



University of
Nottingham

UK | CHINA | MALAYSIA

A large, high-resolution image of the Earth as seen from space, showing the Western Hemisphere with North and South America. The Earth is framed by a thin white rectangular border.

COMP 3056 Professional Ethics in Computing

Professionalism and professional
responsibilities



What is a profession?

Examples, characteristics?

Examples of professions

medical doctors,

lawyers,

engineers,

teachers,

nurses,

accountants,

architects,

and many others.

Characteristics of professions

Specialized Knowledge

Formal Education and Training

Ethical Standards

Certification or Licensing

Professional Associations

Accountability

Continuing Education

What are professional ethics?

A definition of professional ethics

- “A set of morally permissible standards of a group that each member of the group (at his/her rational best) wants every other member to follow even if their doing so would mean that he/she must do the same.” Michael Davis, *Profession, Code and Ethics*. Burlington: Ashgate, 2001.

What does “a set of moral permissible standards of a group” mean?



Professional ethics - A **subset** of moral concerns



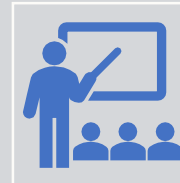
Morality is much broader in scope than professional ethics



Morality encompasses societal reasoning and norms of conduct as to what constitutes right and wrong



Professional ethics govern professional practice with respect to particular moral issues or challenges, e.g., algorithmic decisions



As the broader social-moral order evolves so do professional ethics (ethics a matter of life-long learning)



Can you think of an example of something that would be permissible in general but not in professional ethics?

General ethics v professional ethics



It is against ethical standards in the USA for doctors to advertise prices for their services, but there is nothing inherently immoral about advertising prices for services



This means that an action may be morally permissible but contravene professional standards



Professional ethics requires that one behaves consistently with the standards of the group

Professional standards
- Govern professional
practice

Professional standards consist of:

- Principles
- Rules of conduct
- Embodied in codes of conduct or codes of ethics



But what constitutes ‘professional activity’?

- Provides an important service to society
- Requires extensive training
- Involves significant intellectual effort
- Organisation of members
- Individual autonomy
- Certification or licensing

Michael Bayles, *Professional Ethics*.
Belmont: Wadsworth Publishing
Company, 1984.



University of
Nottingham

UK | CHINA | MALAYSIA

Is computing a profession?

Will you be professionals?

Is computing a profession?

- Lack of accreditation, certification or licensing
 - No single organisation of members for the computing profession
- But:
 - The harms enabled by computing mean that people doing computing as a job of work still have important ethical obligations
 - “Programmers need ethics when designing the technologies that influence people’s lives.” President of the Association of Computing Machinery



Disadvantages of professions

Economic
Inequality

Access to
Services

Professional
Monopolies

Bureaucracy
and Red Tape

Resistance to
Change

Stress on
Public
Resources

Overemphasis
on
Credentialing

Lack of
Diversity

Professional
Ego and
Entitlement



University of
Nottingham

UK | CHINA | MALAYSIA

Computing codes of ethics

Three codes of ethics: BCS, ACM, IEEE. What do they have in common?



Codes of ethics - 6 key areas of professional responsibility

- General expectations of professional conduct
 - Exercise due diligence in professional work
 - Avoid discrimination (in the workplace and systems design and use)
 - Respect intellectual and intangible property
 - Always act in the public good
 - Whistleblowing
-



General expectations

You are generally expected to **uphold the profession**

- Unethical conduct includes:

Exaggerating skills and competences

Relevant codes: BCS *professional competence and integrity clause b*); IEEE 7.8.6; ACM 1.3 & 2.6

Withholding or misrepresenting technical information

Relevant codes: BCS *duty to relevant authority e*); IEEE 7.8.3; ACM 1.3

Conflicts of interest

Relevant codes: BCS *duty to relevant authority b*); IEEE 7.8.2; ACM 1.3

Divulging confidential information

Relevant codes: BCS *duty to relevant authority d*); ACM 1.7

Dishonest conduct

Relevant codes: BCS *professional competence and integrity clause g*); IEEE 7.8.4, ACM 1.3 & 2.2



Due diligence

It is imperative that you **take reasonable care** in conducting your professional work

- This means:

You are competent to do the work required of you and your team

Relevant codes: BCS professional competence and integrity clause a) and c); BCS duty to relevant authority clause c); IEEE 7.8.6; ACM 1.3, 2.2, 2.6

Appropriate steps are taken to avoid harm

Relevant codes: BCS professional competence and integrity clause f); IEEE 7.8.1 & 7.8.9 ; ACM 1.2, 2.5, 2.9

e.g., A comedy of errors: the London Ambulance Service Computer Aided Despatch system (LASCAD) <http://doi.org/10.1109/IWSSD.1996.501141>



Due diligence continued

Taking reasonable care

- Also means:

Systems are robust, secure and respect privacy

Relevant codes: BCS *public interest clause a)*; ACM 1.6 & 2.9

Rules are followed

Relevant codes: BCS *duty to relevant authority clause a)*; ACM 2.3

Special care is taken when modifying or retiring systems or systems are integrated in societal infrastructure

Relevant codes: ACM 3.6 & 3.7



Avoid discrimination

In workplace or design and use of systems

- A specific form of harm

Relevant codes: BCS *public interest clause c*); IEEE 7.8.8; ACM 1.4

Based on personal characteristics

Harassment, abuse, oppression

Examples of discriminatory systems



Respect the work of others

Two key aspects

- Do no harm

Relevant codes: BCS *professional competence and integrity clause f*); IEEE 7.8.9; ACM 2.8

Do not hack

Unless public good requires it or you are authorised to do so

e.g., <https://www.hackerone.com/for-hackers/start-hacking>

- Respect intellectual property rights (IPR)

Relevant codes: BCS *public interest clause b*); ACM 1.5

See the Intellectual Property Helpdesk report for an overview of IPR

<https://intellectual-property-helpdesk.ec.europa.eu/system/files/2021-01/EU-IPR-Guide-IP-in-Europe-EN.pdf>

Limits of protecting your own work (e.g., Sony rootkit)



Always act in the public good

Common to BCS, IEEE and ACM codes

- Central to professional conduct

Relevant codes: BCS *public interest clause a)*; IEEE 7.8.1; ACM 3.1

“Computing professionals’ actions change the world. To act responsibly, they should reflect upon the wider impacts of their work, consistently supporting the public good.” ACM Code of Ethics



Whistleblowing

The final recourse

- What about your employer's conduct?
 - Ethical codes are all about your conduct.
 - Incumbent on you to challenge unethical conduct.
 - Negligence by inaction not ethical.
 - Whistleblowing, legislation and public interest.

Relevant codes: BCS whistleblowing policy; IEEE 9.10; ACM 1.2, 1.7, 2.3

<https://www.bcs.org/contact-us/whistleblowing-policy>



Workshop w/c 25th October

- Apply BCS Code of Conduct to scenarios.

