


ILLINOIS TECH | College of Computing

ITMM 485 / 585
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Legal and Ethical Issues in
 Information Technology




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Ethical Concepts and Theories

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**Ch4: Professional Ethics and
 Codes of Conduct in IT**
**P1: Definition of PE and
 Purpose of Codes**



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Learning Objectives:

Upon completion of this lesson the students should be able to:

- Define Professional Ethics and why a separate category of Professional Ethics in IT might be needed
- Describe the Purpose of Professional Codes
- Differentiate between Codes of ethics, Codes of conduct and Codes of practice
- Identify situations where divided loyalties pose significant ethical challenges
- Distinguish between Responsibility, Liability, and Accountability

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Professional Ethics

- When applied to computing and information technology (IT), *professional ethics* is a field of applied ethics concerned with moral issues that impact computer/IT professionals.

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Why a Separate Category of Professional Ethics?


- Arguably, the same ethical rules involving honesty, fairness, and so forth that apply to ordinary individuals should apply to professionals as well.
- So, if it is wrong for ordinary people to steal, cheat, lie, and so forth, then it is wrong for professionals to do so as well.
- Why, then, is a separate field of study called "professional ethics" needed?

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Separate Category of Professional Ethics (Continued)

- Some ethicists argue that professionals in some fields have special moral obligations that exceed those of ordinary individuals.
- Others ethicists argue that some of the moral issues affecting certain professions are sufficiently distinct and specialized to warrant a separate field of study.
- An adequate analysis of these arguments requires an understanding of what is meant by terms such as *profession* and *professional*.

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What is a Profession?

- Harris, Pritchard, and Rabins (2009) note that the term “profession” has evolved from a concept that was once associated with people professing a religious or monastic life to one that now has a more secular meaning.
- At one time, “profession” was used to describe a vocation where a person made a public promise to enter a “distinct way of life” with allegiance to “high moral ideals.”
- Later, the term came to refer to anyone who “professed to be duly qualified.”
- “Profession” has now come to mean an “occupation in which one professes to be skilled in and to follow.”

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What is a Profession (continued)?

- Michael Davis (2015) notes that the term “profession” has at least four senses in its everyday usage.
 1. vocation (or calling),
 2. occupation,
 3. “honest occupation” (that one may “openly admit to profess”),
 4. “special kind of honest occupation.”


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Who is a Professional?

- *Professionals* who comprise a given profession also tend to have certain defining attributes and requirements.
- For example, medical doctors, lawyers, etc., often find themselves in situations in which their decisions and actions can have significant social effects; their roles and responsibilities can exceed those of ordinary individuals.
- Sometimes these roles and responsibilities can *differentiate* professionals from others (see, for example, Buchanan, 2004).


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Who is a Computer/IT Professional?

- A computer/IT professional might be viewed as anyone who is employed in the computer, IT, or information/communications fields.


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Definition of a Computer/IT Professional (Continued)

- A computer/IT professional could be defined in a way that includes mainly software engineers and their teams.
- For example, teams comprising software quality analysts, technical writers, network administrators, and software managers and supervisors.
- A *software engineering team* can include those who participate directly in the analysis, specification, design, testing, development, and maintenance of software systems.

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Do Computer/IT Professionals Have Special Responsibilities?

Gotterbarn (2001) points out that software engineers and their teams are have significant opportunities to:

- I. do good or cause harm;
- II. enable others to do good or cause harm;
- III. influence others to do good or cause harm.

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Critical-Safety Software

- Gotterbarn suggests that the roles and responsibilities involved in the development of **safety-critical systems** is a *differentiating* factor.
- A "safety-critical system" refers to computer systems that can have a direct life-threatening impact.

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Safety-Critical Software (Continued)

- Examples of safety-critical software systems and applications typically include:
 - aircraft and air traffic control systems
 - mass transportation systems
 - nuclear reactors missile systems
 - medical treatment systems.

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Additional Safety-Critical Systems

- Bowyer (2001) extends the range of safety-critical applications to include software used in the:
 - design of bridges and buildings;
 - election of water disposal sites;
 - development of analytical models for medical treatment.

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Professional Codes of Ethics

- Many professions have established professional societies, which, in turn, have adopted codes of conduct.
- The medical profession established the AMA (American Medical Association), while the legal profession established the ABA (American Bar Association).
- Both associations have formal codes of ethics/conduct for their members.

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Professional Codes for Computer/IT Societies

- The computing/IT profession also has professional societies, which include:
 - The Association for Computing (ACM);
 - The Australian Computer Society (ACS);
 - The British Computer Society;
 - The Institute for Electrical and Electronics Engineers (IEEE);
 - IEEE Computer Society (IEEE-CS).
 - International Information System Security Certification Consortium

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Purpose of Professional Codes

- Professional codes of ethics are often designed to motivate members of an association to behave in certain ways.
- Four primary functions of codes are to:
 - 1) inspire,
 - 2) guide,
 - 3) educate,
 - 4) discipline the members.

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Criticisms of Ethical Codes

- Ladd (1995) argues that ethical codes rest on a series of "confusions" that are both "intellectual and moral."
- His argument can be analyzed in terms of three main criticisms of codes:
 - 1) ethics is basically an "open-ended, reflective, and critical intellectual activity" (that cannot be simply codified);
 - 2) specific codes of ethics introduce confusions with respect to *micro-ethics* vs. *macro-ethics* (within a profession);
 - 3) because codes can have a disciplinary function, they become more like legal requirements than ethical rules.

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In Defense of Professional Codes

- Gotterbarn argues that we need to distinguish among three aspects of professional codes, because they can function as:
 - **codes of ethics;**
 - **codes of conduct;**
 - **codes of practice.**

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In Defense of Professional Codes (Continued)

- **Codes of ethics** are "aspirational," because they often serve as mission statements for the profession and thus can provide vision and objectives.
- **Codes of conduct** are oriented more toward the professional and the professional's attitude and behavior.
- **Codes of practice** relate to operational activities within a profession.

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Table 4-1: Some Strengths and Weaknesses of Professional Codes

Strengths	Weaknesses
Codes inspire the members of a profession to behave ethically.	Directives included in many codes tend to be too general and too vague.
Codes guide the members of a profession in ethical choices.	Codes are not always helpful when two or more directives conflict.
Codes educate the members of a profession about their professional obligations.	A professional code's directives are never complete or exhaustive.
Codes discipline members when they violate one or more of the code's directives.	Codes are ineffective (have no "teeth") in disciplinary matters.
Codes "sensitize" members of a profession to ethical issues and alert them to ethical aspects they otherwise might overlook.	Directives in codes are sometimes inconsistent with one another.
Codes inform the public about the nature and roles of the profession.	Codes do not help us distinguish between micro-ethics issues and macro-ethics issues.
Codes enhance the profession in the eyes of the public.	Codes can be self-serving for the profession.

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