**Choose two of the following four case studies and answer questions by using Code of Ethics for Professional Engineers as your guideline in addition to your readings and understanding of sustainability.**

**• Use Times New Roman 12 pt.**

**• Single Line Spacing**

**• 1 page or 350 words minimum**

**• 2 pages or 700 words maximum**

**• Show good faith effort**

**• Cite the references you used to support your ideas, and claims. (IEEE style of citation)**

**• Save it as PDF and upload it to BB for HW2. Check the rubric to see how this assignment will be graded. Meet all the requirements above to get a full credit, Failure to meet any of the above criteria will get "zero credit".**

**Case Study 1:** Kara has been working as an environmental engineer at a consulting firm for over twenty-five years. Well-known for settling disputes between her corporate clients before litigation must be pursued, Kara often analyzes technical data, particularly distributions of solid particle pollution, presented by disputing parties to help them reach a compromise on the cost of environmental cleanup. For example, two parties may be separated from one another by a strip of land; however, each party must fiscally contribute in keeping the land free from pollutants. One day, Kara was contacted by a journalist to talk about her experiences at the firm. Kara spoke about how she often encountered cases where companies did not accurately depict levels of solid particle pollution occupying the companies’ respective surroundings. Instead, technical experts, who are mostly engineers, would misrepresent data in order to make it seem that minority parties were responsible for a greater part of the contamination. At the end of the interview, Kara emphasized the necessity of engineers taking ownership and being honest about the presentation of data. **Q: At what point does an engineer’s interpretation of data move from sound technical reasoning to misrepresentation?** How should engineers deal with the pressure to come up with data that may indicate favorable results for their employers? Credit: Jocelyn Tan was a 2014-2015 Hackworth Fellow in Engineering Ethics at the Markkula Center for Applied Ethics at Santa Clara University.

**Case Study2:** Solomon is a principal engineer at an environmental engineering consulting firm. His main role is to advise clients on what type of action to take when they are faced with risks and liabilities while conducting certain projects. In one case, Solomon had a client that wanted to expand their campus until it was within approximately 50 meters of a marshland. After construction of this extension, however, the client must ensure that a proper waste management plan is in place so that contamination will have minimal effect on the surrounding habitat. The client came up with a solution that satisfied, but did not go beyond the bare minimum of state regulations. In other words, although Solomon’s client prioritized a cost-effective plan, the environment would be subject to a certain percentage of contamination that would, within five to ten years, stifle the marshland’s flourishing. **Q:Should Solomon push for a more fiscally demanding, yet sustainable strategy--at the risk of his client backing out of the partnership altogether?** Credit: Jocelyn Tan was a 2014-2015 Hackworth Fellow in Engineering Ethics at the Markkula Center for Applied Ethics at Santa Clara University.

**Case Study 3:** After earning a graduate degree in Engineering Management, Ashton began working for PDRC International. This is a company based in the U.S. which offers engineering, design, and construction services to countries all over the world. Ashton’s work is focused on international development; her first assignment is to lead a team to develop a bid for a highway construction project in East Africa. After the engineering proposal is submitted, Ashton is proud of the work her team has accomplished and promises her manager she will do everything possible to make sure that PDRC receives the contract. PDRC’s bid is well-received, and Ashton and her team are flown to East Africa to finish negotiations. Ashton is thrilled when her company receives the bid; the only stipulation is that they build their construction headquarters in a specific region in the country. Ashton then begins scouting the region for a location to build their headquarters. In order to obtain building permits in the region, Ashton has to negotiate with the local government. As she begins negotiations, she realizes that bribery is both a common and expected practice. If she does not bribe the local officials, she will not be able to build PDRC’s headquarters in that region and consequently will lose the contract; her first managerial project will be a failure. However, it is illegal for a U.S. citizen to bribe a foreign official in order to obtain business; if she is caught for bribery, she could face jail time and her company could be fined millions of dollars. **Q: What should she do? Explain your answer**. Credit: Clare Bartlett was a 2014-2015 Hackworth Fellow in Engineering Ethics at the Markkula Center for Applied Ethics at Santa Clara University.

**Case Study 4:** Jack has been working as a project engineer for a mechanical energy technology firm for a few years now, and has recently been promoted to review projects for in-need communities overseas. He has been put in charge of managing the current company’s charity projects, and determining how to distribute the funding for them. Some of the projects are pretty straightforward in their mission and material requirement, but for one project, Jack isn’t sure whether the company should be funding it. The project’s mission is to provide new solar panels for an East African community but the project data suggests it is more practical to just install better lighting inside the homes. Jack wonders whether to bring up his doubts with his boss. Based on the company’s research on the community, the community desires better lighting system for their homes, and the solar panels would be an expensive and high maintenance project. Not to mention, there was a previous project that (when followed through) resulted in equipment being stolen from the same region to exchange for money. Jack understands their local sponsor would gain a great advantage in featuring solar panels in the community. It would also foster a good business partnership between the two companies. However, Jack feels it is his responsibility to provide the community with a more simple and efficient solution to their problem, without diving into a large project that could possibly lead to negative side effects. **Q: Is Jack’s company wrong to provide technology to the community when they don’t need it?** Credit: Nabilah Deen was a 2014-2015 Hackworth Fellow in Engineering Ethics at the Markkula Center for Applied Ethics at Santa Clara University