, 'Structure Dependence in Children's Language,' Language 63 no.3 (1987); Th, Andrews, 'Animal Cognition,' SEP, sec 4.1; Hauser, Chomsky, Fitch, 'The Faculty of Language: What Is It, Who Has It, and How Did It Evolve?,' Science 298 (2002); Spelke, 'Initial Knowledge: Six Suggestions,' e-reserve.

**WK 8 (Feb 24, 26) The Computational Model**, T, Thagard, 10-22; Pinker, 21-34, 59-84; Horst, 'The Computational Theory of Mind,' SEP, secs 1-2; John Haugeland, 'Semantic Engines,' e-reserve; Th, Thagard, 111-131; Pinker, 112-131; Garson, 'Connectionism,' SEP.

**WK 9 (Mar 2-6) NO CLASSES -- SPRING BREAK**

**WK 10 (Mar 10, 12) Problems for the Computational Paradigm**, T, Shanahan, 'Frame Problem,' SEP; Haugeland, 'Understanding Natural Language,' e-reserve; Th, Cole, 'Chinese Room Argument,' SEP.

**WK 11 (Mar 17, 19) Review and the Second Test (Th)**

### **Part III. Special Topics: Images and Concepts**

**WK 12** (Mar 24, 26) **Images, Descriptions, and Quasi-Pictures, T**, Thagard, 95-109; Pinker, 89-90, 275-298; Thomas, 'Mental Imagery,' SEP, secs 4-4.3; **Th**, Thomas, 'Mental Imagery,' SEP, secs 4.4; Pylyshyn, 'Imagery Debate,' e-reserve.

**WK 13** (March 31, April 2) **Classical Concepts, T**, Margolis and Laurence, 'Concepts,' sec.1-2.1, SEP; **Th**, Pinker, 12-13, 323-327; Fodor, et. al. 'Against Definitions,' e-reserve.

**WK 14** (April 7, 9) **Prototype Concepts, T**, Thagard, 59-75; Pinker, 126-129; Margolis and Laurence, 'Concepts,' sec 2.2, SEP; **Th**, Armstrong, et. al, 'What Some Concepts Might Not Be,' e-reserve; Fodor, 'Prototypes and Compositionality,' e-reserve; Osherson and Smith, "On the Adequacy of Prototype Theory as a Theory of Concepts,' e-reserve.

**WK 15** (April 14, 16) **Theory-Theory, T**, Margolis and Laurence, 'Concepts,' sec 2.3, SEP; Prince, 'the Theory Theory,' e-reserve; Murphy and Medin, 'The Role of Theories in Conceptual Coherence,' e-reserve.

**WK 16** (April 21, 23) **Concept Atomism, T**, Margolis and Laurence, 'Concepts,' sec 2.4; Fodor, 'Meaning and the World Order,' e-reserve; Prince, 'Informational Atomism,' e-reserve;

**WK 17 Final Exam, Th, April 30, 8:00 a.m.**