

ENGR 1050 - Ethics Project

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You are known for always doing the right thing, so a friend has confided in you a personal situation they are going through. As you learn of the facts you quickly realize that this may take more than one person's perspective. You are aware that often the lines between ethical and unethical behavior can be blurry given the complexities of situations encountered in real life. Further, you are aware that while some behavior may be legal it may still be unethical. As such, you organize a group of fellow engineers at your company to discuss the situation and be able to provide your friend with some objective advice. Since you are all engineers you believe that the best guidelines to use for this scenario are the Engineering Code of Ethics provided by the National Society of Professional Engineers.

Since your group is distributed in different locations you decide to do this via a virtual meeting (in-person meetings are acceptable). This is no big deal since you know how to organize and run meetings by now.

Instructions:

In this lab you will evaluate a scenario with a team of classmates (this is a team activity). Below are the instructions on what you will need to do to complete this assignment. Everyone in the team must participate and "lead" at least one activity (hint: there are 5 steps below, each member must lead one of these to receive credit). One of you must take the lead and start step 1.

Step 1: Schedule Team meeting using polling tool

- You are free to use any polling tool (e.g., free tool: <https://doodle.com/create>)
- Team must document that everyone in your team was invited to the poll
- The poll must be available to respondents for at least 3 days (72 hrs)

Step 2: Schedule meeting using calendar invite

- Once you have settled on a day / time. Create a calendar invite so that it is on everyone's calendar.
- Add your professor as an attendee to this meeting using a calendar invitation (*i.e., no, you can not just email them and give them the meeting details, it MUST be calendar invitation*).

Step 3: Plan the meeting

- Have an agenda
- Assign someone to take notes

Step 4: Review ethics case during the meeting

- Judge the scenario and answer the question/s using the code of ethics from NSPE
 - <https://www.nspe.org/resources/ethics/code-ethics>
- Create action items for follow up (you MUST have more than one...).

Step 5: Put together the deliverables and submit to moodle.

Step 6: Develop a set of slides to deliver a presentation on your case.

Step 7: Present your case in class as a team.

Deliverables (these are the things you need to):

Upload files to designated moodle assignment. Save all files as: TeamName _Ethicslab_ Deliverable #

Deliverable # 1: Report

In an MS word or PDF document complete the following sections:

1. Names of individuals in the group.
2. Report (see example in Appendix 1 of this document):
 - a. State the facts and questions to be addressed (Copy and Paste the scenario and questions provided in your team’s case)
 - b. References (which sections of the code of ethics apply to your case)
 - c. Discussion (short description of how each section reference above applies to the case)
 - d. Conclusion (answer each question provided in the case).

Deliverable # 2: Appendix (counts as separate assignment grade)

In an MS word or PDF document complete the following sections:

1. Names of individuals in the group.
2. Include a Responsibility Matrix (see example below)

Table 1 Example of Responsibility Matrix

Task	Col. Mustard	Mrs. Peacock	Prof. Plum	Ms. Scarlet
Step 1	R			S
Step 2		R	S	
Step 3			R	
Step 4 (take notes)	R			S
Step 4 (attend)				
Step 4 (contribute)				
Step 5 (draft report)	S			R
Step 5 (upload report)		R	S	
Step 5 (draft appendix)			R	S
Step 5 (upload appendix)				R
Step 6	R	S	S	S
Step 7	R	R	R	R
Other:				

*Key: R – Lead Responsible, S – Supported

3. Polling documentation (from Step 1)
 - a. Screenshot of meeting poll
 - b. Poll started and closing date / time
4. Screenshot of meeting calendar invite (from Step 2)
 - a. Should show all those who were sent the invitation
5. Paste a copy of the agenda (from Step 3)
6. Screenshot of meeting with members present (cameras on or in-person) (from Step 4)

7. Copy of Meeting Minutes
8. List of Action Items (see Teamwork lecture for details)

Deliverable # 3: Presentation and Slides (counts as separate assignment grade)

1. Using the lesson from Mr. Boz Bowles, put together a set of slides and present the case to the class.
2. Basic requirements for slides:
 - a. In MS PowerPoint
 - b. No sentences on slides
 - c. Words or very short bullet points ok
 - d. Pictures ok
3. Basic requirements for presentations:
 - a. All team members must present to receive grade
 - b. May not read notes or slides (i.e., practice at home)

Appendix 1: Example of Report

(Source: <https://www.nspe.org/sites/default/files/resources/MFL-Contest%20Info-2014.pdf>)

Facts: Engineer A, a structural engineer, is retained by the defense attorney for an insurance company to evaluate damages to a structure owned by its insured, Mr. X. Eight months later, and without notice to the insurance company, Engineer A is retained by Mr. X. Engineer A provides a professional opinion completely different than the one provided to the insurance company.

Questions:

1. Was it ethical for Engineer A to agree to be retained by Mr. X?
2. Was it ethical for Engineer A to provide a professional opinion completely different than the one provided to the insurance company?

References:

- Section II.3. - NSPE Code of Ethics: Engineers shall issue public statements only in an objective and truthful manner.
- Section II.4. - NSPE Code of Ethics: Engineers shall act for each employer or client as faithful agents or trustees.
 - Section II.4.a. - NSPE Code of Ethics: Engineers shall disclose all known or potential conflicts of interest that could influence or appear to influence their judgment or the quality of their services.
 - Section II.4.b. - NSPE Code of Ethics: Engineers shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to by all interested parties.
- Section III.1.b. - NSPE Code of Ethics: Engineers shall not promote their own interest at the expense of the dignity and integrity of the profession.
- Section III.4. - NSPE Code of Ethics: Engineers shall not disclose, without consent, confidential information concerning the business affairs or technical processes of any present or former client or employer, or public body on which they serve.
 - Section III.4.a. - NSPE Code of Ethics: Engineers shall not, without the consent of all interested parties, promote or arrange for new employment or practice in connection with a specific project for which the Engineer has gained particular and specialized knowledge.
 - Section III.4.b. - NSPE Code of Ethics: Engineers shall not, without the consent of all interested parties, participate in or represent an adversary interest in connection with a specific project or proceeding in which the Engineer has gained particular specialized knowledge on behalf of a former client or employer.

Discussion:

NSPE Code Section II.3. Engineer A then provided a professional opinion that was completely different than the professional opinion provided to the first party, the insurance company. Without new information, and there is no reason to believe there is any, an engineer cannot issue a contradictory report that is truthful and objective.

NSPE Code Section III.1.b. By accepting a job for both adversary parties, it is clear that Engineer A is more interested in the money than in the integrity of the engineering profession.

NSPE Code Section III.4 (including a & b) Engineer A, while retained by the insurance company, had access to the insurance company's confidential information, company documents and other information.

NSPE Code Section II.4 (including a, b) clearly there may be a conflict of interest or appearance of conflict to interested since Engineer A worked for the Insurance company prior and on the same case.

Conclusions:

1. It was unethical for Engineer A to agree to be retained by Mr. X without securing the permission of the insurance company, which he had not secured under the facts.

2. It was unethical for Engineer A to provide a professional opinion completely different than the one provided to the insurance company, unless additional facts are brought to light

Appendix 2: Ethics Cases (your team letter matches the letter of the case assigned to you)

Source: National Society of Professional Engineers

Case A

Facts:

Engineer A, principal owner of Firm X, is preparing an engineering proposal on a private project for Client M. The project includes preliminary design information and subproposals from other team members, including subconsultant Firm Y. One day before Firm X meets with Client M to make an oral presentation and provide preliminary proposal on the project for Client M, Firm Y informs Engineer A that Firm Y has gained access, through a third party, to a copy of the engineering proposal prepared and presented by Firm Z to Client M for the same project the prior day. Engineer A and Firm X will be making the oral presentation and proposal to Client M on the following Day.

Question:

1. What are Engineer A's ethical obligations under the circumstances?

Case B

Facts:

A state department of transportation is seeking a design-build contractor to prequalify for a specialized engineering construction project and has issued a request for proposals. Engineer A possessed unique expertise in this type of specialized engineering construction and has been contacted by three competing design-build contractors for the project, Contractor X, Contractor Y and Contractor Z, each of which will prepare a proposal for consideration by the state department of transportation.

Question:

1. Would it be ethical for Engineer A to participate with multiple design-build contractors in response to the department of transportation request for proposal?

Case C

Facts:

Client hires Engineer A to design a particular project. Engineer A develops what he believes to be the best design and meets with the client to discuss the design. After discussing the design plans and specifications, the client and Engineer A are involved in a dispute concerning the ultimate success of the project. The client believes that Engineer A's design is too large and complex and seeks a simpler solution to the project. Engineer A believes a simpler solution will not achieve the result and could endanger the public. The client demands that Engineer A deliver over to him the drawings so that he can present them to Engineer B to assign Engineer B in completing the project to his liking. The client is willing to pay for the drawings, plans, specifications, and preparation but will not pay until Engineer A delivers over the drawings. Engineer A refuses to deliver the drawings.

Question:

1. Would it be ethical for Engineer A to deliver over the plans and specifications to the client?

Case D

Facts:

Engineer A is employed by a computer manufacturing company. She was responsible for the design of a certain computer equipment several years ago. She signed off on the drawings for the equipment at the time. Although Engineer A's design was properly prepared, the equipment manufacturing process was faulty and as a result, the equipment became too costly and suffered mechanical breakdown. The manufacturing department made a number of recommended modifications to her design that it believed would help reduce costs in the manufacturing process. Engineer A's analysis of the manufacturing division's recommendations revealed that they would reduce the reliability of the product and greatly increase the downstream costs to the company through warranty claims. Engineer A's supervisor, who is not an engineer, asks Engineer A to sign off on the changes for the new computer equipment. There is nothing to suggest that the equipment would pose a danger to the public health and safety. Engineer A raises her concerns to her supervisor but nevertheless agrees to sign off on the changes without further protest.

Question:

1. Did Engineer A fulfill her ethical obligation by signing off on the changes without further action?

Case E

Facts:

Engineer A works for R&D International, a large multinational company. Engineer A is the only PE in the division and leads a team of technical personnel, including unlicensed engineers on various projects. One of the team members, Engineer B, an unlicensed engineer, has a history of poor performance, including a number of safety related violations within the workplace. A series of human resources performance improvement counseling sessions were held with Engineer B in an effort to improve Engineer B's performance. When the personnel file memos indicate no improvement in Engineer B's performance, Engineer A contacts the HR department director and recommends that, since safety violations are involved, Engineer B should be immediately terminated. After considering the recommendation, the HR Director decided that it would not be appropriate to terminate Engineer B at this time.

Question:

1. What are Engineer A's obligations under the circumstances?

Case F

Facts:

Engineer A is an employee of Firm X. Engineer A prepares drawings, plans, reports and specifications for Firm X's clients. Engineer A maintains copies of drawings plans and specifications he has signed and sealed for his personal records in the event that Engineer A needs to refer to them at some point in the future (e.g., matters involving personal liability or professional liability). Thereafter, Engineer A leaves Firm X. Firm X learns of Engineer A's copies and demands that Engineer A return the copies to Firm X, claiming the drawings, plans, reports, and specifications are the property of Firm X. Engineer A refuses, claiming that he has a right to copies of his own work as illustrations of his work and in the event of future litigation or related matters.

Question:

1. Was it ethical for Engineer A to refuse to return copies of the work to Firm X?

Case G

Facts:

Engineer A works for an engineering firm, WXY Engineering, that performs professional engineering services for both private and governmental clients. Engineer A is working on a project for a private company, Company X. The engineering fees on the project have exceeded the estimated budget amount agreed to between the engineering firm and Company X. The engineering fees on the project have exceeded the estimated budget amount agreed to between the engineering firm and Company X. Engineer B, Engineer A's direct supervisor at WXY Engineering, advises Engineer A to change his future time on the project for Company X to the budget of Company Y, which was well under budget. Although the engineering services for Company X and Company Y are not related, neither Company X nor Company Y are governmental agencies, the budget s involved do not related to any public funds, and it is not anticipated that the additional charges will cause the WXY Engineering to exceed its budget with Company Y.

Questions:

1. Would it be ethical for Engineer A to charge his time for Company X to the budget of Company Y?
2. Was it ethical for Engineer B to direct Engineer A to charge Engineer A's time to Company X to the budget of Company Y?

Case H

Engineer A, a licensed professional engineer, is employed by engineering firm XYZ Engineering. The firm was hired by a property insurance company to inspect and conduct structural assessments of residential properties damaged by a recent hurricane and to determine whether the damage was hurricane-related (a claim covered by insurance) or due to a pre-existing structural condition (a claim not covered by insurance). Engineer A visits the residential properties and, following his inspection and structural assessment prepares a series of reports for XYZ Engineering. The majority indicate that the damage was in fact hurricane-related. Engineer A then signs and seals the reports. Supervisor B, one of the principles of XYZ Engineering and not a professional engineer, reviews the reports and asks Engineer A to make changes to some of the reports to indicate that the residential property damage was not hurricane-related but due to a pre-existing structural condition. Finding no factual or technical basis for the requested change, Engineer A refuses to make the changes. Supervisor B takes the reports thereafter sends them to the client, the property insurance company. Later Engineer A hears from residential property owners whose homes he had inspected and noted in his signed and sealed report to be damaged by hurricanes. Those residential property owners advise Engineer A that their property insurance damage claims were denied because the signed and sealed report by Engineer A indicated that the residential property damage was due to a pre-existing structural condition. There is no supplemental technical or other information to indicate any basis for the apparent alteration of Engineer A's report.

Question:

1. What are Engineer A's obligations under the circumstances?

Case I

Facts:

Engineer A, a professional engineer, works as the director of the local government building department. Engineer A also has a part-time sole engineering practice and prepares a set of structural drawings for Client X. The drawings must be approved by the local building department. Engineer A does not participate in the review or approval of the drawings but Engineer A's assistant, Engineer B, a professional engineer, reviews and approves the engineering drawings prepared by Engineer A.

Questions:

1. Would it be ethical for Engineer A to provide the services in the manner indicated?
2. Would it be ethical for Engineer B to review and approve the engineer drawings prepared by Engineer A?

Case J

Facts:

Engineer A, an unemployed graduate engineer who recently received certification as an Engineer-Intern, is seeking employment with a consulting firm. Engineer Graduate A is contacted by Engineer B, a principal with a large consulting firm. After a long discussion including such matters as working conditions, salary, benefits, etc. Engineer B offers and Engineer A accepts a position with the firm. Engineer A cancels several additional job interviews with other individuals.

Two days later, in a meeting with other principals of the firm, it was agreed by the firm's management, including Engineer B, that the vacancy should be filled by an engineering technician. Not until a week and a half later did Engineer B contact Engineer A and rescind the firm's offer.

Question:

1. Did the actions of Engineer B in his relations with Engineer A constitute unethical conduct?

Case K

Facts:

Engineer A, a legally recognized engineer and resident in his home country outside of the US, and an NSPE International Member, provides consulting, engineering, and construction contracting services to foreign nationals and local governments. Under the laws of Engineer A's home country, it is not illegal for individuals and companies to provide cash payments or in-kind property to public officials in foreign countries in order to obtain and retain business from those public officials. In fact, the laws of Engineer A's home country permit companies to claim a business tax deduction for cash payments or in-kind property to foreign officials in order to obtain or retain work.

Question:

Would it be ethical for Engineer A, an NSPE International Member governed by the laws of his country and the local practices, to provide cash payments or in-kind property to public officials in foreign countries in order to obtain and retain business from those public officials?