

## COEN-288 SOFTWARE ETHICS

The ethics of software engineering.  
Course syllabus.

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<b>Lecture:</b>	T 17:10 – 19:00, Room ENGR-325

This course will be an inquiry into ethical problems as they arise in the field of software engineering. We will survey some traditional theories of ethics in order to develop several conceptual frameworks for addressing these problems. These frameworks will then be applied to the study of cases, existing professional codes, law, and standard professional practice. Students will be expected to conduct the course in seminar fashion.

(R=required, S=suggested, P=possible material for further research)

Class	Topic of Class
1 1-Apr	Class introduction Major ethical theories: (Legal Moralism, Rights-based views, Kantianism, Utilitarianism) Handout from Aldo Leopold <i>Ethics Updates</i> website: <a href="http://ethics.acusd.edu">http://ethics.acusd.edu</a> “Frameworks for Ethical Analysis” Spinello (S)
2 8-Apr	<b>Ownership, Property, and Theft</b> Excerpt from Locke’s Second Treatise, on property (R) “Ownership of Computer Software” John Snapper, Johnson (R) “Moral Foundations of Intellectual Property Rights” Arthur Kuflik, Johnson (R) “Why Software Should Be Free” Richard Stallman, Johnson (R) “Should I Copy My Neighbor’s Software?” Helen Nissenbaum, Johnson (R) Cases 6.1-6.6 Spinello (P) “Software Ownership and Intellectual Property Issues” Spinello (S) “Are Computer Property Rights Absolute?” R. Stallman, Johnson (S)
3 15-Apr	“Evolution of Case Law on Copyrights and Computer Software” Office of Technology Assessment, Johnson (R) “Software Patents Offer Opportunities and Obstacles” Raymond Van Dyke, National Law Journal, May 24, 1999 (R) on reserve “Beyond Copyright Law: How To Protect Software” Dominic Bencivenga, National Law Journal, April 22, 1996 (S) “The Software Patent Crisis” Brian Kahin, Johnson (S) “A New Idea in Software Protection” Victoria Slind-Flor, National Law Journal Jan. 16, 1995 (S) “Licensees Should Clarify Software Revision Rights” Barry Nemmers, National Law Journal, October 28, 1996 (P) “Avast, Ye Legal Software Pirates! BSA Fires Broadside at Law Firm” Wendy R. Leibowitz, National Law Journal, July 28, 1997 (P) “As Software Patents Take Over, Expertise Is Key” Jeffrey R. Kuester, National Law Journal, April 20, 1998 (P)

	<p>“Manifesto Concerning Legal Protection of Computer Programs” Kapor, et. al, Columbia Law Review vol. 94, no. 8 (P)</p>
<p>4 22-Apr</p>	<p><b>Responsibility and Safety-Critical Software</b>  “An Investigation of the Therac-25 Accidents” Nancy G. Leveson and Clark S. Turner, Johnson (R). N.B.: an updated version of this paper is available on Leveson’s site: <a href="http://sunnyday.mit.edu">http://sunnyday.mit.edu</a> (down in the “Publications” section) (R)  “Programming and the Public Trust” W. Robert Collins and Keith Miller, Johnson (R)  “Liability, Safety, and Reliability” Spinello (S)  <i>Safeware: System Safety and Computers</i>, Nancy G. Leveson (P)  See : <a href="http://sunnyday.mit.edu/book.html">http://sunnyday.mit.edu/book.html</a></p>
<p>5 29-Apr</p>	<p>“The ‘Killer Robot’ Story” Richard G. Epstein (R)  <a href="http://www.onlineethics.org/cases/robot/robot.html">http://www.onlineethics.org/cases/robot/robot.html</a>  “The Ethics of Safety-Critical Systems,” Jonathan Bowen Communications of the ACM (April 2000, vol. 43 no. 4 (R)  “Responsibility and Retribution” H.L.A. Hart, Johnson (R)  Cases 8.1-8.8 Spinello (P)</p>
<p>6 6-May</p>	<p>“Limits of Correctness in Computers” Brian Cantwell Smith, Johnson (R)  “Case 7.2: Internet Abstinence” Spinello (P)  “Case 7.3: A Programmer’s Dilemma” Spinello (P)</p>
	<b>Midterm Papers Due</b>
<p>7 13-May</p>	<p><b>Professionalism</b>  “When Professional Standards are Lax: the CONFIRM failure and its Lessons” Effy Oz <i>Communications of the ACM</i>, Oct. 1994, no. 37(0002-0782/94/1000) (R)  “From Slide-Rule to Computer: Forgetting How It Used To Be Done” Henry Petroski, Johnson (R)  “Software Engineering Code of Ethics and Professional Practice”  <a href="http://www.computer.org/tab/seprof/code.htm">www.computer.org/tab/seprof/code.htm</a> (R)</p>
<p>8 20-May</p>	<p><b>Encryption and Privacy</b>  The Hacker’s Ethic, <a href="http://hoshi.cic.sfu.ca/~guay/Paradigm/Hacker.html">http://hoshi.cic.sfu.ca/~guay/Paradigm/Hacker.html</a> (R)  “Computer Encryption Software” Jeremy Hanzlik,  <a href="http://onlineethics.org/edu/ncases/encryption1.html">http://onlineethics.org/edu/ncases/encryption1.html</a> (R)</p>
<p>9 27-May</p>	
<p>10 3-Jun</p>	<p>Discussion of unresolved and past cases submitted by students to COEN 288.  A last look at “Software Engineering Code of Ethics and Professional Practice”  <a href="http://www.computer.org/tab/seprof/code.htm">www.computer.org/tab/seprof/code.htm</a>  Wrapup discussion.  <a href="http://www.computer.org/tab/seprof/code.htm">http://www.computer.org/tab/seprof/code.htm</a></p>
<p>10-Jun</p>	<b>Final Paper Due</b>
	<b>NO LATE PAPERS WILL BE ACCEPTED!</b>

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

Attendance and classroom contribution	10%
One 5-7 page midterm paper (assigned topics )	40%
One 8-10 page final paper (on a topic from a major section of the course)	50%

***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).**

***The Midterm Paper*** will consist of choosing from one of a number of assigned topics and providing a thorough Ethical Analysis of the topic. **The midterm paper shall utilize HTML as the presentation medium.** Correct spelling, grammar, and citation of sources are expected. This paper should be 5 – 7 pages of text in length.

***The research paper*** assignment presents you with an opportunity to investigate an information 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 7 – 10 pages of text in length.

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## **References**

There will be two required texts:

**Johnson, Deborah G., and Helen Nissenbaum(eds.)** *Computers, Ethics & Social Values*; (Prentice-Hall: 1995; ISBN: 0131031104; Format: Paperback: 656 pages)

**Spinello, Richard A.,** *Case Studies in Information and Computer Ethics*; (Prentice-Hall: 1997; ISBN: 013533845X; Format: Paperback: 285 pages)