

# Ethics in Engineering

The Royal Academy of Engineering and  
ECUK's Statement of Ethical Principles  
Its purpose and meaning for engineering

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# Early Rules of Behaviour

- Adam and Eve and the fruit of the tree of the knowledge of good and evil
- Moses and the ten commandments
- The Laws of Hammurabi

# The Laws of Hammurabi

- If a builder build a house for some one, and does not construct it properly, and the house which he built fall in and kill its owner, then that builder shall be put to death.
- If it kill the son of the owner the son of that builder shall be put to death.
- If it kill a slave of the owner, then he shall pay slave for slave to the owner of the house.

# Hippocratic Oath

**I swear to fulfil, to the best of my ability and judgment, this covenant:**

- I will respect the hard-won scientific gains of those physicians in whose steps I walk, and gladly share such knowledge as is mine with those who are to follow.
- I will apply, for the benefit of the sick, all measures [that] are required, avoiding those twin traps of over treatment and therapeutic nihilism.
- I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug.

# Hippocratic Oath

- I will not be ashamed to say "I know not," nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.
- I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know. Most especially must I tread with care in matters of life and death. If it is given me to save a life, all thanks. But it may also be within my power to take a life; this awesome responsibility must be faced with great humbleness and awareness of my own frailty. Above all, I must not play at God.
- I will remember that I do not treat a fever chart, a cancerous growth, but a sick human being, whose illness may affect the person's family and economic stability. My responsibility includes these related problems, if I am to care adequately for the sick.

# Hippocratic Oath

- I will prevent disease whenever I can, for prevention is preferable to cure.
- I will remember that I remain a member of society, with special obligations to all my fellow human beings, those sound of mind and body as well as the infirm.

**If I do not violate this oath, may I enjoy life and art, respected while I live and remembered with affection thereafter. May I always act so as to preserve the finest traditions of my calling and may I long experience the joy of healing those who seek my help.**

# COMEST

- In November 1997 UNESCO approved the creation of the World Commission on the **Ethics of Scientific Knowledge and Technology (COMEST)**.

# House of Commons Science and Technology Committee 2003

- Urged British learned societies and funding councils to “consider introducing an overt ethical code of conduct as a prerequisite of membership and to back this up with programmes to heighten awareness of the issues involved.”
- “if the scientific community does not take stronger action to regulate itself then it risks having ill-judged restrictions placed on it by politicians.”

# “Rigour, respect and responsibility: a universal ethical code for scientists”

- **Rigour, honesty and integrity**
  - Act with skill and care in all scientific work. Maintain up to date skills and assist their development in others
  - Take steps to prevent corrupt practices and professional misconduct. Declare conflicts of interest
  - Be alert to the ways in which research derives from and affects the work of other people, and respect the rights and reputations of others
- **Respect for life, the law and the public good**
  - Ensure that your work is lawful and justified
  - Minimise and justify any adverse effect your work may have on people, animals and the natural environment
- **Responsible communication: listening and informing**
  - Seek to discuss the issues that science raises for society. Listen to the aspirations and concerns of others
  - Do not knowingly mislead, or allow others to be misled, about scientific matters. Present and review scientific evidence, theory or interpretation honestly and accurately

UK Standard for Professional Engineering Competence

# Chartered Engineer and Incorporated Engineer Standard

regulating the engineering profession

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# Guidelines for Institution Codes of Conduct

- 1 Prevent avoidable danger to health or safety.
- 2 Prevent avoidable adverse impact on the environment.
- 3
  - a) Maintain their competence.
  - b) Undertake only professional tasks for which they are competent.
  - c) Disclose relevant limitations of competence.
- 4
  - a) Accept appropriate responsibility for work carried out under their supervision.
  - b) Treat all persons fairly, without bias, and with respect.
  - c) Encourage others to advance their learning and competence.

# Guidelines for Institution Codes of Conduct

- 5** a) Avoid where possible real or perceived conflict of interest.  
b) Advise affected parties when such conflicts arise.
- 6** Observe the proper duties of confidentiality owed to appropriate parties.
- 7** Reject bribery.
- 8** Assess relevant risks and liability, and if appropriate hold professional indemnity insurance.
- 9** Notify the institution if convicted of a criminal offence or upon becoming bankrupt or disqualified as a Company Director.
- 10** Notify the institution of any significant violation of the institution's Code of Conduct by another member.

# Statement of Ethical Principles

## **Accuracy and Rigour:**

- Professional Engineers have a duty to ensure that they acquire and use wisely and faithfully the knowledge that is relevant to the engineering skills needed in their work in the service of others.

## **Honesty and Integrity**

- Professional Engineers should adopt the highest standards of professional conduct, openness, fairness and honesty.

# Statement of Ethical Principles

## **Respect for Life, Law and the Public Good**

- Professional Engineers should give due weight to all relevant law, facts and published guidance, and the wider public interest.

## **Responsible Leadership: Listening and Informing**

- Professional Engineers should aspire to high standards of leadership in the exploitation and management of technology. They hold a privileged and trusted position in society, and are expected to demonstrate that they are seeking to serve wider society and to be sensitive to public concerns.

# Universal Code of Conduct

- **Statement of Ethical Principles for Engineers**

**Guidance Notes**

# **Guidance Notes**

## **Accuracy and Rigour**

### **1.1 Act with care and competence in all matters relating to your duties.**

#### **All Members should:**

- continuously throughout their careers take all reasonable steps to maintain and develop their professional knowledge and skills relevant to their field of professional activity including new or changed statutory provisions.
- Develop and enhance their technical and commercial leadership and management skills
- have a duty to take all appropriate measures to assess and limit risk in all aspects of their work for others.