

Syllabus

Philosophy 151: Cognitive Science, Mind

Instructor's office: Prof. Dr. Amaral Music 108, ED174

Instructor's office hours: T-Th 7:00-9:00

Instructor's office email address: pedro_amaral@csufresno.edu.

Grades are only posted on the web and are never given in class.

Department office, MB Room 102; department hours: T-Th: 9:15-12:30 278-2621.

Phone: 278-2621 Web: zimmer.csufresno.edu/~pedroa

LECTURE TOPICS

TOPICS:

Cognitive science is the interdisciplinary study of cognition. Cognition includes mental states and processes such as thinking, reasoning, remembering, language understanding and generation, visual perception, music perception, learning, consciousness, emotions, etc. Some cognitive scientists limit their study to human cognition, though most consider cognition independently of its implementation in humans or computers. Some cognitive scientists study cognition independently of the cognitive agent's environment; others study it within the context of the person, the society, the culture, music and art. Cognitive science can also be defined as, roughly, the (hopefully non-empty) intersection of the disciplines of computer science (especially artificial intelligence), linguistics, philosophy (especially philosophy of mind and philosophy of language), and psychology (especially cognitive psychology). Some writers on cognitive science add cognitive anthropology to this list, and most would add the cognitive neurosciences, perception and psychology of artistic cognition. The former deals in part with the societal and cultural context mentioned above. The latter is concerned with the "implementation" of mind and the perception of music and art in human physiology. We will review the history, nature, major findings, and philosophical implications of cognitive science.

TEXTS: *The Thinking Eye, The Seeing Brain*. James Enns, W.W. Norton, (2004) which students will buy.

"Art and the Brain" ed. By Goguen (to be distributed in class).

Web-Enhanced: frequent exercises, assignments, projects and communication involve intensive internet use. Students who do not have ongoing access to the internet should not take this course if the logistics of getting to the internet are too difficult.

Selected from various titles for Foundations (unavailable for purchase):

(1) Course lectures, "Historical Introduction To Cognitive Science," selected readings in philosophy of mind and aesthetics. I will lecture on the readings available on an "as required basis."

(2) "The Science of Art," ed. By Goguen (don't buy this one, I will only be using some of the papers in it, so I will include it in the course pack).

Selected Papers [Used as the base of lectures] for Tools:

(3) Thagard, Paul.; *A Mind: Introduction to Cognitive Science*, (1997), (Cambridge, MA: MIT Press).

(4) Churchland, Paul: *A Neurocomputational Perspective*, (1993), (Cambridge, MA: MIT Press).

(5) Dennett, Daniel: *A Consciousness Explained*, (1991), (Boston, MA: Little, Brown and Co.).

SCHEDULE OF TOPICS AND READINGS

Note: If you follow this schedule for reading and do so in depth, you will be reading for the rest of your life. The topics covered in lectures will draw upon the material. You will be expected to follow the lectures and take notes.

Foundations

Week 1-5

[Basic Issue One]

I What is cognitive science?

From Enns, Chapter 1: "Core Questions"

II What is cognitive science? (continued)

Lecture

Week 1-5 [Basic Issue One]

- I Cognitive psychology
 - From Enns, Chapter 1 and Section I: Dualism, Philosophical Behaviorism, Reductive Materialism (Identity Theory) ,
From Functionalism, Eliminative Materialism, Chapter 1 and Section I (The Semantical Problem).
See also Churchland, P. Matter and Consciousness (MIT Press).
- II Cognitive psychology (cont.)
 - Finish lecture using Ch 1.
Ch. 1, Conceptualization, memory, reasoning, problem solving.

Tools

Week 5-7 [Broad Issues]

- I Automatic Formal Systems
 - From Haugeland (Artificial Intelligence: the Very Idea: MIT Press) Ch 1. - Ch.3, Introduction, The Saga of the
Modern Mind (history of mind), Automatic Formal Systems
- II Automatic Formal Systems
 - From Haugeland Ch. 2-3, 57-87

Week 5-7 [Broad Issues]

- I Eye and Brain
 - From Enns Ch. 2-5, Computer Architecture
- II
 - From Haugeland Cont.

Week 7-10 [Broad Issues]

- I Artificial intelligence
 - From Haugeland Ch. 3-5, Computer Architecture.
Knowing
- II Artificial intelligence (concl.)
 - Finish Haugeland

Week 7-10 [Broad Issues]

- I Real People, objects in space, color, edges, and objects
 - Enns, Ch. 3-5, Real People.
- II Churchland, Section II, Epistemology
 - Cont.

Week 7-10 [Broad Issues]

- I Time and Space
 - Enns CH 6-7.
- II Neuroscience (cont.)
 - Continue Churchland,(Matter and Consciousness) Chapter 5 "The Methodological Problem," 83-96.

Week 7-10 [Broad Issues]

- I Neuroscience (concl.);
 - Supplementary readings for :
 - Dennett, Daniel C. (1971), "Intentional Systems," Journal of Philosophy 68: 87-106; reprinted
in D. C. Dennett, Brainstorms (Montgomery, VT: Bradford Books 1978): 3-22, 325-326;
 - Fodor, Jerry A. (1980), "Methodological Solipsism Considered as a Research Strategy in
Cognitive Psychology," Behavioral and Brain Sciences 3: 63-109; reprinted (without
commentaries or reply) in J. A. Fodor, RePresentations (Cambridge, MA: MIT Press, 1981):
225-253;
 - Newel, Allen, & Simon, Herbert A. (1976), "Computer Science as
Empirical Inquiry: Symbols and Search," Communications of the
ACM 3: 113-126; reprinted in J.
Haugeland (ed.), Mind Design (Cambridge, MA: MIT Press, 1981): 35-66.
- II Philosophy (cont.)
 - Continue reading Churchland Section II

Week 7-10 [Broad Issues]

- I Philosophy, Consciousness, Enns 8 and 9.
- II Semantics Again
 - Lecture on Meaning, reference, sense, computational models of semantic processing.
Supplementary readings for Ch. 10: C&S #2.1, #2.2, #3.3, #5.1;
 - Frege, Gottlob (1892), "On Sense and Reference," M. Black (trans.), in P. Geach & M. Black (eds.),
Translations from the Philosophical Writings of Gottlob Frege (Oxford: Basil Blackwell, 1970): 56-78;
 - Maida, Anthony S., & Shapiro, Stuart C. (1982), "Intensional Concepts in Propositional Semantic
Networks," Cognitive Science 6: 291-330; reprinted in R. Brachman & H. Levesque (eds.), Readings in
Knowledge Representation (Los Altos, CA: Morgan Kaufmann): 169-189; Hirst, Graeme (1989),
"Ontological Assumptions in Knowledge Representation," Proceedings of the First International
Conference on Principles of Knowledge Representation and Reasoning (Toronto) (San Mateo, CA:
Morgan Kaufmann): 157-169.

Week 7-10 [Broad Issues]

I Cont; Natural-language understanding

Grice, H. Paul (1975), "Logic and Conversation," in P. Cole & J. Morgan (eds.), *Syntax and Semantics*, Vol. 3 (New York: Academic Press);

II Vision

Applications

Week 13-15 [Broad Issues]

I Aesthetic Experience, "The Science of Art: A neurological theory of aesthetic experience," In Art and the Brain.
I Cont.

Week 13-15 [Broad Issues]

I "Commentary on Ramachandran and Hirstein," in Art and the Brain.

II Cont

Week 13-15 [Broad Issues]

I Zeki, "Art and the Brain," in Art and the Brain.

II Humphrey, "Cave Art, Autism, and the Evolution of the Human Mind," In Art and the Brain.

Week 15 [Broad Issue Seven]

I But is it art? Imagination engines and the obsolete artist

II Brown on "On Aesthetic Perception," Ellism on "The Dance form of the Eyes," In Art and the Brain.

Week 15

I Cont.

II What makes a work "Good"?

Evaluation: The grading policy is listed given in the university catalog. Writing is evaluated according to the attached evaluation form. See below.

Criteria for grading: See your current catalog for standard grading practices. See below.

Grades: 5% of your grade will be from a reiterative writing assignment. 95% will be a combination of summary outlines of selected reading, quizzes, midterm and final. Quizzes will be given as required, usually every two weeks.

General Information:

1. **Policy on attendance.** 10% extra credit for perfect attendance (excused or unexcused absence included). See "Syllabus Information" below for details.
2. **Policy on missed quizzes, make-up work, late papers:** anything not done on time may count as a "0". No make-up work is given for unexcused absences. If an absence is anticipated, the student must notify the instructor before the absence or the absence will be unexcused. In case of unanticipated absences, the decision to count the absence as excused is up to the discretion of the instructor. In no case will an absence be removed more than one class period after the weekly grade report that includes the truancy (if you don't give me an excuse or notify me of an error during the next class, your absence is permanent).
3. **Policy on web access.** You must maintain your personal email account every day of this course and it must be registered with the instructor. Any email that is returned because your server will not accept the email will result in a 5% reduction in your grade. Use your CSUF account. In that way, if the system fails, you are not to blame. But, if you use another system and it fails, you are to blame (because you decided to risk using an alternative). Warning: students who have used other services or who do not pay attention to email have suffered in this course. See "Syllabus Information" below for details.
4. **Required Student Activities (Assignments):**

[. A writing rubric - like the one below in (a) will be used to grade]

a. *Writing Assignments all sections: Multiple writing assignments covering some of the Basic Issues, Tools and Applications are required. A total of no less than 4000 words with one sustained writing assignment of at least 2000 words using APA format. Your paper will be submitted to an independent panel of graders for assessment according to the GE writing standard. Comments and feedback on mechanics, style and usage will be given for the sustained writing assignment using a style manual like "The Elements of Style," by Strunk and White. The quality of the writing will comprise a significant component of the grading. Only students who have mastered college level writing can be regarded as submitting "A" work. Although this is not a "W" course, writing competence is an integral part of GE. The writing evaluation criteria appear at the end under "Writing Evaluation Criteria." The writing grading pyramid can be described as follows:*

GRADING PYRAMID

A

The essay gives imaginative treatment to a significant and striking central idea. The plan of the essay evidences a strategy for persuasion. Generalizations are carefully supported. Details show originality, freshness, and concreteness.

Sentences show variety of pattern and are rhetorically effective. Style is authentic and demonstrates that ideas have been interiorized.

B/B+

The essay's central idea is interesting and significant. The organization of the essay demonstrates careful planning. Details are specific and sharp; there is a concern for showing rather than just telling. Sentences show variety of purpose and pattern. Diction is chosen with awareness of audience and purpose.

C+/C

The essay has a clear central idea. The plan of the essay is clear with an identifiable introduction and conclusion. Sentences make sense and conform to conventional patterns. Subjects and verbs agree. Pronouns agree with antecedents. Verb tenses are consistent. Punctuation is conventional.

D/F

General idea is weak or confused. Organization is poor. Paragraphs lack unity and coherence. Generalizations are unsupported by the evidence. Sentence structure is confused. Errors in usage, grammar, spelling and punctuation are frequent serious.

- b. Quizzes and exams covering broad issues and/or a midterm are required in addition to the writing assignments if the writing assignments are not used as graded discussion assignments (essay exams).*
- c. A Final exam is required of all sections and it must be given at the assigned time.*
- d. As resources are available, a lab and related software will be used.*

Evaluation:

Please see "Explanation of Grades" under "academic regulations" in your catalog. The grading policy is listed given in the university catalog (2004-2005, page 75-79).

Criteria for grading:

Grading. These will be in accordance with "Grading policies and Practices" under "academic regulations" in the catalog. See your current catalog (Catalog 2004-2005, page 75-76, "Grade Symbols and Grade Points," "Explanation of Grades") for standard grading practices.

Grades:

Grades will only be posted by email – you must have web access for this course and if you want to see your grades. Assignment Grades will NOT be discussed in class at any time during regular class session. The standard grading scale will be used (see the Catalog, 75-76). See "Syllabus Information" below for details.

General Information included in each syllabus

1. *Policy on attendance. See details*
2. *Policy on missed quizzes, make-up work, late papers. Students are responsible for doing all work when due. See details.*
3. *Cheating and plagiarism, please see "Cheating and plagiarism" under the "policies and regulations" section of your catalog. Cheating and plagiarism: see your catalog for existing policy (Catalog 2004-2005, page 486).*
4. *ADA: Students with disabilities policy Please see "Disabled" in the "Policies and Regulations" section of your catalog. Please see the Catalog for details (Catalog 2004-2005, page 43).*
5. *Nondiscrimination Policy and Student Discipline Policy: please refer to current policy (Catalog 2004-2005, page 484-486).*

6. Classroom conduct: In general, conduct that disrupts the lecture or class is not permitted. In the computer lab, the most disruptive act consists of working with the computer when not asked to do so (like checking email, playing games, chat, writing a paper, whatever). Other disruptive behavior includes, for example, entering late and walking in front of the lecturer, yawning audibly, passing things, whispering, commenting, talking aloud or under your breath, grumbling, uttering asides, constantly blowing your nose, and the like. If the lecturer is forced to respond to your distracting actions (either by voice or some other means of recognition), you may be docked 5 points off your final grade for each occurrence.

Grades will reflect comprehension of lectures, presentations, media presentations, and readings; active participation; independent and creative thinking; and evidence of reasoned judgment. Students who wish to excel should be prepared to put out a consistent, high level of effort.

Hours Per Week: Plan on spending 1 hour per class in study for the first nine weeks (or equivalent for intersession courses) after that, you can settle into your own pace. A's will require college level writing skills, careful and extensive reading, active participation in all aspects of the course (group discussion, etc.). Students earning A's will also need to participate fully and constructively in class and demonstrate original thought. B and C work require the same skills but in different degrees. Students who do not systematically participate and who are not involved or who do not have developed critical thinking skills will tend to get C's. These criteria are intended to augment the criteria published in the current General Catalog. Please look there for further clarification. Scale: A=88-100; B=80-87; C=70-79; D=60-69; less than 50=F. Competent, university level writing will be a prerequisite for passing work.

Attendance is required. Make up exams will probably not be given (except for sports absences) except at the end of the year but they may not be. Failure to attend a group meeting (if required) will result in a 10% deduction on your final grade. All absences (except excuses for school teams) will count against attendance. Exams are timed. Even if you are permitted to start late (normally you will not be so permitted), you must hand the exam in with everyone else. In general, no rescreening of videos is possible. If you miss a screening of a video (unless you miss it because of a sport or sanctioned school activity) that is available (from some local dealer) by special order (purchase or rental), you must rent it or buy it (as required) on your own and take the required exam late, if you are permitted to do so, (or take a 0 on both the video exam and the relevant section exam). The instructor assumes no responsibility for supplying you with the video at any time other than the scheduled time. Viewing the video is a necessary condition for taking the relevant test on the video narrative and the associated section in the text. As a courtesy to students, the instructor may organize a screening for several students at once.

Because of the precise start, students who are late disturb the class. Please note that students are expected to be seated at the start of class, not walking in. Those who are not seated may be marked absent or may not be permitted entry (the door will be locked). On exam/quiz days, students are locked out once class starts and may be considered "absent" for the exam. Students who "skip" out after attendance (without prior permission) will be marked absent for the day.

CR/NC Grading: Students who generally do well at the university and are willing to make the effort should earn good grades. However, students who are anxious about their prospects for doing above average or excellent work are encouraged to take the class on a CR/NC basis, if eligible. Degree of difficulty of the course: Easy -- if you attend every single class and do all the work. A student is considered late if entering after lecture has started or the door is closed.

7. Course Calendar

Topics and reading assignments for the semester are given on the Calendar presented, in class, at the start of a unit.

Your responsibilities are (1) to read the material assigned prior to each class period, (2) bring your notes and questions to class for discussion. (3) be prepared to participate in the discussion and to examine critically the material so as to increase understanding and appreciation of the ideas and values considered (4) complete and turn in all work as/when assigned (work is considered due at the start of the period in which it appears on the calendar and not at the end of the period).

Computers: All grades, grading, attendance tracking, communications between student and faculty either as a normal part of the course or a modification of the course, or any course related subject, will only be posted to the students personal csufresno.edu email, no exceptions. Students are responsible for getting and acting upon all information the instructor sends out on email. Student work is to be sent via attachments to email. A student cannot take this course unless the requirements for computer access are satisfied the first day of the term (you will be asked for your email and your email address will be tested period) and every subsequent class day thereafter. Written work may be used as an example and may be posted on the web for World access or it may be posted on projection screens and used as an example for the entire class. Although student grades remain confidential, student work may be broadcast everywhere – i.e., it may be posted to the internet. For your responsibilities regarding computer access, please see <http://www-catalog.admin.csufresno.edu/current/cmptsr.html>. Students are not allowed to take the class unless they have daily computer access. Let me emphasize. You must have an email account, Word or Wordperfect, the ability to send and receive attachments to email, 24 hours access to a computer and the internet to take this course! The email account must belong to you alone (you can't use your friends or your mother's). All students can use the CSU, Fresno web-based email and you are encouraged to do so. If you decide to use an outside account (yahoo, hotmail, etc..) you are solely responsible for making sure that you have your grades and that the instructor gets your written work by the deadline. Note, until the instructor responds with an email reply stating that your work arrived, your work is considered "unsubmitted." In other words, saying "But I sent it on time, you just didn't get it on time" will not work as an excuse. To satisfy the requirement, papers must be submitted in either Word, Wordperfect or plain text format as email attachments and be submitted with time enough to allow the instructor to respond. Late work will not get feedback, will not benefit from the curve and may be counted as a 0 (i.e., "F"). Exams, quizzes and so on will not be returned – students are invited to make an appointment to go over their work.

Syllabus information

The following terms and conditions apply to all classes, mutatis mutandis:

1. Extra-credit for attendance
 - a. extra-credit for attendance is granted only for having fewer absences than the required number set for the extra-credit. This includes ALL absences, excused, unexcused, anticipated, unanticipated.
 - i. It does not matter what caused the absence unless you were required to miss class because of an official university related function. This includes common causes such as: the death of an immediate loved one, hospitalizations, sudden illness, accidents, dismemberment, mental illness, and so on.
2. You are required to attend a given amount of classes. If you miss more than 10% of the attendance days (typically, 6 for MWF classes, 4 for TTH classes), your final grade will be reduced by 1 letter for each absence over the limit (or 10% whichever is greater). If the class meets an official number of times, say, 44, but the instructor has class for only 40, and then the total number of attendance days is reduced to 40. As a result, 10% of 40 would be 4 classes. In this case, if a student missed 5 classes, and they were earning a "B", their grade would be reduced to a "C". Attending class is not optional because interactive lectures form the core of the course.
 - a. Excused absences do not count against the total.
 - i. An excused absence is an absence of which I was notified in advance or by email, or FAX on the day of the class. You may also call the departmental office, 278-2621, and have them put a note in my mailbox. No exceptions will be made to the type of notification: personal, email, FAX or a direct call to the office.
 - ii. If you are absent and can submit a "doctor's excuse" or proof that you were hospitalized, jailed, or too injured to attend, you may qualify for an "excused" absence. Such absences count against your allowance for extra-credit but they do not count against your total for grade-reduction. Such absences will not qualify you for a makeup exam/quiz assignment. Whether or not you are excused is at the discretion of the instructor takes into account current performance, participation in class, existing patterns of attendance or tardiness. These factors may decide the issues positively or negatively. In addition, the general behavior of the class may be decisive. In a class in which several students make such requests, the instructor will normally not give anyone an excused absence.
3. Errors in the attendance marking
 - a. each week, students are sent a summary of attendance and grades.

Students have 2 class days (i.e., two days that would officially count as attendance days) from the report OR the absence to notify the instructor of a discrepancy, otherwise the information will not be changed. Absences will not be removed after one week for any reason. Student athletes, for example, are responsible for clearing their attendance record in a timely manner.
4. Answering "here" or "present" for attendance. Attendance is normally called at the start of class. Failure to answer "here" or "present" will result in an absence ("yes," or any other utterance will, therefore, earn you a mark of absent). If students do not hear their names, they must notify the instructor at the end of the attendance call otherwise they are marked absent. Physical attendance is a necessary but not sufficient condition for being marked "present." If a student leaves class without permission, their attendance will be changed to "truant." Tardiness may count as an absence. If a student is marked "late" or "tardy" more than once, a subsequent "late" will be treated as "absent." Thus, any combination of "late" or "absent" over the 10% in "2" above may result in the lowering of the grade as described in "2" above.
5. Tardiness is considered absent (see 4 above).
6. Assignments
 - a. It is the responsibility of each student to keep track of assignments, changes in assignments. These changes may occur either in class or by email notification. With the availability of email and FAX there is no excuse for being out of sync with the class. If a new, unanticipated assignment is given, it is the student's responsibility to find out and complete the work on time.
7. All graded assignments must be done alone. Copying other's work, using other's work or sharing work is cheating.
8. Makeup's for daily exams or daily graded assignments will not be given. Students will earn a zero that will be averaged into their total. Students who have frequent absences should not take the class.
9. Exams or any other graded assignment (except papers) are not returned. In this class, we do not teach to the test. You are graded on each segment of work and your raw score will tell you the level of your development. In general, if you have a "D", you have to spend 4

more hours per week in preparation a "C" four more hours as much and so on. You can look at your exams, briefly, and individually, during the next class day. However, if you have not requested a look at your exam within two class days after the exam, it will not be returned at all. All work is kept in storage for a year.

10. Errors in grades.

a. "Summary" grade reports are sent my email and only email. Summary reports are sent weekly and "Individual" grade reports after sent after each exam – daily or otherwise. Since grade reports are issues in a timely manner, students are responsible for reporting a discrepancy between the "individual" grade report and the "summary" grade report. The "summary" grade report reflects your class performance. Therefore, it is essential that it be accurate. It is the responsibility of the student to point out

discrepancies between the individual report and the summary report within 1 week after the summary report is issued. If the discrepancy is not noted, the grade stands as reported in the summary report. The instructor reserves the right to make corrections at any time.

11. Email

a. Each semester, some students have difficulty setting up their email. This is not acceptable. If a student does not have a personal, working, fully functional, Fresno State email, they will not be allowed to take the class. This will be controlled in the following manner. Email addresses will be collected during the first class. A test email will be sent to all

students by 8PM of the same day. If a student does not get a test email by 8PM, the student is required to email the instructor with an email whose subject line includes the class number (for example, "Phil 1") and the words "test email". If a student does not get a response to this email, the student must, by 10PM of the same day, send another email. If the email communication is not successful by the next class meeting, the student will be administratively dropped from the course – no exceptions

b. Maintenance of email. The student's Fresno State Email, and 24 hour computer access must be maintained at all times. This includes, of course, a full complement of the relevant software that is registered to the student (if a program indicates an owner other than the student, it won't be accepted – University labs excepted). This will be monitored as follows. If a communication is sent to the student's personal email and gets rejected, the first time, the student gets a warning. The second time and each time afterward, the student gets docked 5 points from the final grade or, the student will be excluded from class and given "0" on every assignment until the problem is fixed – instructor's choice. Students who are not truthful about any aspect of their email (for example, messages are returned and it emerges that the address does not belong to the student or that they have failed to maintain their email) will be regarded as trying to get a grade under false pretenses, i.e., cheating.

c. Assignments will not be returned. Students may view their assignments before or after class but may not keep them. Any written work may be distributed to the entire class for peer evaluation. If students are embarrassed by peer evaluations (either by a group of your peers or individuals), this class is definitely not recommended.

12. Writing

a. Writing will be graded according to the university grading rubric that is available at the university undergraduate website. The style and format must be in accordance with the style and format required by the "MLA Handbook for Writers of Research Papers" (for high school and undergraduate college students), no exceptions. The document must be written in Word or Wordperfect. Since the documents will be sent electronically, students must know how to do so (send attachments) in order to take the course. Student accounts must be capable of receiving documents if they are to take the course.

13. Subject matter warning

a. This class may involve a significant amount of adult subject matter and controversial topics. Students who are sensitive to political or religious criticism, racism and racial attacks, profanity, violence, cruelty or and a minimal amount of X-rated material should not take this course because it will be offensive. No one under 18 is permitted.

14. By the second class day, you should be ready to affirm that you have read and understand the syllabus and the conditions for taking the course and agree to the terms.