

University of South Carolina College of Engineering and Computing
**CSCE 390: Professional Issues in Computer Science and
 Engineering Fall 2021**

Sections 001 and 002

Location: Swearingen Engineering Center 1C01 (Amoco Hall)

Marco Valtorta, Ph.D. Professor, Computer Science and Engineering Storey Innovation Center, Room 2269 (803)777-4641 mgv@cse.sc.edu Clayton Oney, Teaching Assistant. cjoney@email.sc.edu	Course Websites: https://cse.sc.edu/~mgv/csce390f21/index.html (main), https://dropbox.cse.sc.edu (assignments), https://blackboard.sc.edu (some materials and discussion board)
	Office Hours: Mondays 1430-1730. Please email mgv@cse.sc.edu for individual consultation; if necessary, a phone or virtual face-to-face conversation will be arranged.
	Class time: Tuesday 1800-1850 (Section 1) Thursday 1800-1850 (Section 2)

Course Syllabus

Academic Bulletin Description

Professional issues in the information technology professions; history and social context of computing; professional responsibilities; privacy; intellectual property; risks and liabilities of computer-based systems. **Note: Carolina Core: VSR**

(https://sc.edu/about/offices_and_divisions/provost/academicpriorities/undergradstudies/carolinacore/)

Course Description

This course covers ethical issues that are raised by technologies in the field of computing, teaches students how to apply professional codes of conduct, and familiarizes students with the various professional options and activities within the field of computing. This course examines ethical questions and issues of moral responsibility for computer professionals, concerning professional codes of conduct and the social, economic, ethical, and legal issues generated by the use of computers and computer networks, including the Internet. Topics covered include philosophical systems and ethics, benefits of information technology (IT), systems design and development, information privacy, freedom of expression, IT safety and reliability, intellectual property rights, computer security and cybercrime, and computers and social justice. This is a required course for Computer Science (CS), Computer Engineering (CE), and Computer Information Systems (CIS) majors.

Course Overview

This is a face-to-face course. This course will be delivered in class, in person.

- Student-to-Instructor (S2I) Interaction: The professor will post announcements on the main course website, and provide individual feedback to students through the CSE dropbox website and email.
- Students-to-Student (S2S) Interaction: Students will engage in discussions through email and the discussion forum on Blackboard.
- Student-to-Content (S2C) Interaction: Students will engage with course content by completing short assignments and reports and preparing a presentation.

The instructor will reply to all feedback in a reasonable amount of time; the same is expected of the students. Specifically,

- Communication: Responses to email communication and questions will be provided within 48 hours.
- Assignment and Test Grading Grades for assignments will be returned within one week of due date.
- All assignments are due before the beginning of class. A 10% deduction will be given to late submissions that are turned in before the beginning of the next class. No credit will be given for assignments that are turned in after the beginning of the next class.

Learning Outcomes

Upon completing this course, students should be able to:

1. Relate computing issues to philosophical systems and ethics
2. Resolve ethical dilemmas in the field of computing
3. Apply professional codes of conduct to realistic situations
4. Demonstrate familiarity with current social and ethical issues related to computing
5. Investigate different professional career paths and the lifelong learning involved
6. Present results and opinions on ethical and professional issues in written and oral formats

Prerequisites

None.

Required Textbook and Reading Materials

There are no required textbooks. **The following textbooks are recommended and used as sources for some lectures:**

- Robert N. Barger. *Computer Ethics: A Case-Based Approach*. Cambridge University Press, 2008 (referred to as [B]).
- Richard A. Spinello. *Cybereithics: Morality and Law in Cyberspace*, 7th edition. Jones and Barnett Learning, 2021 (referred to as [S]).
- Michael J. Quinn. *Ethics for the Information Age*. Addison-Wesley, 2005 (referred to as [Q]).
- Joseph Migga Kizza. *Ethics in Computing: A Concise Module*. Springer, 2016 (referred to as [K]).

Other Reading Materials

- James H. Moor. "What is Computer Ethics?" *Metaphilosophy*, 16, 2 (October 1985), 266-275 (referred to as [M85]).
- James H. Moor. "Reason, Relativity, and Responsibility in Computer Ethics." In: Terrell Ward Bynum and Simon Rogerson (eds.). *Computer Ethics and Professional Responsibility*. ISBN 1-85554-844-5. Blackwell Publishing, 2004 (referred to as [M04]).
- James H. Moor. "Just Consequentialism and Computing." *Ethics and Information Technology*, 1, 65-69, 1999 (referred to as [M99]).
- Barger, Robert N. "A Metaethical Analysis of Computer Ethics." Typescript, available at <https://www3.nd.edu/~rbarger/metaethics.html>, 1993 (referred to as [B93]).
- Markkula Center for Applied Ethics Framework for Decision Making, <https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/a-framework-for-ethical-decision-making/> (referred to as [Markkula]).
- Kohlberg's Stages of Moral Development. Chapter 7 in: W.C. Crain. *Theories of Development*. Prentice-Hall, 1985, <https://childlit232.files.wordpress.com/2010/02/kohlbergs-six-stages.pdf> (referred to as [K85]).
- The ACM Code of Ethics and Professional Conduct, 2018 Edition, <https://www.acm.org/code-of-ethics> (referred to as [ACMCode]).
- Andrew A. Chien. "Editor's Letter: Computing is a Profession." *Communications of the ACM*, 60, 10 (October 2017), 5.
- Don Gotterbarn and Keith W. Miller. "Computer Ethics in the Undergraduate Curriculum: Case Studies

- and the Joint Software Engineer's Code." *Journal of Computing Sciences in Colleges*. December 2004.
- Peter Aiken, Robert M. Stanley, Juanita Billings, and Luke Anderson. "Using Codes of Conduct to Resolve Legal Disputes." *Computer*, 43, 4 (April 2010), pp.29-34.
 - Other materials will be linked to the main course website.

All reading materials in the list comply with copyright/fair use policies. Other readings may be assigned during the course.

Time Commitment and Planning

Any university course requires a large amount of work outside of lecture. I assume that when you register for this one-credit course you will allocate an average of **3 hours per week** to attend the lectures, study the readings, complete the homework assignments, and complete the final exam. It is your responsibility to manage your workload. If you procrastinate starting your assignments, you may find that you do not have enough time to complete the assignments, or that a technology problem may prevent you from completing your assignment. Note that not being able to access a computer or network will not be considered an acceptable excuse for submitting your assignment late.

Assessments

Your overall final course letter grade will be determined by your grades on the assessments summarized below.

Career Homework Assignment	20 points
Presentation of a Current Professional Issue	20 points
Other Homework Assignments	60 points
Total	100 points

Your final grade is based on the total points you have earned over the course. Therefore, individual assignments are not curved, and all points for all assignments are weighted equally. The numeric scores are translated to letter grades as follows, after rounding up to the nearest integer:

$$[90-100] = A \quad [87-89] = B+ \quad [80-86] = B \quad [77-79] = C+ \quad [70-76] = C \quad [67-69] = D+ \quad [60-66] = D \quad [0-59] = F$$

If everyone performs very well, I do not have a problem with assigning everyone A's. However, poor performance (particularly failure to turn in assignments on time) in class will result in a low grade.

Attendance Policy

When you miss class, you miss important information. If you are absent, you are responsible for learning material covered in class. If you have an excused absence (<https://academicbulletins.sc.edu/undergraduate/policies-regulations/undergraduate-academic-regulations>), you will be permitted to make up coursework or complete an equivalent assignment agreed upon with me.

To arrange excuses for absences that can be anticipated at the start of the term, you should:

- Submit a request in writing (email is acceptable) stating the dates of the anticipated absence no later than the end of the second week of the course.
- Explain the reason for absence. In some cases, documentation may be required. Please consult the policy (<https://academicbulletins.sc.edu/undergraduate/policies-regulations/undergraduate-academic-regulations>) for additional information.
- Include any request for make-up work.

To arrange excuses for absences that cannot be anticipated at the start of the term, (e.g. legal proceedings

or illness), you should, at the first opportunity, submit in writing a request stating:

- The date of absence
- The reason for absence. In some cases, documentation may be required. Please consult the policy for additional information.
- Any request for make-up work as soon as reasonably possible after you become aware of the need to be absent.

Summary of Assessments

All essays must be typed, with 1-inch margin, 12-point font (Calibri preferred), 1.5 spaced. All essays must be done individually. The assignments may be modified during the semester.

(HW1) Answer the following three questions. Your essay, in total, must be no longer than two pages. Please type the questions as well as your answers. All questions must be answered.

- List the three events in the history of computing that you consider most important.
- Provide an example of an action that is legal but unethical and of an action that is illegal but ethical.
- Provide an example of a new (or substantially different) ethical dilemma that was raised by computers or computing.

(HW2: Career)

Choose a company where you would like to apply for a position. Write:

- A one-page overview of the company
- A one-page overview of the position that you would apply for
- A one-page resume (possibly, geared towards that position)
- A half-page essay on what you need to learn or do to be competitive for the position
- Attend the UofSC STEM Majors Career Fair (either the virtual or the in-person one) and write a half-page essay describing your experience. The virtual fair will be held from noon-1630 on September 14; the in-person fair will be held from 1300-1700 on September 16 in the Carolina Coliseum.
- Complete your Handshake profile at the USC Career Center. Write a statement that you did this on the first page of your homework submission document.

The whole submission consists of four pages. If you cannot attend one of the two fairs, you must:

1. Do all parts of the assignment except for part (5)
2. Do one of the following:
 1. Write a short justification of why you could not attend the fair (e.g., provide a copy of your class schedule showing substantial overlap with fair times)
 2. Write a half-page essay describing your experience at another career fair
 3. Attend an activity (virtual or in-person) sponsored by the career center, such as a resume-writing workshop, and write a half-page essay about it
 4. Attend an activity (virtual or in-person) sponsored by a professional society in computing and write a half-page essay about it.

(HW3) Argue for or against the following statement: "A computer is just another tool, and ethical computing is just a branch of applied ethics." Justify your answer by referring to [M95], [M04], and [M99].

(HW4) Summarize the key features of the metaphysics and ethics of the four philosophical belief systems idealism, realism, pragmatism, and existentialism in your own words. About one page is expected. Use at least [B93] as a reference.

(HW5) Exercise on the Ethical Decision Making Process. Details to be added.

(HW6) Exercise based on the ACM Code of Ethics and Professional Conduct [ACMCode]. Details to be added.

(HW7) To be determined.

(HW8: Presentation) Choose a topic of professional interest that includes a non-trivial ethical issue from [ACM TechNews archives](#). Prepare a 6-slide PowerPoint presentation (in pptx format; a few more slides are acceptable) in which (1) you summarize the topic (appropriate references should be on the title slide; see below), (2) you apply the 8-step ethical decision-making process from Ch.6 [B] or the ethical decision-making process from [to the problem, (3) you apply the ACM Code. You also need a title slide with your name, the title of your presentation, and reference(s), including at least the ACM TechWeek entry that you used. At least one example is provided in the "Student Presentations" section of the course website. All students should be prepared to present in class.

- **Final Exam:** There will be no Final Exam.

All assignments will be graded.

Accommodating Disabilities

Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, contact the Student Disability Resource Center: 803-777-6142, TDD 803-777-6744, email sadrc@mailbox.sc.edu, or stop by Close-Hipp Suite 102. All accommodations must be approved through the Student Disability Resource Center. See <https://www.sa.sc.edu/sds/>.

Academic Integrity

The faculty takes violations of the University Honor Code (<http://www.sc.edu/policies/ppm/staf625.pdf>) seriously. Students are encouraged to review the Honor Code and to understand the consequences of any action that is proven to be a violation of the code.

You are expected to practice the highest possible standards of academic integrity. Any deviation from this expectation will result in a minimum academic penalty of your failing the assignment. In addition, an honor code violation will be subject to the sanctions described in the USC Community Handbook and Policy Guide. Violations of the University Honor Code include, but are not limited to, improper citation of sources, using another student's work, and any other form of academic misrepresentation. For more information, please see the University Honor Code.

In reference to this course, students are expected to do their own work when assignments require individual work. For example, students may not copy the work of others, either manually or electronically, under these conditions. Further, students who allow their work to be copied by others risk violation of the University Honor Code. All violations of the University Honor Code or this Academic Integrity Statement will be reported to the [Office of Student Conduct and Academic Integrity](#).

The following paragraph, written by Professor Emeritus Duncan Buell, clarifies the distinction between "learning from a discussion" and "turning in someone else's work": If, after having participated in a group activity, you can walk away, put the books down, have lunch, and then come back afterwards to re-create from your own head the material and techniques you discussed as a group, then you can legitimately say that you have learned from the group but the work you turn in is your own.

Remember that the first tenet of the Carolinian Creed is, "I will practice personal and academic integrity."

**CSCE 390 ---FALL 2021
TIME ALLOCATION FRAMEWORK**

WEEK (SECTION 2, SECTION 1)	TOPIC	SOURCE
1 (8/19, 8/24)	Introduction; The Computer Revolution; The Computer as a Universal Tool; Definitions of Computer Ethics	Chs.1&2 [B] [M85]
2 (8/26, 8/31)	Philosophic Belief Systems: Introduction and Idealism	Ch.3 [B]; Ch.1 [S]; Chs. 1&2 [K]
3 (9/2, 9/7)	Presentation by Ms. Vicky Hamby or Ms. Abigail King of the CEC Satellite Office of the USC Career Center	Slides to be added on the main course website
4 (9/9, 9/14)	Philosophic Belief Systems: Realism, Pragmatism, and Existentialism. The Possibility of a Unified Ethical Theory	Chs.3&5 [B]; Ch.1 [S]
5 (9/16, 9/21)	Ethical Decision-Making Processes	Ch.6 [B]; [Markkula]
6 (9/23, 9/28)	The Computing Field as a Profession; Computer-Related Codes of Ethics and Professional Practice (part 1)	Chs.8&9 [B]; [ACMCode]
7 (9/30, 10/05)	Computer-Related Codes of Ethics (part 2)	Chs.8&9 [B]; [ACMCode]
8 (10/14, 10/12)	Information and Power: Regulating and Governing Networked Technologies	Ch.2 [S]
9 (10/21, 10/19)	Free Speech and Censorship in Cyberspace	Ch.3 [S]; Chs.16&17 [B]
10 (10/28, 10/26)	Intellectual Property in Cyberspace	Ch.4 [S]
11 (11/4, 11/2)	Privacy Rights in the Age of Surveillance	Ch.5 [S]
12 (11/11, 11/9)	Lecture by Prof. Biplav Srivastava on Trust and AI Systems	
13 (11/18, 11/16)	Student Presentations (HW8)	
14 (12/2, 11/23)	Student Presentations (HW8)	
15 (Section 1 only: 11/30)	TBD	

This time allocation framework is subject to change.

The university academic calendar for fall 2021 is at

https://www.sc.edu/about/offices_and_divisions/registrar/academic_calendars/2021-22_calendar.php.