





Member Code of Conduct

Engineering Ethics

EECE404 Senior Design II
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Howard University



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www.mwftr.com/SD.html

Professionalism and Ethics

- **Professional**: A person who engages in an activity that requires a specialized and comprehensive education and is motivated by a strong desire to serve humanity
- **Work of engineers**: affects the day-to-day life of all humans
- Development of a **professional framework of mind**: begins with engineering education
- Engineering societies have developed a **code of ethics** that must be followed by its member engineers

Code of Ethics

- Common components of code of ethics
 - Seeking **enhancement of human welfare** using their knowledge and skill
 - **Being honest and impartial**, and serving with fidelity the public, their employers, and clients
 - Striving to increase the **competence and prestige** of the engineering profession

Code of Ethics - Example



- NSPE code of ethics (Structure)
 - **Fundamentals of Canons**: Main issues that govern a professional engineering from an ethical and professional standing (6 fundamentals)
 - **Rules of Practice**: Details of each fundamental
 - **Professional Obligations**: Focused on professional conduct from a legal, ethical, and societal viewpoint

NSPE Code of Ethics



- Fundamentals of Canons

While fulfilling their professional duties, engineers shall

1. **Hold paramount the safety, health, and welfare of the ()**
2. Perform services only in the areas of their (competence)
3. Issue public statements only in an (objective) and truthful manner
4. **Act for each employer or client as () 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

NSPE Code of Ethics



- Rules of Practice (for 6 fundamentals - partial list)
 1. Hold paramount the safety, health, and welfare of the **public**
 - a. If engineers' judgment is overruled under circumstances that endanger life or property, they shall () their employer or client and such other () as may be appropriate
 - b. Engineers having knowledge of any alleged violation of this Code shall () thereon to appropriate professional bodies and, when relevant, also to public authorities, and () with the proper authorities in furnishing such information or assistance.

NSPE Code of Ethics



- Rules of Practice (partial list)

4. Act for each employer or client as **faithful** agents or trustees

- a. Engineers shall disclose all known or potential () of interest that could influence or appear to influence their judgment or the quality of their services
- b. Engineers shall not solicit or () financial or other valuable consideration from outside agents in connection with the work for which they are responsible.

NSPE Code of Ethics



- Professional Obligations (partial list)

- Engineers shall be guided in all their relations by the highest standards of honesty and ()
- Engineers shall acknowledge their errors and shall not distort or () the facts
- Engineers shall at all times strive to serve () interest
- Engineers shall not disclose, without consent, () information concerning the business affairs or technical processes of any present or former client, employer, or public body on which they serve
- Engineers shall not be influenced in their professional duties by () interests
- Engineers who believe others are guilty of unethical or illegal practice shall () such information to the proper authority for action.

Ethics LAB – Team Activity

- IV (Zilch Materials) & Discussions (Questions)
- Handout

Technical Essay on Ethics – Individual Activity

- Consequences of unethical behavior (Essay)

- Subject: Takata Air Bag Recall



- Relevant sources/resources

- <https://www.bloomberg.com/news/features/2016-06-02/sixty-million-car-bombs-inside-takata-s-air-bag-crisis>
- <http://www.autonews.com/article/20160718/OEM11/160719854/honda-audit-finds-takata-engineers-manipulated-airbag-test-data>
- <https://www.nytimes.com/2014/11/07/business/airbag-maker-takata-is-said-to-have-conducted-secret-tests.html>
- <https://insight.ieeeusa.org/articles/backscatter-ethics-and-airbags/>

- Handout

Technical Essay on Ethics – Individual Activity

- Consequences of unethical behavior (Essay)
 - Subject: Takata Air Bag Recall
- Essay answers the following questions (and other relevant ones – extra)
 1. What and when did this scandal happened?
 2. What was root cause of the scandal?
 3. What areas of engineering ethics were violated?
 4. What's the consequence of the unethical behavior?
 5. How would you do if you're working for the company as an engineer?

Technical Essay on Ethics – Individual Activity

- Consequences of unethical behavior (Essay)
- Importance of the first paragraph (50%)
- Importance of the expansion and details in the main body (50%)
- Similarity Check (subtraction)
- Due: (T) Mar 3, 2020
 - Submission: *Ethics_Essay_LastName.docx* (Word file)
& Hardcopy