

Engineering Ethics

(Hum 4441)

Lecture 7

National Society of Professional Engineers (NSPE)

□ Code of Ethics for Engineers

- **Preamble:** Engineering is an important and learned profession. As members of this profession, engineers are **expected to exhibit the highest standards of honesty and integrity.** Engineering has a direct and **vital impact on the quality of life for all people.** Accordingly, the services provided by **engineers require honesty, impartiality, fairness, and equity** and must be dedicated to the **protection of the public health, safety, and welfare.** Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct.

Fundamental Cannons

1. Hold paramount the **safety, health, and welfare of the public.**
2. Perform services only in areas of their competence.
3. Issue public statements only in an objective and truthful manner.
4. Act for each employer or client as faithful agents or trustees.
5. Avoid deceptive acts.
6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the honor, reputation, and usefulness of the profession.

“Hold paramount the safety, health, and welfare of the public”

- How to assess impact on human safety, health, and “welfare”?
- Amartya Sen uses a “capabilities approach:”
 - Being able to live a long life in health
 - Being able to get an education, being able to work
 - Being able to have freedom of expression and association
 - Others...
- Lack of welfare = capability deprivation

IEEE Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

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1. To accept responsibility in making engineering decisions **consistent** with the safety, health, and welfare of the public, and to **disclose** promptly factors that might endanger the public or the environment;

Concern: “Disclose” phrase nice, but “**consistent**” vs. ABET (NSPE), “engineers shall hold **paramount** the safety, health, and welfare”... is a weaker statement? What does “consistent” even mean?

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2. To avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;

Example: Ownership in a supplier's company

3. To be honest and realistic in stating claims or estimates based on available data;

Examples: When dishonest claims give you an advantage over a competitor, or when unrealistic claims endanger individuals

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4. To **reject bribery** in all its forms;



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Example: Supplier gifts, when are they big enough to constitute a bribe?

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5. To improve the understanding of technology, its appropriate application, and potential consequences;

Examples: Importance of teaching youth about engineering, importance of publishing engineering results in IEEE publications

6. To maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;

Example: A coop student who took on task that affected safety on a manufacturing line

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7. To seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;

Note: Important to keep an emotional separation to your work so that when it is criticized you do not take it personally

8. To treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;

Note: There are certainly still problems in industry with these issues.

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9. To avoid injuring others, their property, reputation, or employment by false or malicious action;

Example: Speaking poorly of someone's project results when they do not deserve it

10. To assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

Example: If you are a manager, giving them opportunities for professional development (e.g., taking courses or attending a conference)