

GENERAL EDUCATION COURSE PROPOSAL
UNIVERSITY OF MARY WASHINGTON

Use this form to submit **EXISTING** courses for review. If this course will be submitted for review in more than one category, submit a separate proposal for each category.

COURSE NUMBER:	FSEM 100		
COURSE TITLE:	I, ROBOT: THE PURSUIT OF THE SYNTHETIC MIND		
SUBMITTED BY:	Stephen Davies	DATE	1/30/2008
			:
<i>This course proposal is submitted with the department's approval. (Put a check in the box to the right.)</i> <i>If part of a science sequence involving two departments, both departments approve.</i>			X

THIS COURSE IS PROPOSED FOR (check one).

First-Year Seminar (<i>indicate in the rationale if this will also count for major credit</i>)	X
Quantitative Reasoning	
Global Inquiry	
Human Experience and Society	
Experiential Learning	
Arts, Literature, and Performance: Process	or
	Appreciation
Natural Science (<i>include both parts of the sequence</i>)	

NOTE: See the report entitled "General Education Curriculum as Approved by the Faculty Senate," dated November 7, 2007, for details about the general education categories and the criteria that will be used to evaluate courses proposed. The report is available at www.jtmorello.org/gened.

RATIONALE: Using only the space provided in the box below, **briefly** state why this course should be approved as a general education course in the category specified above. *Attach a course syllabus. Submit this form and attached syllabus electronically as one document to John Morello (jmorello@umw.edu).* All submissions **must** be in electronic form.

This seminar is a focused investigation of one of the most fundamental and controversial questions in human inquiry: what is the nature of thought, and how can it be characterized? The issue is obviously not a settled one, and a primary emphasis in the course will be how to weigh different perspectives simultaneously and to synthesize aspects of them into a composite view. Intellectual inquiry and liberal learning are cornerstones of the experience.

The readings we will cover never fail to generate controversy and discussion. Thus they provide ample opportunity for open-ended, in-class participation. Most of the course lectures will be presented in a seminar format, where I provide some preliminary background material, and then act primarily to challenge assumptions, ask revealing questions, and summarize class opinions and the postulates on which they are based.

Writing will be a crucial vehicle for students to express their thought, in the form of blog posts that extend the collaborative discussion outside the classroom. Over the course of the semester, each student's blog will be a reflection of their ongoing exploration of the subject matter and their responses to their peers'.

FSEM 100 – I, Robot: The Pursuit of the Synthetic Mind

Spring 2009

Tuesday and Thursday 3:30-4:45

Professor Stephen C. Davies

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Office Hours:

- Monday 2:30-4:00
- Wednesday 2:30-4:30
- Friday 3:00-4:30
- Others by appointment

Since computers were first conceived, scientists have been haunted by an elusive – and to some, forbidding – goal: to create intelligent life in the form of a truly thinking machine. In this seminar we will explore opinions from computer science, philosophy, psychology, and science fiction to get at the question, “what is the fundamental nature of human thought, and could it be duplicated?”

What's a seminar?

A seminar is an open-ended group investigation on a topic that is interesting but not yet well understood. There are no cut and dried answers, and often the questions aren't even perfectly defined yet.

It's not a lecture. I'm not going to be standing in front of the class disseminating truths to you. That's largely because neither I nor anyone else knows for sure what the truth *is* at this point. We're still in the process of discovering that.

This doesn't just involve the assimilation of facts. Facts are indeed precious commodities that we will seek and guard carefully. They are the “knowns” on which we will try to hang interpretations. But the fundamental questions we'll be addressing lie in the nebulous areas currently “in between” the facts. Our job is to probe around in the darkness, taking advantage of what light exists, in the hope of spreading that light and uncovering more truth.

What are primary sources?

“I have found as a tutor in English Literature that if the average student wants to find out something about Platonism, the very last thing he thinks of doing is to take a translation of Plato off the library shelf and read the *Symposium*. He would rather read some dreary modern book ten times as long, about “isms” and influences and only once in twelve pages telling him what Plato actually said. The error is rather an amiable one, for it springs from humility. The student is half afraid to meet one of the great philosophers face to face. He feels himself inadequate and thinks he will not understand him. But if he only knew, the great man, just because of his greatness, is much more intelligible than his modern commentator. The simplest student will be able to understand, if not all, yet a very great deal of what Plato said; but hardly anyone can understand some modern books of Platonism. It has always therefore been one of my main endeavours as a teacher to persuade the young that first-hand knowledge is not only more worth acquiring than second-hand knowledge, but it is usually much easier and more delightful to acquire.”

– C.S. Lewis, “On the Reading of Old Books”

When a particular topic has been explored to its depths and understood to a great extent, people write textbooks about it. These texts synthesize and summarize previously established truths and are designed to present them to a reader in a comprehensible way.

But of course before a textbook can ever be written, the knowledge itself has to arise. Primary sources are the writings of the originators of the knowledge, often written at a time when the ideas are fresh and still being formed. They present the concepts “from the horse's mouth” and usually include a trail of the original thought process, warts and all.

Especially in a new and uncertain field of study, it is crucial to engage and even scrutinize primary sources. We're not simply looking for synopses here: we're examining the author's presuppositions, biases, logic, and influences. We want to know the alternatives he or she considered and the reasons for their being rejected.

In short, we want to get inside the minds of the original thinkers and reconstruct what led them to their conclusions, so we can decide whether we agree with them or not. It's not only enlightening, but I think you'll find it fun. :-)

Course Objectives

- To consider the question, “what is thought?” and its implications for computing and artificial intelligence.
- To introduce the college-level paradigm of liberal study, where questions are complex, not easy to answer definitively, and require synthesis from multiple points of view.
- To gain experience with and confidence in consulting primary sources to explore a topic.
- To help you develop the writing skills necessary to take a stand on an open issue and convincingly support it.
- To help you develop the discussion skills necessary to articulate your point of view, argue for it based on sound logic, identify your own biases and prejudices, and reflectively consider other viewpoints so they can be incorporated into your own.

Required Readings

- Adler, M. J. and Van Doren, C. L. *How to Read a Book*. Touchstone. (Selected chapters) (1972)
- Plato's Socratic dialogue *Meno*. (380 B.C.)
- Turing, A. M. “Computing Machinery and Intelligence,” *Mind: A Quarterly Review of Psychology and Philosophy*, 59 (236). (1950)
- Searle, J. R. “Minds, brains, and programs,” *Behavioral and Brain Sciences* 3 (3): pp.417-457. (1980)
- Asimov, I. *I, Robot*. Panther Books. (Selected stories) (1968)
- Dick, P. K. *Do Androids Dream of Electric Sheep?* Orion. (1968)
- Nagel, T. “What is it like to be a bat?” *The Philosophical Review* 83 (4): pp.435-50. (1976)
- Chalmers, D. J. “Facing up to the problem of consciousness,” *Journal of Consciousness Studies*, 2 (3): pp.200-219. (1995)
- Searle, J. R. “Consciousness and the philosophers,” *New York Book Review*, 44 (4). (1997)
- Wegner, D. M. “The mind's best trick: how we experience conscious will,” *Trends in Cognitive Science*, 7 (2): pp.65-69. (2003)

- Blackmore, S. *Conversations on Consciousness*. Oxford University Press. (Selected chapters) (2006)
- Hofstadter, D. R. *Godel, Escher, Bach: An Eternal Golden Braid*. Basic Books. (Selected chapters) (1979)

Required Film Viewings

- Cameron, J. *Terminator 2: Judgment Day*. Tri-Star Pictures. (1991)
- Wachowski, A. and Wachowski, L. *The Matrix*. Warner Brothers. (1999)
- Scheerer, R. "The Measure of a Man," *Star Trek: The Next Generation*, 2 (9) (1989)
- Kubrick, S. *2001: A Space Odyssey*. MGM Studios. (1968)
- Scott, R. *Blade Runner*. Warner Brothers. (1982)

Rules of the Game

- Please come to every class. Don't ever, ever skip if you can possibly help it. Partly this is because your in-class participation grade, which is worth a considerable chunk of your overall grade, will plummet with each absence. But mostly it's because the dialogue we'll be having this semester will be developing from class period to class period, and any time you miss will lead to gaps in the collective thought process, both for you and your classmates.
- Always, always read the assigned materials before class. (We'll discuss what "read" means, and how your definition of "read" can be adjusted based on your available time.)
- Strive to be respectful of others. The experts in this subject matter have vastly differing opinions about it all, so we're sure to differ as well. It is very important that even when you feel strongly, you nevertheless listen carefully to opposing viewpoints, refrain from personal attacks, and in general honor others with your words, actions, and even your body language.

Grading

<i>Grading Criteria</i>	<i>Weight</i>
In-class contribution to discussion	25%
Facilitating discussion during one class period	5%
Movie viewings and discussion/essay	5%
Your semester-long AI Blog	50%
Final exam (short answer, essay)	15%

Your AI Blog

Learning to express yourself in writing is one of the central elements of this course. Crafting an article that develops a point of view not only forces you to express it clearly and support it with compelling evidence, but also helps you work out your own thoughts and opinions on the subject as you articulate it. You will learn to identify shortcomings, recognize further implications, and anticipate possible objections to your thesis. The process of writing is a soul-searching one that both demands and illuminates in a way that simply batting around ideas informally never will.

Rather than writing traditional printed essays, our medium of expression this semester will be the electronic blog. You probably all know what a blog is, and some of you may already have your own blog that you post to regularly.

There are two dimensions to what the class's blogs will bring about:

1. Your own blog, over the course of the semester, will be a running record of your own thoughts, impressions, and opinions about artificial intelligence. At the end, you will be able to look back at it and see your views develop and change as you continue to learn and consider.
2. The collective blogs of the entire class will form an interleaved, interrelated network of discussion as you read and comment on each others' posts. I expect there to be numerous "mini-threads" of discussion that emerge from the blogs, where multiple students comment upon comments upon comments. Hopefully, synthesized views and deeper understanding will arise from all of this.

I'll be talking in class more about my expectations for quantity and quality of blog posts and comments, as well as what I'll be measuring. For now, I want you simply to think of the class blogs as reflecting a rich, ongoing discussion that the entire class is electronically participating in.

Facilitating class discussion

At first, I will serve as the “facilitator” for class discussion. That is, I will pose questions, frame the discussion, and occasionally summarize the main points of view. This is an excellent skill to acquire, and so I want each of you to have a chance to learn it too. So once during the semester, you each will be notified (one week in advance) that during an upcoming class period *you* will be the facilitator. I'll talk about guidelines for this later on, but hopefully when you see what I do it will be clear.

How we reach each other

Reaching me:

The best way to get a hold of me by far is to e-mail me or come to office hours. (My e-mail address is “stephen” with the usual UMW suffix.) I’m also on Facebook and can be AIM’d at username MouseDavies. In a pinch, you can call me at the office at 654-1317 or at home at 898-7938, though you’ll usually have to leave a message.

Reaching you:

You are responsible for anything I post to the course website, and believe me, you will want to know about the announcements as soon as possible! So please subscribe to the RSS feed on the page and check your aggregator every day for updated news!