A CURRENT, SIGNIFICANT ENGINEERING TOPIC: ETHICAL SCENARIO, ETHICAL SUPPORT
Minimum word count: 2300 words

ASSIGNMENT OVERVIEW

For Assignment #4, you will read
- the brief article “Ethics in Engineering” by Bruce Butterman found on the ASME.org site https://www.asme.org/engineering-topics/articles/engineering-ethics/ethics-in-engineering BEFORE your Writing Instructor’s class visit

For Assignment #4, you will meet all research requirements. The total required number of sources is 9, including
- a required minimum of 2 codes of ethics
- a required minimum of 5 OTHER “library sources” in addition to the 2 codes of ethics
  ⇒ 2 of these 5 sources are articles (or book chapters or other research sources appropriate to a university-level paper)
  ⇒ you will be receiving further information about required and suggested “case study” sources

2 (very important!) “further”/“other” sources: explained in detail in these sections of this assignment:
“CONSIDER/INCORPORATE 2 “FURTHER”/“OTHER” SOURCES and “WHAT OTHER RESOURCES MIGHT YOU TURN TO/USE TO HELP YOU, AS AN ENGINEER, MAKE ETHICAL DECISIONS WHEN FACED WITH THE SCENARIO/ISSUE?”

For Assignment #4, you will continue
- to write from/in your topic area (and, most likely, from your Assg. 2 engineering field)
- you may use/imagine/write about the particular technology you wrote about for Assg. 3 (you do not have to write about this particular technology)

For Assignment #4, you will imagine/write about
- a scenario in which you, as an engineer, are faced with an ethical issue/dilemma (information about and links to examples of engineering ethics cases/scenarios will be provided)

For Assignment #4, you will think and write about
- how the codes of ethics and other “library sources” are or are not useful to you, as an engineer, in the scenario you have created
  ⇒ for example, how are the codes of ethics useful (or not useful) in making a decision regarding the ethical issue in your scenario? What information/analyses from sources other than engineering codes of ethics might be particularly useful to you as you assess and make decisions about the ethical issues in your scenario?

For Assignment #4, you will think and write about
- at least two “further”/“other” sources that you, as an engineer in your scenario, might find useful in addressing the ethical dilemma/issues in your scenario
  ⇒ Note--“further”/“other” sources are explained in these sections of this assignment: “CONSIDER/INCORPORATE 2 “FURTHER”/“OTHER” SOURCES and “WHAT OTHER RESOURCES MIGHT YOU TURN TO/USE TO HELP YOU, AS AN ENGINEER, MAKE ETHICAL DECISIONS WHEN FACED WITH THE SCENARIO/ISSUE?”

- how and why these “further”/“other” sources would be useful to you in making a decision about the ethical issues in your scenario

For Assignment #4, you will make recommendations
- based on your research and writing, regarding potentially useful procedures/resources/actions for other engineers faced with ethical dilemmas/questions
IMAGINE A SCENARIO IN WHICH YOU, AS AN ENGINEER, ARE FACED WITH AN ETHICAL ISSUE/DILEMMA

NOTE: While you may imagine yourself as an engineer working at a particular, real company/organization, because of legal concerns, you CANNOT USE THE NAME OF AN ACTUAL, REAL COMPANY in your scenario for Assg. 4.

Imagine that you are an engineer working for a company, research institution, university or other organization on a project related to the topic area that you wrote about for Assg. 3 (you may use the innovation/technology you wrote about in Assg. 3).

In this scenario, a situation involving ethical questions/issues/decisions arises.

- In your paper, you will clearly describe the scenario in which you, as an engineer, are involved--yes, you will be “inventing” the scenario; the knowledge you have gained from Assignments 1, 2, and 3, and the research you are doing for Assignment 4 will help you construct a thoughtful scenario/situation. In your scenario, you will describe
  - you, as an engineer in the scenario/situation
  - the organizations or types of organizations involved
  - the project and innovation/technology involved
  - the details of the ethical dilemma/issue--what has spurred the ethical dilemma or issues that have arisen in the scenario? (For example: what are you being asked to do that is ethically questionable and who is asking you? And/or, what are you considering doing with the technology that might be ethically questionable? And/or what particular information have you discovered that causes an ethical question or dilemma to arise?)

- Possible situations with ethical dilemmas/issues
  - As an engineer, you are thoughtful and curious. So, as you are working on project X at organization Y, you begin thinking about not only the “pluses,” but also the potential “minuses” of the processes and/or outcomes of the research and development you are currently working on.
  - While working on project Z at organization Q, information and opinions from a group opposed to aspects of your research has caught your attention or been brought to your attention.
  - A colleague or supervisor of yours at company S has suggested some action or endorsement that could be profitable and/or bring you notable professional attention, but the action or endorsement could also be ethically questionable.
  - You are working on project M at organization B. A “shortcut” that would get your product to market sooner or would get your research and results noticed/publicized sooner has occurred to you, but you are thinking about potential problems that could be related to taking this “shortcut.”

FAMILIARIZE YOURSELF WITH ALL SECTIONS/CANONS/DIRECTIVES OF AT LEAST 2 ENGINEERING CODES OF ETHICS
All engineers are ethically and legally required to act in accordance with an overall engineering code of ethics. The standard general code in the United States is the National Society of Professional Engineers (NSPE) Code of Ethics.

Engineers in various fields are also expected to be familiar with and to follow the particular ethics codes of their disciplines, for example, the American Institute of Chemical Engineers Code of Ethics or the Institute of Electrical and Electronics Engineers Computer Software Code of Ethics or the Biomedical Engineering Society’s Code of Ethics. For Assg. 4, you must read through all the canons and accompanying directives for practice of the NSPE Code of Ethics, and you must read through all the canons and accompanying directives of at least one other relevant code. In Assg. 4, you will discuss how particular canons/directives do and/or do not substantially contribute to your process of making a decision regarding your scenario’s ethical dilemma/issue.

- You must be familiar with codes, canons, and directives in order to assess the value/usefulness of the professional codes for you, as the engineer in your scenario
- You must be familiar with codes, canons, and directives in order to assess the value/usefulness of the professional codes to engineers, in general.

Note that it is not necessarily “a given” that the codes of ethics are entirely useful to an engineer considering an ethical issue or decision.

- Are the codes of ethics you are consulting useful to you, the engineer in your scenario, in assessing what is ethical and what is less ethical or what is not at all ethical? Perhaps so, perhaps not entirely so, or perhaps not at all. Your discussion of the codes/canons/directives, will include explanations of whether or not and why or why not you, as the engineer in your scenario, find the relevant canons/directives useful.

- Your discussion of the codes/canons/directives, will include explanations of whether or not and why or why not engineers, in general, might find the relevant canons/directives useful.

CONSULT/INCORPORATE REQUIRED “LIBRARY” SOURCES (+ 2 “FURTHER”/”OTHER” SOURCES—see below)

The minimum required number of “library” sources unique to Assg. 4 is 7:

- a minimum of 2 codes of ethics
  - the NSPE Code and at least 1 code specifically related to your topic area
- a minimum of 2 articles (or other appropriate sources) on ethics
  - Both articles can be specifically related to your topic; or both articles can be more generally about ethics in engineering; or you might consult one specific source and one more general source; or you might even find a source that deals with a different topic, but that you find relevant to your scenario and/or to your understanding of ethics in engineering
- a minimum of 3 sources that provide ethical case studies (information about and links case studies resources will be provided)

CONSIDER/INCORPORATE 2 “FURTHER”/”OTHER” SOURCES

- You must also include/describe/discuss at least 2 “further”/”other” sources that you, as an engineer in your scenario, might find useful in assessing and addressing the ethical dilemma/issues in your scenario
- These 2 “further”/”other” sources may or may not be traditional research/“library” sources; see “WHAT OTHER RESOURCES MIGHT YOU TURN TO,” below

WHAT OTHER RESOURCES MIGHT YOU TURN TO/USE TO HELP YOU, AS AN ENGINEER, MAKE ETHICAL DECISIONS WHEN FACED WITH THE SCENARIO/ISSUE?
You can and should think “outside the box” when considering these further valuable sources. Certainly, there might be articles or book chapters or topic-related web sites (beyond those required) that would provide valuable information and advice regarding your ethical situation. You can definitely include and discuss such sources as the 2 required “further”/“other” sources in your paper. However, you can, instead, consider less “traditional,” but possibly very useful, sources:

→ Where might you tend to go when faced with complicated questions or decisions?
→ What sources that might not immediately seem to have much to do with engineering might you find useful when thinking about important professional/ethical issues and decisions?
→ What people do you seek out for information, perspective, and advice?
→ What kinds of reading (or other media) outside of engineering might you use to better understand and assess what it means to “act ethically”?
→ What activities might you engage in to help you assess and make decisions within a situation involving ethical issues and questions?

Based on your research and writing, discuss how an engineer might most productively, and with maximum professional integrity, make careful assessments and decisions when faced with an ethical dilemma.

All professional engineers should be aware of and make use of tools and processes that that help them define what “ethical actions” are. For Assg. 4, you will have engaged in extensive thinking on how you would approach ethical issues related to a particular topic.

→ You will draw on this thinking and writing to make recommendations about what other engineers might turn to and might do to make ethically sound decisions.