

Minds, Robots, and the End of Humanity

FYS-1FS-J [Fall 2016]

MWF 10:00-10:50 AM / Science Center 124

Instructor: Steve Naragon

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Office Hours: Anytime I'm not in class or a committee (see my weekly schedule) — just drop by!

Course Description

In a recent interview with the BBC, physicist Steven Hawking claimed that “the development of full artificial intelligence could spell the end of the human race.” This is not a new idea in the world of film and literature, where we find computer code that re-writes and improves itself, controls robotic machines to manipulate the physical environment (including, of course, the building of more robots), and eventually grows independent of human oversight and turns on us — is any of that possible? As it turns out, parts of this story are already happening, and something like the Hollywood storyline appears to many increasingly plausible.

This seminar explores some of the key ideas and concepts behind these events (What are Turing machines? What is a mind and can a machine have one? What do we mean by “free will” and can this be programmed in a machine?) while considering the larger question of the end (or purpose) of humanity in the face of its possible end (or demise).

The *First Year Seminar in Critical Thinking* is one of three foundational skills courses in the Manchester Core Curriculum, and focuses on the development of analytical and critical thinking skills and practice college-level writing. In general, your FYS should help you integrate into the university.

Required Materials

Diana Hacker, *A Writer's Reference* (Bedford/St. Martin's) (6th edition is OK).

All other readings will be available online (see the web syllabus), which you should print out for class discussion.

In addition, you should consider purchasing a weekly or monthly planner for keeping track of exams, due dates for papers and other projects, etc.

Learning Goals

The two clusters of goals for all sections of the FYS are to develop your writing skills and your analytical and critical thinking skills. More specifically, you will develop your ability to write Standard English, clearly and appropriately; analyze critically, through organized and persuasive writing; and use appropriate citation for both primary and secondary sources.

You also should begin or continue to develop certain habits that will improve your chance of flourishing in college and beyond: time management, personal responsibility, being courteous to others (especially those with whom you disagree), and making good and efficient use of the available resources.

We will be reading, discussing, and writing about articles (mainly from the popular press) on the interdisciplinary topic of artificial intelligence, which is both fascinating and of increasing social importance, but it is primarily a vehicle for developing these other skills.

Occasional Writing

About once each week, at the beginning of class, a one to two page essay on the day's reading (or some similar assignment) will be due, or else there will be a brief in-class writing on the day's reading.

Three Formal Essays

- 1. Definition Essay (due Monday, Sep 21).** The purpose of this three-page essay is to clarify some significant concept related to artificial intelligence. 1000 words. [20%]
- 2. Analysis Essay (due Wednesday, Oct 14).** Here you will analyze a film related to the topic of artificial intelligence. 1300 words. [20%]
- 3. Research Essay (due Monday, Nov 23).** This will be an argumentative essay involving some research in the literature. 1500-1600 words. [20%]

Grading

You will receive a **C** in this class if your work is consistently adequate and meets all minimum requirements for assignments. Just showing up and getting the work done should get you to this level.

A **B** reflects an above average commitment to coursework, efforts toward improvement, and positive contribution to the classroom environment.

The grade of **A** stands for excellence in every area of coursework. This means producing polished, thought-provoking, and inventive writings, as well as showing a genuine interest in the subject matter and a consistent willingness to ask and answer difficult questions inside and outside of class. An **A** student is an independent, critical thinker who reads and analyzes texts beyond the surface level and incorporates lessons learned from previous assignments to improve upon future ones.

Receiving a grade of **D** means that your work has not been consistently adequate or does not meet minimum requirements for assignments. An **F** indicates that the work for the course is incomplete or inadequate; *in addition, an F may be given for academic dishonesty* (plagiarism or cheating).

Assignments and their grade values		93-100% A
10%	Attendance at FYS events. Library Modules (complete these in the first few weeks, and no later than Oct. 1) Study Skills Workshop, Career Expo/Skills Assessment, Title IX Training In-Class Presentations: Writing Center & Registrar's Office Two Activities (from the Faith, Diversity, Service, Community, Integrity lists)	90-92% A- 87-89% B+ 83-86% B 80-82% B- 77-79% C+
20%	Occasional Writing (short assigned writings and reading quizzes)	73-76% C 70-72% C- 67-69% D+
60%	Three essays (3pp; 4pp; 5-6pp) [20% + 20% + 20%]	63-66% D
10%	Final exam	60-62% D- ≤ 59% F

Plagiarism

Plagiarism means borrowing another person's specific words or ideas – wholly or partially, intentionally or unintentionally – without giving proper credit. In our class, plagiarism applies to copying or paraphrasing very closely someone else's words without citing the source. We will discuss proper citation as a group, but if you have any questions at any time about how to cite an idea or piece of information, ask me about it in class so that others can benefit from the discussion. You may also consult your anthology or a guide like *A Writer's Reference* if you are unsure of what constitutes plagiarism. The penalties for unintentional and deliberate plagiarism are outlined in the Manchester catalog; deliberate plagiarism (as well as cheating) results in an **F** for that work as well as (normally) an **F** for the course as a whole.

Other Stuff

Late work is not normally accepted. Assignments must be handed in at the beginning of class on the day that they are due – if *you* are late, that means your *work* is also late. If you anticipate any kind of difficulty meeting a deadline, see me as soon as possible to discuss an extension or to make special arrangements. If you know ahead of time that you cannot be present when something is due, you must contact me *before* class to discuss alternatives (this usually means handing in an assignment sooner rather than later).

Academic Support. Manchester University has a commitment to the success of its students; therefore, the Success Center services will serve you well! Whether you are in the honors program, need a little help getting started with an essay, or need some extensive tutoring for a math class, familiarize yourself with the Success Center on the second floor of the Switzer Center!

Accommodations. If you have a documented disability, you should contact Bonnie O’Connell in the Success Center (phone extension 5076) within the first week of classes to discuss required legal documentation, necessary accommodations, and notification to instructors. **It is your responsibility** to bring the necessary paperwork to your professors. You should schedule a meeting with your professors to discuss needed, reasonable accommodations.

When life happens... If circumstances in your life occur that affect your performance in class (e.g., childcare issues, unreliable transportation, a sick grandparent, expected recurring absences for any reason), you should talk to me and to your other professors immediately. We can figure something out.

Schedule

Artificial Intelligence: The Very Idea

Wed. Aug 31

Research & How to Cite Research

Fri. Sep 2

Defining Things

- Naragon, “Thinking Things”

Mon. Sep 5

Thinking Things

- Naragon, “Thinking Things”

Wed. Sep 7

Conscious Machines

- Pinker, “Could a computer ever be conscious?”

Fri. Sep 9

Criteria of Mindedness

- Descartes, *Discourse on Method* (selection)

Mon. Sep 12

Turing Machines

- Naragon, “Artificial Intelligence”

Wed. Sep 14

Can Machines Think? (1)

- Law, “Could a Machine Think?”

Fri. Sep 16

Can Machines Think? (2)

- Searle, “The Myth of the Computer”

Mon. Sep 19

Thesis drafting

Wed. Sep 21

Workshop: Definition Essay

Fri. Sep 23 - Mon. Sep 26

No class: Individual meetings.

Will Robots Take Our Jobs?

Wed. Sep 28

Due: Definition essay.

The Luddites

- Kestenbaum/Goldstein, “When Luddites Attack”

Fri. Sep 30

The Automation of Work

- Lanchester, “The Robots are Coming”

Mon. Oct 3

What is Work For?

- Thompson, “A World Without Work”

Wed. Oct 5

A.I. in Cinema & Thesis Drafting

- Mendelsohn, “The Robots are Winning!”

Creating Creatures, Becoming Cyborgs

Fri. Oct 7

Early Creation Stories in the Western Tradition

- Selections from Homer, Hesiod, the Hebrew Bible, Ovid, etc.

Mon. Oct 10

Artificial Life as Mechanical Simulation

- Riskin, “The Defecating Duck”

Wed. Oct 12

Workshop: Analysis Essay

Fri. Oct 14

No class: Individual meetings

Mon. Oct 17 - Fall Break

Wed. Oct 19

No class: Individual meetings

Fri. Oct 21

Catching-Up

- In-class Presentation by the Registrar’s Office

Mon. Oct 24

Due: Analysis essay.

Becoming Cyborgs

- House, “The Real Cyborgs”

What is a Person?

Wed. Oct 26

Dualism

- Naragon, “Cartesian Dualism”

Fri. Oct 28

Physicalism

- Naragon, “Physicalism”
- Bisson, “They’re Made Out of Meat”

Mon. Oct 31

Consciousness

- Koch, “Is Consciousness Universal?”
- Marcus, “How Much Consciousness does an iPhone Have?”

Wed. Nov 2

Research Strategies/Evaluating Sources

- Meet in the library.

Fri. Nov 4

Due: Topic proposal and thesis for research essay.

Thesis Drafting

Mon. Nov 7

Locating the Self

- Dennett, “Where Am I?”

Wed. Nov 9

Personal Identity

- Naragon, “Personal Identity”

Can We Live with this Technology?

Fri. Nov 11

Is A.I. Dangerous?

- Scharf, “Is A.I. Dangerous? That Depends...”
- Comments by Bostrum, Gates, Hawking, Musk, and Stuart.

Mon. Nov 14

What is the Singularity?

- Vinge, “The Coming Technological Singularity”

Wed. Nov 16

Workshop: Research Essay

Fri. Nov 18 - Mon. Nov 21

No class: Individual meetings.

Wed-Fri. Thanksgiving Holiday

Mon. Nov 28

Reaching the Singularity

- Urban, “The Road to Superintelligence”

Wed. Nov 30

“All Watched Over by Machines of Loving Grace”

- Urban, “Our Immortality or Extinction”

Fri. Dec 2

Weaponized Robots

- Caryl, “Predators and Robots at War”

Mon. Dec 5

Due: Research essay.

- Final exam strategies

Wed. Dec 7

Can We Program Robots to be Moral?

- Marcus, “Moral Machines”
- Marcus, “Teaching Robots to be Moral”

Fri. Dec 9

The Ethics of A.I.

- Russell, *et al.*, “Robotics: Ethics of Artificial Intelligence”

Finals Week: Exam