

GGC5006 Ethics in Engineering and Research

Assignment #2

Due Date: 14 Oct 2025

1. Amidst coronavirus spreading across Europe's open borders in 2020 March, Europe Union (EU) Health authorities suggest to close border crossing and to call off soccer games and other major gatherings. However, government across the EU have so far declined to reinstate border checks and take other measures to isolate Italy because the free movement of people should be guaranteed according to Europe's Schengen Treaty. Discuss your opinion on this dilemma, using moral framework and theories learnt in the course. (Hint: discussion without citing theory or framework will not get score.)
2. Apply act-utilitarianism and rule-utilitarianism in resolving the following moral problems. Do the two versions of utilitarianism lead to the same or different answers to the problems?
 - a. George had a bad reaction to an illegal drug he accepted from friends at a party. He calls in sick the day after, and when he returns to work the following day he looks ill. His supervisor asks him why he is not feeling well. Is it morally permissible for George to lie by telling his supervisor that he had a bad reaction to some medicine his doctor prescribed for him?
 - b. Jillian was aware of a recent company memo reminding employees that office supplies were for use at work only. Yet she knew that most of the other engineers in her division thought nothing about occasionally taking home notepads, pens, computer disks, and other office "incidentals." Her eight-year-old daughter had asked her for a company inscribed notebook like the one she saw her carrying. The notebook costs less than \$20, and Jillian recalls that she has probably used that much from her personal stationery supplies during the past year for work purposes. Is it all right for her to take home a ledger for her daughter without asking her supervisor for permission?
3. Introduce a technology in your lab and design a social experiment to improve it. Show how you consider the ethics in your design. (Hint: The answer is based on Week 5 topic and wait for Week 5 lesson)

Choose ONE to answer (either 4 or 5)

4. Cost-benefit analyses typically reflect utilitarian thinking, but too often they are slanted toward what is good for corporations, rather than the good for everyone affected, as utilitarian require. A cost-benefit analysis identifies the good and bad consequences of some action or policy, usually in terms of dollars. It weighs the total positives against the total negatives, and then compares the results to similar tallies of the consequences of alternative actions or rules.

In the Ford Pinto case study, was Ford justified in relying exclusively on a cost-benefit analysis, or were there additional moral considerations that they should have used in deciding whether to improve the safety of the Pinto? What might rights ethicists and duty ethicists, as well as rule utilitarianism, say about the case?

5. Use an example to show how your future job, project in your lab, or engineering study promotes ethics including Right, Duty, Virtue and Egoism.