



## Course Information Sheet

# CSCI 3030(E)(H)

Computing, Ethics, and Society

<b>Brief Course Description</b> (50-words or less)	Introduction to social and ethical issues relating to computer science and information technology. Topics include privacy, intellectual property, open source software, the digital divide, globalization, professional ethics, social justice issues, and current events. Students should have a working knowledge of personal computing.
<b>Extended Course Description</b> / <b>Comments</b>	This course will introduce students to the wide array of ethical issues that have arisen with the advent of computer technology and the internet. The course focus is on defining and defending one's ethical choices based on any of a variety of systems of ethical decision-making.
<b>Pre-Requisites and/or Co-Requisites</b>	ENGL 1050H or ENGL 1102
<b>CSCI 3030E</b> (Online Offering)	The (E) designation denotes an online offering. When taught online, students are expected to meet the same learning outcomes as the face-to-face version of the class. Course content may be structured for asynchronous delivery, and lecture content may be delivered as guided readings.
<b>CSCI 3030H</b> (Honors Option)	Honors students enrolled in this course may apply for the Honors Option (CSCI 3030H). At UGA, Honors Option courses are those numbered 3000 or higher in which an Honors student earns Honors credit by completing additional coursework. Honors students should consult the Honors Program for information about the application process.
<b>Required, Elective, or Selected Elective</b>	Required Course
<b>Approved Textbooks</b> (if more than one listed, the textbook used is up to the instructor's discretion)	Author(s): Michael J. Quinn Title: Ethics for the Information Age Edition: 8th or Newer ISBN-13: 978-0135217726
<b>Specific Learning Outcomes</b> (Performance Indicators)	<p>In the following learning outcomes, the phrase "in computing" is to be interpreted as scenarios that intersect with the legality, societal impact, creation, deployment, interaction, or withdrawal of software and computing / information technology in contemporary society. At the end of the semester, all students will be able to do the following:</p> <ol style="list-style-type: none"><li>1. Evaluate moral dilemmas in computing using a well-defined theory of ethical decision making.</li><li>2. Explain and discuss issues in computing related to intellectual property.</li><li>3. Explain and discuss issues in computing related to privacy, security, and the government.</li></ol>

4. Explain and discuss issues in computing related to reliability.
5. Explain and discuss issues in computing related to education, employment, and globalization.
6. Explain and discuss issues in computing related to professional development.

### Student Outcomes

- A. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
- B. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- C. Communicate effectively in a variety of professional contexts.
- D. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- E. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- F. Apply computer science theory and software development fundamentals to produce computing-based solutions.

### Relationship Between Student Outcomes and Learning Outcomes

Specific Learning Outcomes	ABET Learning Outcomes					
	A	B	C	D	E	F
1			●	●		
2			●	●		
3			●	●		
4			●	●		
5			●	●		
6			●	●		

### Major Topics Covered

In the following learning outcomes, the phrase "in computing" is to be interpreted as scenarios that intersect with the legality, societal impact, creation, deployment, interaction, or withdrawal of software and computing / information technology in contemporary society.

1. **Evaluate moral dilemmas in computing using a well-defined theory of ethical decision making. [Assessment]** More than one theory is to be covered, and although the list of theories is ultimately left to discretion of the course instructor, the following are usually covered: Kantianism, utilitarianism, social contract theory, and virtue ethics. For each ethical theory covered in the course, students are expected to:
  - a. Describe the general steps needed to construct an ethical argument. [Usage]
  - b. Research, organize, and synthesize information to support an ethical argument. [Assessment]
  - c. Critique the organization, language, delivery, audience adaptation, reasoning, arguments, and supporting materials of ethical arguments presented by others. [Assessment]
  - d. Author and present an ethical argument that considers

language, delivery, audience awareness. [Assessment]

- 2. Explain and discuss issues in computing related to intellectual property. [Usage]**
  - a. Identify the characteristics of copyright and fair use. [Familiarity]
  - b. Identify the characteristics of software licenses, including free licenses, and open source licenses. [Familiarity]
  - c. Identify the characteristics of a patent in computing. [Familiarity]
  - d. Apply an ethical theory to defend an ethical stance in computing related to intellectual property. [Usage]
- 3. Explain and discuss issues in computing related to privacy, security, and the government. [Usage]**
  - a. Identify the characteristics of hacking, hacktivism, and cyberterrorism. [Familiarity]
  - b. Identify and classify privacy infringements in computing. [Usage]
  - c. Describe privacy-related government policies and protections. [Familiarity]
  - d. Apply an ethical theory to defend an ethical stance in computing related to privacy, security, and/or the government. [Usage]
- 4. Explain and discuss issues in computing related reliability. [Usage]**
  - a. Identify the characteristics of safety-critical systems. [Familiarity].
  - b. Identify the stakeholders and characteristics of a well known case study involving computer and machine reliability (e.g., Therac-25, Tesla Version 7.0, etc.). [Familiarity]
  - c. Identify characteristics and potential biases related to software engineering. [Familiarity]
  - d. Apply an ethical theory to defend an ethical stance in computing related to the government. [Usage]
- 5. Explain and discuss issues in computing related to education, employment, and globalization. [Usage]**
  - a. Identify characteristics of a digital divide. [Familiarity]
  - b. Identify social justice issues in computing. [Familiarity]
  - c. Identify impacts of automation, remote learning, and remote work. [Familiarity]
  - d. Apply an ethical theory to defend an ethical stance in computing related to education, employment, and/or globalization. [Usage]
- 6. Explain and discuss issues in computing related to professional development. [Usage]**
  - a. Identify characteristics and responsibilities related to professions that intersect with computing. [Familiarity]
  - b. Identify the characteristics of professional codes of ethics [Familiarity]
  - c. Identify characteristics that make whistleblowing morally permissible and morally required. [Familiarity]
  - d. Apply an ethical theory to defend an ethical stance in computing related to professional development. [Usage]

## **Knowledge Levels**

The following is the ACM's categorization of different levels of mastery: Assessment, Usage, and Familiarity. Note that Assessment encompasses both Usage and Familiarity, and Usage encompasses Familiarity.

**Familiarity:** The student understands what a concept is or what it means. This level of mastery concerns a basic awareness of a concept as opposed to expecting real facility with its application. It provides an answer to the question "What do you know about this?"

**Usage:** The student is able to use or apply a concept in a concrete way. Using a concept may include, for example, appropriately using a specific concept in a program, using a particular proof technique, or performing a particular analysis. It provides an answer to the question "What do you know how to do?"

**Assessment:** The student is able to consider a concept from multiple viewpoints and/or justify the selection of a particular approach to solve a problem. This level of mastery implies more than using a concept; it involves the ability to select an appropriate approach from understood alternatives. It provides an answer to the question "Why would you do that?"

## **Course Master**

Dr. Michael Cotterell

## **Last Updated**

2020-06-30 by Dr. Funk and Dr. Cotterell