Introduction to Cognitive Science
PNP 200

General business

Course time, location: Tues and Thurs 10:00 – 11:30, McDonnell 361
Instructor, contact: Elizabeth Schechter, eschech@wustl.edu
Office hours, location: Mon 4:00-6:00, and by appt, Wilson 108
T.A., contact: Sarah Malanowski, smalanowski@wustl.edu
Office hours, location: Wed 11:00-1:00, and by appt, Wilson 116
Course website: on Telesis

Course description

Texts and Readings
There are two required texts for the course:

Evaluation

Sources of points: There are three exams in this class. The first two exams are worth 30% of your grade. The last exam is worth 35% of your grade. Your combined quiz score will be worth 5% of your grade.
Exam structure and content: Each exam will have an in-class and a take-home portion. The in-class portion of the exam will consist of short-answer questions. The take-home portion will be a short “article report”, which you should type. For the first two exams, you will bring your completed take-home report with you to the in-class portion of the exam and submit the in-class and the take-home portion together. The take-home portion of the final exam will not be due until a few days after the last class, Friday 14 December.
Quizzes: On some days there will be a short (unannounced) quiz on the assigned reading for that day.

Deadlines and attendance

Exams: Your overall life schedule, during the semester, should be arranged, as much as possible, around your exam schedule (for all your courses). Exams are important, and other events in your life should be arranged to accommodate your exams, rather than vice versa. If a conflict is unavoidable, contact the instructor as early as possible to arrange for an alternative test date.
**Please note that you are required to submit a hard copy of the take-home portion of each exam.**
If you do not submit a paper copy of your essay when it is due, you will be marked as if you had simply failed to complete the essay portion of that exam.
Quizzes cannot be made up.
Attendance: Attendance will not be directly factored into your grade. (Obviously it can be expected to make a great difference to your grade indirectly!)
Promptness: Please try to arrive before 10:10 a.m. so that you have time to ready your materials and review your notes from previous classes. Please do not enter the classroom after 10:15 a.m.

Other policies

Dishonesty: Students suspected of academic dishonesty will be swiftly reported to the Academic Integrity Office. Take-home essays incorporating plagiarized material will be awarded a grade of zero.
Pass-Fail: Students taking the course Pass-Fail must earn at least a C- to obtain a passing grade. Incompletes: Incompletes will be awarded only under exceptional circumstances and, of course, only when arrangements are made prior to the last class. Auditors: Auditors will be credited with auditing only if they have a good record of attendance and participation, and a decent quiz average (C or above).

IMPORTANT DATES
This information is all contained in the detailed schedule below, but has been consolidated here for your attention.

Thursday 27 September: First exam. Take-home assignment due in class along with in-class short-answer portion of exam.

Thursday 1 November: Second exam. Take-home assignment due in class along with in-class short-answer portion of exam.

Tuesday 11 December: Third exam. Take-home assignment not due at this time.

Friday 14 December: Third take-home assignment due to Philosophy Department by 4 p.m.

Schedule of Readings and Discussions

Important notes:
1. All readings are to be completed before class on the date under which they are listed (unless instructor gives word to the contrary).
2. All listed readings are required in their entirety (unless instructor gives word to the contrary).
3. References to chapter numbers, without author name, are to chapters in the Bermúdez textbook. References to specific authors are to papers in the Thagard anthology.
4. The schedule of readings is only approximate. (Exam dates, however, will not be changed.) We may speed up or slow down. Readings may be dropped or added. If there are to be any changes to the schedule of readings or to the readings themselves you will be notified in advance by email. Please make sure you are receiving these emails and that you check your account daily.

Tues 28 Aug
Day One: Behaviorism, Decline of
1.1 Reaction against behaviorism

Thurs 30 Aug
Day Two: Function, Computation, and Algorithm
1.2 Theory of computation and the idea of an algorithm

Tuesday 4 Sept
Day Three: Information Processing
1.4 Information-processing model in psychology
Thursday 6 Sept
Day Four: The New Science of the Mind
Simon: What is an “explanation” of behavior?

Tuesday 11 Sept
Day Five: Natural Language and Formal Systems
1.3 Linguistics and the formal analysis of language
2.1 Language and microworlds

Thursday 13 Sept
Day Six: Representational format
2.2 How do mental images represent?

Tuesday 18 Sept
Day Seven: Representational content
Medin: Concepts and conceptual structure

Thursday 20 Sept
Day Eight: Catch-up

Tuesday 25 Sept
Day Nine: Review

Thursday 27 Sept
Day Ten: —Exam 1—

Tuesday 2 Oct
Day Eleven: Functional Analysis and Levels of Explanation
3.1 Cognitive systems as functional systems
2.3 Marr: an interdisciplinary model of vision

Thursday 4 Oct
Day Twelve: The Algorithmic Level
Johnson-Laird and Byrne: The cognitive science of deduction

Tuesday 9 Oct
Day Thirteen: The Brain Bites Back
3.2 The anatomy of the brain and the two visual systems hypothesis

Thursday 11 Oct
Day Fourteen: Constraining Theories at the Algorithmic Level
3.4 Mapping the stages of lexical processing

Tuesday 16 Oct
Day Fifteen: CRTT
6.1 The physical symbol systems hypothesis
6.2 From physical symbol systems to the language of thought
Thursday 18 Oct
Day Sixteen: Connectionism
3.3 Extending computational modeling to the brain
8.1 Neurally inspired models of information processing

Tuesday 23 Oct
Day Seventeen: Rules vs. Associations
Pinker: Rules of Language

Thursday 25 Oct
Day Eighteen: Catch-up

Tuesday 30 Oct
Day Nineteen: Review

Thursday 1 Nov
Day Twenty: —Exam 2—

Tuesday 6 Nov
Day Twenty-one: Interdisciplinarity
4.1 Cognitive Science: Interdisciplinary endeavor
4.2 Levels of explanation: psychology and neuroscience

Thursday 8 Nov
Day Twenty-two: Integration
4.3 The integration challenge
(You may find it helpful to re-read 2.3, 3.2)

Tuesday 13 Nov
Day twenty-three: Mental Architecture
10.1 Architectures for intelligent agents

Thursday 15 Nov
Day twenty-four: Mental Architecture
Anderson: Production systems and the ACT-R Theory

**No class Tuesday, 20 Nov or Thursday, 22 Nov**

Tuesday 27 Nov
Day twenty-five: Mental Architecture
10.2 Fodor on the modularity of mind

Thursday 29 Nov
Day twenty-six: Mental Architecture
10.3 The massive modularity hypothesis

Tuesday 4 Dec
Day twenty-seven: Catch-up
Thursday 6 Dec
Day twenty-eight: Review

Tuesday 11 Dec
Day twenty-nine: —Exam 3—

Friday 14 Dec

3rd Take-Home Assignment Due
Phil Dept by 4 p.m.