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George Mason University  
Spring 2018

**Honors 353: 001**  
Technology in Contemporary Society

Those of us who have contributed to the new science of cybernetics thus stand in a moral position which is, to say the least, not very comfortable. We have contributed to the initiation of a science which, as I have said, embraces technical developments with great possibilities for good and for evil. We can only hand it over to the world that exists about us, and this is the world of Belsen and Hiroshima. We do not even have the choice of suppressing these new technical developments. They belong to the age, and the most any of us can do by suppression is to put the development of the subject into the hands of the most irresponsible and the most venal of our engineers.

The best we can do is to see that a large public understands the trend and the bearing of the present work, and to confine our personal efforts to those fields, such as physiology and psychology, most remote from war and exploitation. As we have seen, there are those who hope that the good of a better understanding of man and society which is offered by this new field of work may anticipate and outweigh the incidental contribution we are making to the concentration of power (which is always concentrated, by its very conditions of existence, in the hands of the most unscrupulous). I write in 1947, and I am compelled to say that it is a very slight hope.

Norbert Wiener, *Introduction to Cybernetics* (39)

**Course Description**

The course will begin with the concept of Cybernetics, popularized by Norbert Wiener's *Human Use of Human Beings*, a book he wrote (in 1950) specifically to explain cybernetics to the interested non-expert. Cybernetics, as Wiener and the first generation of computer engineers defined it, is the science of control and communication in machines, animals, and human beings. Cybernetics gave us the concepts of "cyberspace" and the "cybernetic organism"—the cyborg.

Throughout this course, we will address technology, in particular the idea of cybernetics and AI, from the perspectives of of a wide range of disciplines including engineering, statistical mechanics, mathematics, linguistics, sociology, psychology, neuroscience, biology, and philosophy. The field of cybernetics (the topic of our first text) is inherently interdisciplinary, born as it was from the fields of engineering and mathematics combined with biology, neuroscience, and sociology to form what today would be called information theory.

**Course Goals**

Honors 353 is a Mason Core *Synthesis* course.

The purpose of the synthesis course is to provide students with the opportunity to synthesize the knowledge, skills and values gained from the Mason Core curriculum. Synthesis courses strive to expand
A Mason Core synthesis course must address outcomes 1 and 2, and at least one outcome under 3. Upon completing a synthesis course, students will be able to:

1. Communicate effectively in both oral and written forms, applying appropriate rhetorical standards (e.g., audience adaptation, language, argument, organization, evidence, etc.)
2. Using perspectives from two or more disciplines, connect issues in a given field to wider intellectual, community or societal concerns
3. Apply critical thinking skills to
   1. Evaluate the quality, credibility and limitations of an argument or a solution using appropriate evidence or resources, OR,
   2. Judge the quality or value of an idea, work, or principle based on appropriate analytics and standards.

(http://masoncore.gmu.edu/synthesis/)

The essays, discussions, and presentations in this course are designed to meet these goals. You will be required to read, evaluate, analyze, and synthesize material from several disciplines and present your analysis in essays and oral presentations.

Texts:

*Print:*
Norbert Wiener. *The Human Use of Human Beings.* ($15.00)
Nick Bostrom. *Superintelligence: Paths, Dangers, Strategies.* ($15.95)
*Prices as of January 2018. If you are charged more at the bookstore, let me know.*
Both texts are available as e-books as well, but the Wiener e-book is of poor quality.

*Online:*
Vernor Vinge, "Technological Singularity"
Ray Kurzweil, *The Ray Kurzweil Reader*
Bill Joy, "Why the Future Doesn't Need Us"
Nick Bostrom, "Are You Living in a Computer Simulation?"

Course Site:

We will use Blackboard for online discussions and essay submissions.

Assignments:

The assignments in this course consist of three essays, weekly reading responses, and a final exam. The first essay will be an analysis of some complex system in light of Norbert Wiener's concept of cybernetics. The system may be biological, social, mechanical, digital, or any combination of these. The second essay will be on the concepts introduced in the online readings and the Bostrom text (Singularity, AI). The third essay will be research topic on a specific technology or a specific issue related to technology.

The weekly responses will be posted to Blackboard. The weekly responses will be on a specific question which I will post, and they will be due before class most weeks (if there is an essay due that week, there will no weekly response). You may add to your posts after class, of course. I will also ask you to comment on the posts of other students. To earn full credit for the responses, you must post 10 weekly responses, and comment on at least five of your fellow students' posts.
The final presentations will be based on the final research papers. Present your research findings and conclusions in a short 5-8 minute presentation.

Essay 1 Feb. 23 20%
Essay 2 April 6 20%
Essay 3 May 5 25%
Weekly reading responses most weeks before class 15%
Final Presentations April 25 – May 2 20%

Course Policies

Grading: Grades on the essays will be based primarily on the quality of the writing. I value clear, focused writing with plenty of examples. Grades on the research essay will be based on the quality of the research as well: I expect you to use the GMU Library databases as well as the Internet.

Late Assignments: Late papers will lose 5% per day unless you make prior arrangements with me.

Revision Policy: The essays may be revised for a higher grade, but they must be substantially revised. You cannot lose a grade by revising, but a higher grade is not guaranteed. I have found that "B" papers (or higher) are often more difficult to revise, since serious revision requires thoroughly changing the essay’s structure, and "B" papers usually have a fairly good structure. "C" papers (or lower) often respond more dramatically to revision, since the major changes they require are often more straightforward. I recommend revising "C" papers or lower only. If you plan to revise a "B" paper, please see me beforehand so we can discuss a revision strategy.

All revisions must be turned in by April 23

Plagiarism: Plagiarism means using the exact words, opinions, or factual information from another source without giving that source credit. Writers give credit through the use of accepted documentation styles, such as parenthetical citation, footnotes, or end notes; a simple listing of books, articles, and websites is not sufficient.

Writers must include a Works Cited or References list at the end of their essay, providing full bibliographic information for every source cited in their essay, including the course textbooks.

Instructors at George Mason University are bound to uphold the George Mason Honor Code, which requires us to report any suspected instances of plagiarism to the Honor Committee. All judgments about plagiarism are made after careful review by the Honor Committee, which may issue penalties ranging from grade-deductions to course failure to expulsion from GMU.

Important Dates

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<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>First day of classes</td>
<td>Monday Jan 22</td>
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<tr>
<td>Last day to add classes</td>
<td>Monday Jan 29</td>
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<tr>
<td>Last day to drop with no tuition penalty</td>
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<tr>
<td>Last day to drop with a 33% tuition penalty</td>
<td>Monday Feb 12</td>
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<tr>
<td>Final Drop Deadline (67% tuition penalty)</td>
<td>Friday Feb 23</td>
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<tr>
<td>Selective Withdrawal Period (undergraduate</td>
<td>Monday Feb 26 – Friday March 30</td>
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<td>Event</td>
<td>Dates</td>
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<tr>
<td>Spring Break</td>
<td>Mon. March 12 – Sun. March 18</td>
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<td>Incomplete work from Fall 2017 due to instructor</td>
<td>Friday March 23</td>
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<td>Last day of classes</td>
<td>Saturday May 5</td>
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<td>Reading Days</td>
<td>Monday May 7 – Tuesday May 8</td>
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<td>Exam Period</td>
<td>Wed. May 9 – Wed. May 16</td>
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