NATIONAL SOCIETY OF BLACK ENGINEERS

Member Code of Conduct

Engineering Ethics

EECE404 Senior Design II
Department of Electrical and Computer Engineering
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

Professionalism and 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

Professionalism and Ethics

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- NSPE code of ethics
  - Sec 1 (the Fundamental Canons): Main issues that govern a professional engineering from an ethical and professional standing
  - Sec 2 (Rules of Practice): First part of the fundamentals of canons in detail
  - Sec 3 (Professional Obligations): The last point of the fundamentals of canons, focused on professional conduct from a legal, ethical, and societal viewpoint

NSPE Code of Ethics

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- 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 ( )
  3. Issue public statements only in an ( ) and truthful manner
  4. Act for each employer or client as ( ) agents or trustees
  5. Avoid ( ) acts
  6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the ( ), reputation, and usefulness of the profession

NSPE Code of Ethics

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- Rules of Practice (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 as may be required.
  2. Perform services only in the areas of their **competence**
  3. Issue public statements only in an **objective** and truthful manner
     a. Engineers shall issue no statements, criticism, or arguments on technical matters that are inspired or ( ) for by interested parties, unless they have prefaced their comments by ( ) identifying the interested parties on whose behalf they are speaking, and by revealing the existence of any ( ) the engineers may have in the matters.

NSPE Code of Ethics

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- 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, directly or indirectly, from outside agents in connection with the work for which they are responsible.
5. Avoid **deceptive** acts
   a. Engineers shall not offer, give, solicit, or receive, either directly or indirectly, any contribution to influence the award of a contract.

6. Conduct themselves honorably, responsibly, ethically, and lawfully so as to enhance the **honor**, reputation, and usefulness of the profession

NSPE Code of Ethics

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- Professional Obligations(partial list)
  1. Engineers shall be guided in all their relations by the highest standards of honesty and ( )
     a. Engineers shall acknowledge their errors and shall not distort or ( ) the facts
  2. Engineers shall at all times strive to serve ( ) interest
  3. Engineers shall avoid all conduct or practice that deceives the ( )
  4. 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
  5. Engineers shall not be influenced in their professional duties by ( ) interests

NSPE Code of Ethics

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- Professional Obligations(partial list)

  6. Engineers shall not attempt to obtain employment or advancement or professional engagements by untruthfully criticizing other engineers, or by other improper questionable methods

  7. Engineers shall not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practice, or employment of other engineers. Engineers who believe others are guilty of unethical or illegal practice shall ( ) such information to the proper authority for action

  8. Engineers shall accept personal ( ) for their professional activities, provided, however, that engineers may seek ( ) for services arising out of their practice for other than gross negligence, where the engineer's interests cannot otherwise be protected.

  9 Engineers shall give ( ) for engineering work to those to whom credit is due and will recognize the proprietary interests of others

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/

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  - 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/

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: March 6, 2018
  - Submission: LastName.docx (Word file) & Hardcopy