Proposed Course: CSC 340 Ethics in Computing

The Department of Mathematics and Computer Science will offer a new course at the junior/senior level once a year to be called "Ethics in Computing." This course was designed to:

- satisfy the core requirement Objective 6-A (Social Responsibility: Ethics),
- have a strong writing component,
- be oriented toward ethical decision making involving technology in general, computing in particular, and computer science most directly
- satisfy the ACM/IEEE-CS recommendations for an undergraduate computer science ethics course.

Industry and academe are increasing their focus on ethical decision making in computing programs. Although consistent with the university's mission which stresses this importance, existing ethics courses at the university do not focus on the specific problems in computing and computer-related technological areas. Rather than require two ethics courses (one a core requirement and one a computing necessity), it seems efficient to combine them into a single course. "Ethics in Computing" will contain the elements necessary to satisfy core requirement – objective 6-A (social responsibility: ethics) as well as the ACM/IEEE-CS recommendations for an undergraduate computer science ethics course.

This course will introduce students to the foundations of moral judgments and the nature of ethical reasoning. The course will assist students in developing a moral awareness of problems confronting individuals and society with regard to the implementation and design of computer technology. The social, political and economic implications of computer technologies will be explored.

It is appropriate for this course to be taught in the department of computer science given the level of technical expertise needed to adequately explore the types of ethical issues that arise in the field of computing. There is precedent already established for an ethics course within the college of Engineering and Science to be accepted as satisfying the core, as with the course E100 "Ethics and Politics of Engineering."

CSC 340 Ethics in Computing

Text Woodbury, *Computer Ethics*. (or the like)

Course Description

Students will examine a variety of topics regarding policy, legal, and moral issues related to the computer science profession itself and to the proliferation of computers in all aspects of society.

The following topics will be included:

- Ethical decision making.
- Social responsibilities of technological organizations (vendors, government, users, interest groups)
- Social responsibilities of individuals relating to technology (employees, users, interest groups)
- Both actual and fictional case studies of situations involving ethical issues.

Objectives (outcomes)

- At the conclusion of the course, the student should be able to:
- Identify current and potential situations involving ethical issues,
- Perform ethical analyses and communicate them in writing
- Evaluate the influence of their clarified personal values on their practice of computing.
  Have an understanding of all individuals and groups affected by decisions and actions
  (stakeholders),
- Feel confident in making ethical decisions in ill-defined situations.
- Resolve ethical issues from case studies in various computing practices

Grading The course will have two in-class hour examinations and a final worth 100 points apiece and a writing component of two papers, each worth 100 points. One of the papers will be an expression of how the student would try to deal with an ethical dilemma and the other would be composed of team efforts to consider how an organization should deal with ethical issues which arise.

A tentative set of topics for a regular term:

Week 1: Introduction to ethics from philosophical and applied perspectives. Ethics versus morals. Suggested topics for individual and group essays.

Week 2: Ethical decision making framework.
Determination of student teams – each team will be a group confronting an ethical situation defined during the week.

Week 3: Information and privacy.

Week 4: Communication issues: encryption, interception of communications.

Week 5: Intellectual Property. How should software be used? Downloading music, FBI surveillance, profiling, etc
Review, Test 1

Week 6: Computer crime and hacking

Week 7: Risks of computer systems

Week 8: Effectiveness of governmental and other industry regulation: WSIS, ICANN, programmer certification, etc. Computers in the workplace.

Week 9: Responsibility and accountability. Role of professional societies and other not-for-profit groups, ACM, IEEE-CS, EFF, EPIC, CPSR .

Week 10: Avoiding conflicts of conscience, evaluating possible difficulties. Role of stakeholders
Review, Test 2

Week 11: What to do when caught in the middle, when none of the choices are good
Putting it together: commerce and industry, government, other groups, the individual.

Week 12: More ethical scenarios. Student presentations.

Week 13: Individual and Group essays due. Student presentations.

Week 14: Group Reports. Review

Week 15: Final examination