## CS 3000 : PROFESSIONAL AND SOCIETAL ISSUES IN COMPUTING

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| *Semester Hours:* | 3.0 | *Contact Hours:* 3 |
| *Coordinator:* | Venu Dasigi | |
| *Text:* | Ethics for the Information Age, 8th Edition | |
| *Author(s):* | MICHAEL J.  QUINN | |
| *Year:* | 2020 | |

### SPECIFIC COURSE INFORMATION

*Catalog Description:*

Impact of computers, the Internet and related computer technology on society and the social forces underlying the rapid and widespread adoption of computer technology. Personal privacy, intellectual property, legislative and constitutional issues, changing labor force composition, professional ethics. Not a programming course. Prerequisite: Grade of C or better in CS 2010. Approved for distance education.

Course type: **REQUIRED**

### SPECIFIC COURSE GOALS

- I can specify the strengths and weaknesses of relevant professional codes as expressions of professionalism and guides to decision-making.

- I can discuss technical and ethical approaches to social and ethical issues that arise in information technology contexts.

- I can distinguish among patent, copyright, and trade secret protection and can identify the impact of technology on their implementations and enforcement.

- I can describe the risks and problems to privacy that computer technology poses and explain privacy protection mechanisms.

- I can identify and describe the significant issues underlying the use of technology in a variety of contemporary social contexts.

COMPUTER SCIENCE STUDENT OUTCOMES ADDRESSED BY THIS COURSE

- CS 4 Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles

SOFTWARE ENGINEERING STUDENT OUTCOMES ADDRESSED BY THIS COURSE

- SE 4 An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

LIST OF TOPICS COVERED

- Controversies and alternative points of view, such as
    - privacy vs. access to information
    - privacy vs. law enforcement
    - freedom of speech vs. control of content on the Net
    - market-based vs. regulatory solutions to problems
    - controversies about banning technologies that can have negative impacts
- How computers change established social and legal institutions and conventions, and the need for those institutions to adapt to computers.
- Perspectives:
    - comparing risks and problems of computer technology with other technologies
    - noncomputerized alternatives
    - benefits of computers
- Solutions to computer related problems from technology, the market, management, education and law.
- How organizations and governments attempt to control computer technology.
- Recent significant court cases and decisions.
- The ethical issues impacting computer professionals and their employers and clients.
- Current controversies, such as
    - Censorship of the Internet
    - Government restrictions on encryption

- o The impact of electronic media on intellectual property

- o Privacy threats from government and business databases

- o Privacy of email

- o Neo-Luddite criticisms of computing

- o Hacking and computer crime

COMPUTER SECURITY TOPICS

Faculty who recently offered CS 3000 have discussed and identified a list of topics related to computer security in this course. Below is a list for instructors to incorporate. (*) indicates topics that are mandatory.

| Security Topic | Description | Textbook Reference[1] | Estimated Class Hours |
|---|---|---|---|
| *Ethical hacking | As an example, a case study on FireSheep tool which can potentially hijack web sessions. FireSheep showed to the world how easily someone can hack into other's Facebook or Twitter account (in 2011), which has ultimately forced these companies to make their (social networking) platform more secure. However, question remains on whether it is ethical to use/build such a hacking tool. | Chapter 7 | 1 |
| *Privacy issues | The textbook of CS 3000 has a dedicated chapter on privacy issues. This could naturally help students understand the privacy breach problem, and how to protect themselves. | Chapter 5 | 2 |

[1]Ethics for the Information Age by Quinn, 7th Edition.