

Ethics in Technology

The ethics of modern technology.

Course syllabus.

Instructor:	Dr. Neil R. Quinn Jr.
Office:	Center for Science, Technology and Society
Phone:	554-5723
Office Hours:	Tue/Thu 9-11am
E-Mail:	nquinn@scu.edu
Web Page:	http://cseserv.engr.scu.edu/NQuinn/ENGR019/
Lecture:	MWF 11:45-12:50, Room ENGR-105

The objective of this course is to equip students, involved in technologically oriented curriculums, with a set of ethical decision making tools to assist them in their careers and throughout their lives. The first part of the course will introduce students to the methodology of ethical decision making. The remainder of the course will utilize the methodology learned in the analysis of various cases taken from different technological disciplines. Each case will be presented and analyzed by students utilizing rigorous ethical methods to determine a course of action.

Class	Topic of Class	Ethical Area	Date
1	Class introduction What is Technology, what is Ethics? – Liberator, Threat, Instrument of Power	Ethical Methods	09/18M
2	What is Morality? Rachels Chap 1.	Ethical Methods	09/20W
3	Morality Velasquez Chap 1.2 & 1.4., Rachels Chap 4 – Humanistic – Religious	Ethical Methods	09/22F
4	Ethics – Basics of Ethical Decision Making – Subjectivism in Ethics. Rachels Chap 3.	Ethical Methods	09/25M
5	Biology – Rachels Chap 7. – Cloning – http://www.pathfinder.com/TIME/cloning/home.html	Utilitarianism vs Duties	09/27W
6	Biology – Rachels – Chap 9. – DNA testing	Deontological Duties/Rights	09/29F
7	The Internet Good/Bad, how to use it. Guest Helene Lafrance.		10/02M
8	Ethical Methods – Velasquez Chap 2 pp. 82–119 – Rights / Justice	Ethical Methods Justice	10/06F
9	Engineering – Confidentiality / Plagiarism – M&S 208–215.	Utilitarianism vs Duties	10/09M
10	Engineering – Knowledge Transfer/Ownership – Occupational Crime – M&S 224–230.	Rights vs Utilitarianism	10/11W
11	Biology – Barbour, 194–200. – Genetic Engineering (suggested reading R&A 171–215)	Rights vs Justice	10/13F
12	Biology – Patenting of Genes – Bereano1, Bereano2	Justice vs Utilitarianism	10/18W
13	Chemistry / Pharmaceutical – Safety – M&S 299–303. – Drug testing – Schrag 80–94	Justice vs Utilitarianism	10/20F

14	Computer - Rachels Chap 2. – Governing and Regulating the Internet – Spinello Chap 1&2	Individual Privacy vs Public Good	10/23M
15	Computer – Censorship – S&H 255–259 – Spinello Chap 3	Rights	10/25W
16	Computer - Rachels Chap 5. – Intellectual Property – Spinello Chap 4	Rights	10/27F
17	Computer - Rachels Chap 6. – Privacy – Spinello Chap 5	Justice	10/30M
18	Computer – Rachels Chap 13. – Encryption – Spinello Chap 6	Non–malfeasance	11/01W
19	Database - Ethics and Technology Links <i>Research paper outline due</i> – Algorithms for web page creation from a database.	Microsoft Access and ASP pages.	11/03F
20	Military – Nuclear Weapons – Barbour, 200–212.	Utilitarianism vs Deontological	11/06M
21	Military - Rachels Chap 8. – Biological / Chemical Weapons – Working in the defense industry. M&S 332–343	Utilitarianism vs Deontological	11/08W
22	Energy – Barbour 116–122 & 122–131. - Rachels Chap 10. – Fossil – Nuclear	Utilitarianism vs Justice	11/10F
23	Energy – Barbour 131–135. - Rachels Chap 11. – Renewable – Alternative	Utilitarianism vs Justice	11/13M
24	Environmental – Air and Water Pollution – Barbour 57–82.	Global Ethics	11/15W
25	Agricultural <i>Research paper due</i> – GMF – Carbone & McLean (on the web site)	Virtue	11/17F
26	Agricultural - Rachels Chap 12. <i>Link Database Due</i> – Food and Hunger – Barbour, 85–91. – Food production	Utilitarianism vs Justice	11/27M
27	Agricultural - Rachels Chap 14. – Crop Alteration – When Biotech goes Wild http://www.techreview.com/articles/july99/mann.htm	Utilitarianism	11/29W
28	Quarter wrap up – Final Exam preview		12/01F
	<i>Final Exam Due</i>	4:30p.m.	12/06W

Grades for the course will be determined on the basis of:

Class participation / case presentation.	30%
A research paper – 5 pages	25%
Ethics and Technology Link Database	20%
A take home final exam	25%

Class participation / case presentation: **Attendance in class is mandatory. I reserve the right to deduct 5% from your overall grade for EACH class you miss during the quarter.** (This is not a bluff, ask the students who have taken the course in the past). Students will participate in team presentations of three to four of the cases covered during the course. Each presentation should take approximately 30 minutes. Since this course involves technology, students will be expected to use technology to present their cases. The team should develop a presentation using either MS–Powerpoint or HTML to display the salient features of the case, describe the questions, and provide answers and/or commentary on each of the questions. The answers and/or commentary on the questions should demonstrate a grasp of ethical methods consistent with those covered in the course.

The research paper assignment presents you with an opportunity to investigate a technology issue with which you are most interested. This paper should be an analytical essay, i.e., an in-depth discussion that also defends a particular position. This research paper must utilize *at least two* high quality academic sources outside of the required readings. The course textbooks will help you identify appropriate sources (e.g., the journals that originally published the articles, footnoted material, and lists of supplementary reading), and may contain non-assigned readings pertinent to your topic. This paper should be consistent with University guidelines for research papers. Both form and content are important for the success of this assignment. The research paper shall utilize HTML as the presentation medium. Correct spelling, grammar, and citation of sources are expected. You will receive a more detailed set of instructions later in the quarter. This paper should be 5 pages in length.

Database of “Ethics in Technology” Links: This database/presentation will consist of students both adding links to a database and creating a series of Active Server Pages (ASP) to dynamically display these links. The objective is to create a database of links to various web sites dealing with Ethics in Technology and display these links in a manner based on a sort selection criteria requested by the user. The student will be required to enter at least 50 links into the database, use SQL to query the database, and produce the ASP files to display them.

The take home final exam will consist of definitions of key terms and a set of essay questions. It will be a comprehensive final exam, with material from both lectures and readings as fair game for the exam. The exam should take approximately 2 hours to complete.

The areas of the course addressing the 3 goals of the Core Curriculum Technology Requirement are:

To develop skills (uses of applications, knowledge of networking, etc.) === Students learn and use the computer based applications of Powerpoint, HTML authoring, Access databases, and Active Server Pages.

To develop such "critical thinking" as is fostered by technology (algorithmic thinking, etc.) === Students will learn the art of programming using Active Server Pages to create dynamic web pages displaying the contents of an Access database via SQL queries.

To study and foster social analysis of technology (social impact of technology, ethical issues in technology, justice issues, economic issues, "sensitivity to human community," etc.) === Students will analyze a number of different areas of technology and the ethical issues arising from these technologies.

References

There will be two required texts:

- Rachels "The Elements of Moral Philosophy"; 3rd ed., © 1993,1986,1998; James Rachels; (McGraw-Hill Companies; ISBN: 0070525609; Format: Paperback, 3rd ed., 231pp.)
- Barbour "Ethics in an Age of Technology"; ©1993; Barbour, Ian; (HarperSanFrancisco; ISBN: 0-06-060935-4)
- Spinello "Cyber Ethics: Morality and law in Cyberspace"; ©2000; Spinello, Richard; (Jones and Bartlett Publishers, Inc., Sudbury, MA 01776; ISBN: 0-7637-1269-8)

In addition, a course packet will be available in the bookstore containing selected readings from the following works.

- Bereano1 BODY AND SOUL: The Price of Biotech; Philip L. Bereano; Special to The Times (first of two parts), The Seattle Times, Sunday, August 20, 1995, p.B5; <http://students.washington.edu/radin/body.htm>
- Bereano2 Patent Pending: THE RACE TO OWN DNA Guaymi tribe was surprised to discover they were invented; Philip L. Bereano; Special to The Times (Second of two parts), The Seattle Times, Sunday, Aug. 27, 1995, p.B5; <http://students.washington.edu/radin/guaymi.htm>
- Hart "Ethics and Technology"; ©1994,1997; Hart, John; (First Pilgrim Press, Cleveland, OH; ISBN: 0-8298-1222-9)
- K&G "Ethical Decision Making and Information Technology"; ©1993; Kallman, Ernest; Grillo, John; (Mitchell McGraw-Hill; ISBN: 0-07-033884-1)
- M&S "Ethics in Engineering"; 3rd ed., ©1996; Martin, Mike; Schinzinger, Roland; (McGraw Hill, New York; ISBN: 0-07-040849-1)
- R&A "On Behalf of God"; ©1995; Reichenbach, Bruce R.; Anderson, V. Elving; (Wm. B. Erdmans Publishing Co.; Grand Rapids, MI; ISBN: 0-8028-0727-5)
- S&H "Ethics, Information and Technology – Readings"; ©1998; Strichler, Richard; Hauptman, Robert, editors; (McFarland & Company, Inc. North Carolina; ISBN: 0-7864-0392-6)
- Schrag "Research Ethics: Cases and Commentaries", Vol 3; ©1999; Schrag, Brian; Ed.; NSF Grant Number SBR 9241897; Association for Practical and Professional Ethics; Bloomington, IN.
- Spinello "Case Studies in Information and Computer Ethics"; ©1997; Spinello, Richard; (Prentice Hall Inc., New Jersey; ISBN: 0-13-533845-X)
- Velasquez "Business Ethics: Concepts and Cases "; 4th ed., ©1998; Velasquez, Manuel G.; (Prentice Hall Inc., New Jersey; ISBN: 013350851X)