LECTURE ELEVEN: *Ethics*

Remark: In this lecture we emphasize the importance of having a code of ethics – in particular, for engineers like us, and we review the IEEE code of ethics as a model.

Introduction

Throughout history, great emphases have been placed upon a higher sense of duty and public service. Ethics and civic responsibilities as carried out by citizens are the cornerstone of any civilized society. Clearly, as the rest of the society becomes more aware of the impact of engineering and technology in their daily lives, they have more respect and appreciation for engineers than before. In many foreign countries engineers are on top of the list for professionals and are respected greatly.

In this country however, some people do not know much about the impacts of engineers on their lives, and they do not know that engineers have explicit codes of ethics to adhere to, and the violation of these rules may grounds for disciplinary action. Thus, we propose to post the following IEEE code of ethics in your office, in order to affirm your high standard. Similarly, for other engineering societies there are codes of ethics which should be displayed.

In this lecture we review the resolution of the IEEE Ethics Committee convened in 1990 and approved by the IEEE Board of Directors the same year. For more information please consult the IEEE Ethics Committee web site at http://www.ieee.org/committee.ethics.

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 communities we serve, do hereby commit ourselves to conduct of the highest ethical and professional manner and agree:

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

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

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

(4) To reject bribery in all its forms.

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

(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.

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

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

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

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

The Kernel of the Above Code

Reviewing the preceding summary reveals that we may break this list into the following categories in conjunction with each practicing engineer in any enterprise. These categories and the corresponding relationships with others are summarized in the following matrix.

Issue below versus:	Public	Clients	Colleagues
Practicing Engineer Issue above versus itself: Self-improvement Items (5), (6), and (7)	Safety (1) Bribery (4) Fairness (8) Respect (9)	Conflict of interest (2) Honesty (3) Disclosure (6)	Professional Development (10)

Discussion

In this lecture we discuss the implications of the preceding code and give examples to elucidate the subtleties of these issues. Each course instructor may come up with similar examples that are suitable for the corresponding program. Perhaps one should also be more explicit about the ethical obligations toward the profession as well.

Final Thought

We need to elaborate our understanding of these matters as pertains to this course and our overall training as engineers in order to have a productive career.

Closure

The class ends with the announcement regarding our future and the pending plans for the course.

Essential thoughts in this lecture

Issues.	Applicability to your project, if any.
IEEE Code of Ethics. Or, similarly the ASME or any other engineering society's codes of ethics.	Obvious! However, you may claim that your project has, for instance, no harmful environmental effect, then explain why? In other words, the burden of proof to uphold the above code is upon you, and you must make the case for yourself.
Do you want to add anything else?	Please elaborate.