



## Course Number and Title: ISY 111 Ethics and the Information Age

**Campus Location:**

Georgetown, Dover, Wilmington

**Effective Date:**

2018-51

**Prerequisite:**

ENG 090 or ENG 091, SSC 100 or concurrent

**Co-Requisites:**

None

**Course Credits and Hours:**

2.00 credits

2.00 lecture hours/week

0.00 lab hours/week

**Course Description:**

This course discusses ethics and moral philosophy appropriate to computer information and technology, including a framework for ethically-grounded decision making in the information age.

**Required Text(s):**

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

**Additional Materials:**

USB flash-drive for lab work and broadband Internet access

**Schedule Type:**

Classroom Course

Online Course

**Disclaimer:**

None

**Core Course Performance Objectives (CCPOs):**

1. Explain the history of computing. (CCC 1, 5; PGC 7)
2. Evaluate and discuss the social context of computing. (CCC 1, 2, 3, 4, 5; PGC 6, 7)
3. Explain and give examples of ethical theory and tools of analysis. (CCC 1, 2, 3, 4, 5; PGC 6, 7)
4. Examine professional and ethical responsibilities. (CCC 1, 2, 3, 4, 5; PGC 6, 7)
5. Differentiate risks and liabilities of computer-based systems. (CCC 1, 2, 3, 4, 5; PGC1, 2, 3, 4, 5, 6, 7)
6. Examine the ethical dimensions of intellectual property, privacy, and civil liberties. (CCC1, 2, 3, 4, 5; PGC 6, 7)
7. Describe crime related to information technology. (CCC 1, 2, 3, 4, 5; PGC 1, 2, 3, 4, 5,6, 7)
8. Examine information technology issues within the framework of ethical theory. (CCC 1,2, 3, 4, 5; PGC 6, 7)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

### Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Explain the history of computing.
  1. List the contributions of several pioneers in the computing field.
  2. Compare daily life before and after the advent of personal computers and the Internet.
  3. Identify significant continuing trends in the history of the computing field.
2. Evaluate and discuss the social context of computing.
  1. Identify assumptions and values embedded in a particular design.
  2. Evaluate a particular implementation through the use of empirical data.
  3. Describe positive and negative ways in which computing alters the modes of interaction between people.
  4. Explain why computing/network access is restricted in some countries.
3. Explain and give examples of ethical theory and tools of analysis.
  1. Analyze an argument to identify premises and conclusion.
  2. Illustrate the use of example, analogy, and counter-analogy in ethical argument.
  3. Detect use of basic logical fallacies in an argument.
  4. Identify stakeholders in an issue and our obligations to them.
  5. Articulate the ethical tradeoffs in a technical decision.
4. Examine professional and ethical responsibilities.
  1. Identify progressive stages in a whistle-blowing incident.
  2. Specify the strengths and weaknesses of relevant professional codes as expressions of professionalism and guides to decision making.
  3. Identify ethical issues that arise in software development and determine how to address them technically and ethically.
  4. Develop a computer use policy with enforcement measures.
  5. Analyze a global computing issue, observing the role of professionals and government officials in managing the problem.
  6. Evaluate the professional codes of ethics from the Association for Computing Machinery (ACM), the Institute of Electrical and Electronics Engineers (IEEE) Computer Society, and other organizations.
5. Differentiate risks and liabilities of computer-based systems.
  1. Explain the limitations of testing as a means to ensure correctness.
  2. Describe the differences among correctness, reliability, and safety.
  3. Discuss the potential for hidden problems in reuse of existing components.
  4. Describe current approaches to managing risk, and characterize the strengths and shortcomings of each.
6. Examine the ethical dimensions of intellectual property, privacy, and civil liberties.
  1. Distinguish among patent, copyright, and trade secret protection.
  2. Discuss the legal background of copyright in national and international law.
  3. Explain how patent and copyright laws may vary internationally.
  4. Outline the historical development of software patents.
  5. Discuss the consequences of software piracy on software developers and the role of relevant enforcement organizations.
  6. Summarize the legal basis for the right to privacy and freedom of expression and how those concepts vary from country to country.
  7. Describe current computer-based threats to privacy.
  8. Explain how the Internet may change the historical balance in protecting freedom of expression.
  9. Explain the disadvantages and advantages of free expression in cyberspace.
  10. Describe trends in privacy protection as exemplified in technology.
7. Describe crime related to information technology.
  1. Outline the technical basis of viruses and denial-of-service attacks.
  2. Identify techniques to combat cracker attacks.
  3. Discuss several different cracker approaches and motivations.
  4. Identify the professional's role in security and the tradeoffs involved.
8. Examine information technology issues within the framework of ethical theory.
  1. Summarize the basic concepts of relativism, utilitarianism, and deontological theories.
  2. Recognize the distinction between ethical theory and professional ethics.
  3. Identify the weaknesses of the hired agent approach, strict legalism, naïve egoism, and naïve relativism as ethical frameworks.

### Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

**Core Curriculum Competencies (CCCs are the competencies every graduate will develop):**

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

**Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):**

1. Identify and remediate vulnerabilities.
2. Design, plan, and install network systems.
3. Install and configure operating systems.
4. Demonstrate the ability to write and debug scripts.
5. Demonstrate professionalism and ethical responsibility.
6. Communicate effectively to diverse groups of stakeholders.
7. Perform change management analysis and documentation.
8. Perform evidence collection and forensics analysis.
9. Create, modify, and/or implement security policies.

**Disabilities Support Statement:**

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.