Philosophy of Artificial Intelligence

Syllabus

Fall term 2005
Kalamazoo College
Steve Petersen
$Revision: 1.3$

Philosophy of Artificial Intelligence meets Tuesdays and Thursdays at [some time in some place].

Course description

This course will cover some of the major problems of the philosophy of artificial intelligence, such as:

- What is the relation between the mind (where beliefs, desires, emotions and such take place) and the brain (the gooey gray stuff in our skulls)?
- Is it even possible to make an artificial creature with genuine intelligence?
- What kind of general architecture and computational structure would an artificially intelligent creature require?
- What would be required for an artificial creature literally to believe something, or desire something?
- What would be required for an artificial creature literally to experience sensations like pain or the taste of chocolate?
- What would be required for an artificial creature literally to possess emotions?

These questions are designed to question and clarify the fundamental assumptions and goals of that glorious but messy new field, cognitive science. We will read mostly contemporary authors on these issues; classes will be a mixture of lecture and active discussion.

Class goals

Let me expand a bit on the goals outlined in the section above. One way to organize the class goals is around three separate areas:

- **knowledge goals**: to learn the major philosophical debates we study, and the various positions on them, and the various objections to these positions.
- **skills goals**: to become adept at reason-giving, argumentation, and appreciating opposed positions; to get in the habit of critically evaluating the assumptions of cognitive science.
- **values goals**: to value reasons, inquisitiveness, and open-mindedness; to value the enterprise of cognitive science.

To reach these goals, I plan both to **challenge** and to **support** you in equal measure. Do not be afraid to ask for either when you don't feel you're getting it.

Notice that the skills and values goals are at least as important as the knowledge goals, and this will be reflected in my grading. Achieving these goals is likely to require more interactive learning than you are used to. You can no longer afford simply to read and regurgitate -- at least, not for a good grade. You must engage the material yourself. This requires taking more responsibility for your own learning than you might be used to.

Philosophy of Artificial Intelligence http://kzoo.edu/phil/phil-ai-syllabus.html

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to. Remember, though: I'm here to help you take this responsibility.

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**Contact information**

The best way to reach me is by email, which is just petersen (at kzoo.edu, of course). You can also try calling me in my office, 337-7040, but I rarely check my voicemail. *As a last resort, and with a good excuse, you can call me at home: 978-6876.* You had better not call before 9am or after 11pm. My **office hours** are [whenever]. My office is 212 Humphrey House (in the English department). You can also make appointments with me when my office hours don't work for you.

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**Text**

We'll be using an anthology called *Mind and Cognition*, edited by William Lycan. You should be able to buy it at the campus bookstore, or at half.com for example.

There will also be some additional class readings and other "virtual handouts" from me. In general it will be important to follow the development of the **class website**,

http://kzoo.edu/~petersen/teaching/phil-ai.html

I will use this spot to post announcements, assignments, class notes, handouts, syllabus changes, *etc.*

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**Requirements and grading**

**Requirements**

- 3p paper, 15%
- midterm exam, 15%
- 6p paper, 25%
- final exam, 30%
- section participation, including written questions, 15%

*You must do every assignment by the last day of exams in order to pass the class.* The 3p paper will be an expository paper on an argument and an objection. You will be given a chance to rewrite this paper for a better grade. The 6p paper will include your own thoughts on an issue; you will not be able to rewrite it. **With special permission from me in advance,** upperclass students can write one 10p paper instead of the two shorter papers. If you write the 10p paper, a draft or outline will be due when the 3p paper is due.

The general expectation for a class with almost 4 class-hours is that you will spend *about, and on average,* another 8 outside of class each week, and my syllabus is designed to reflect this. Though the readings tend to be short relative to other classes, the material is very dense, so that you'll need to spend a lot of time on each page. For the kind of understanding required in this class, you will almost surely have to read each assignment at least twice. (And yes, that is already adjusting for the fact that you're smart!) In other words, I am giving you some break on the amount of material required, but with the expectation of greater **rigor** with the material assigned.

**Grading**
Since many students ask me about it, I'll tell you now how I determine grades: I give you a percentage score on all your assignments. For each major assignment I will give a rough idea of what the letter-grade curve would be ("about 83 and above was an A for this paper", etc.). In the end though, only the numbers count (so for example a high B+ will count more than a low B+ in the final reckoning). I normalize all these numbers using standard deviations. After all grades are in, I weigh them by the proportions above on my spreadsheet to get final normalized statistics. I then use the spreadsheet to order these numbers from highest to lowest, without looking at the names associated with the numbers. I then decide "natural" cutoff points for an A, an A-, a B+, etc., guided in part by the statistics and in part by my gut. Finally, I look at the names associated with borderline cases (if any) and let my intuition guide me.

This is a deliberate mix of curved and absolute grading that I think is most fair. This way it is possible for almost everyone to get A's -- or, for that matter, for almost everyone to get to get C's and D's -- something impossible with precisely curved grading. Your grades thus don't depend entirely on the skill of your classmates. But, this way, I also don't have to pretend to know exactly the level of understanding required for each grade, as absolute grading presumes. Instead, if for example I teach at too high a level, I can still give better grades to those who did relatively well. In practice, the grades almost always curve around a B- mean.

I will grade the second paper and both exams blindly; I won't grade the first blindly because I want to give you an opportunity to bring in drafts. For papers I use a grading rubric that is somewhat open-ended and flexible (not to say "generic"); I will make it available by the time the first paper is assigned.

Late assignments

The philosophy department's policy on late assignments is this:

- Up to 24 hours late: one half-grade off (in my class, I approximate this by a loss of 3 points)
- 24 hours to two weeks late: one full grade off (in my class, a loss of 6 points)
- After two weeks: failure for the assignment

Grade changes

Of course you should feel comfortable asking me about your grades, or pointing out mistakes in my grading. I'm open to the idea that I might have made a mistake! But I've also found that this openness can be abused. So here is my policy on grade-change requests:

- Unless it's a straightforward mistake (on an exam, say) you must submit your explanation for exactly why you deserve a better grade in writing (email is fine). We might then make an appointment to discuss it if I think you have at least some good cause.
- If you ask me to reconsider a paper or exam essay, you accept the possibility that my closer evaluation might bring your grade down instead of up.
- The request must be within two weeks after the assignment was returned.
- Reasons that in the past have not been acceptable for changing a grade include:
  - "I have to get into a good law school."
  - "I was really tired that day."
  - "Other teachers / classes / departments / universities are easier."

Class policies

There are some other things I should mention up-front.
Academic integrity

You should be familiar with Kalamazoo's honor system and academic policies. If I have good evidence for any intentional academic dishonesty, including plagiarism or cheating on an exam, the result will be an automatic failure of the class for those involved, and a report to the Dean's office. Remember that all websites or papers you used in your writing -- directly or indirectly -- must be cited. If you are unclear about what counts as plagiarism, please ask me or an academic advisor.

Accommodations

I try to accommodate all learning styles and disabilities. If you have a disability already documented with the college, I will be informed of it in writing, but you may want to discuss it with me anyway -- if so, please do so soon, in the way that makes you most comfortable. If you have a disability that is not documented with the college, please do get it documented as soon as possible, so that I can extend accommodations -- see the policies on disability.

Respect

As suggested in the honor system, it is a basic groundrule for this class that all students treat each other with respect for differences. That includes differences in ethnic or economic background, differences in opinions, differences in facility or difficulty with the material, differences in hesitancy or eagerness to participate, etc.

Class procedures

- All cell phones and such should be turned off for class.
- You can call me "Steve".
- At least initially, all students are expected to raise hands before speaking. Though a little formal, this helps ensure equal time for those less eager to speak out or interrupt.
- I may call on you randomly in class. I know some aren't so comfortable with that, but I think it's important for everybody. Please don't panic. If you're confused by the question or topic, just say so, and we'll work it out -- chances are others will be grateful you said something.
- When you come to class, always have some specific question written down about the material assigned for the day. I may call on you to ask your question, and you should be prepared.
- Though I will encourage all of you to speak in class, there are several other ways to participate in class. For example, you can contribute to groups, ask questions for me or the class by email, or visit office hours.
- Relax, enjoy, and don't hesitate to ask questions.