Read your engineering discipline’s provided *Code of Ethics* (If unsure, use the *National Society of Professional Engineers: Code of Ethics for Engineers*)and the following ethics case study (page 2). Based on the code of ethics and your own independent analysis and consideration, write a brief (about 500 words) essay describing:

1. Which, if any, of the elements of your professional society’s code of ethics were or may have been violated by the scenario’s principal actors? State each of those rules of practice or professional obligation by number and summary content, and indicate how it applies to the situation at hand.
2. What actions should have been taken? Again, state the elements (by number and summary content) of the code of ethics that command or suggest to take those actions.

Bring a printed copy of your response to the class by <<insert date>>

*Formatting suggestions:* Use one-inch margins all the way around. Use a readable font with serifs like Times Roman or Cambria. The assignment title, your name, and the date should be in 12–14 point, bold, and centered. The body of the text should be in 10–12 point, formatted flush-left/ragged-right, single-spaced, with double-spacing between paragraphs. Don’t indent the first line of paragraphs after double spacing. (This document attempts to follow those guidelines.)

See the *Ethics Assignment Assessment Rubric* on page 3 for information on how the assignment will be assessed.

Project leader Bruce Barton was being sorely pressed to complete the development of several engineering prototypes for a field test of a new appliance model for the XYZ company. One particular plastic component of the new model had given difficulty in laboratory tests as it failed repeatedly before reaching the stress level necessary for successful operation. Bruce had directed a redesign of the component using a tough new engineering plastic recommended by the Research Laboratory's Material Science Department. Stress tests needed to be run on the redesigned component, but Bruce was running short of time and needed to get on with building the prototype.

Bruce sought out the manager of the Material Science Department for help in running stress tests on samples of the new component. With this assistance he could go ahead with prototype building and conduct the tests concurrently. The prototypes, of course, would not be released to field test until the stress tests on the redesigned component proved its design to be satisfactory.

Tom Mason, manager of the Material Science Department, was willing to assist because he knew how critical completion of the development was to XYZ's future appliance plans. However, this was also a busy time for Tom's department. So, Tom suggested to Bruce that he could assign the test work to one of the engineering co-op students. Tom was also coordinator of engineering co-op students, and he liked to use the co-op students in demanding situations to give them practical experience.

Tom assigned the test work to Jack Jacobs, an engineering co-op student from the State University who was completing his second work session at XYZ. Jack was familiar with the test equipment and previously had done similar test work. Jack was a good student and his co-op work had been usually well done. Tom commented to Jack that he would need to work diligently to complete the tests before he had to return to State University.

Jack completed the tests on schedule and turned in a report to Tom indicating the component had successfully passed the stress tests. Upon completion of the test report Jack returned to the university for his next school session. Tom gave Bruce the good news. The prototypes were completed and the field test of these prototypes got underway on schedule.

A few weeks later, Bruce rushed into Tom's office to tell him that most of the prototypes were out of operation because of a catastrophic failure of the component that had been tested in Tom's lab. Bruce wanted to discuss the test immediately with Jack; but since Jack had already returned to the university, he and Tom settled for studying Jack's lab notebook in detail.

After review Tom said, "Bruce, I hate to say it but these data look too good. I know the equipment and there should be more scatter in the measurements Jack took. I think some, if not all, these measurements are in error or they have been faked! At best, Jack probably took a few points and 'extrapolated' the rest!"

Ethics Assignment Grading Rubric

**Knowledge of Code**

*Excellent:* Indicates which professional society items came from; quotes or summarizes numbered elements of codes appropriately

*Satisfactory:* Indicates which professional society items came from; quotes or summarizes elements of code appropriately

*Needs Improvement:* Doesn’t indicate which professional society items came from; doesn’t quote or summarize elements appropriately

*Unsatisfactory:* Doesn’t mention any code at all

**Analysis**

*Excellent:* Accurately identifies issues in scenario, treating any assumptions as assumptions; identifies three or more items from code that apply to both parts of the assignment

*Satisfactory:* Identifies issues in scenario, treating some assumptions as facts; only identifies one or two items from code that apply to each part of assignment

*Needs improvement:* Identifies issues in scenario, making wild assumptions; only identifies one or two items from code that apply in only one part of assignment

*Unsatisfactory:* No analysis at all

**Grammar and Spelling**

*Excellent:* No grammatical or spelling errors

*Satisfactory:* One grammatical or spelling error

*Needs improvement:* Total of two grammatical or spelling errors

*Unsatisfactory:* Total of more than two grammatical or spelling errors

**Style**

*Excellent:* Terse, to the point, style

*Satisfactory:* Terse, to the point, style, but with one or two unnecessary words or phrasings

*Needs improvement:* Wordy style with lots of unnecessary words and phrasings

*Unsatisfactory:* Wordy style where it’s impossible to determine what the points are

**Formatting**

*Excellent:* Uses specified format. No formatting errors.

*Satisfactory:* Uses specified format. One formatting error (e.g., space before punctuation)

*Needs improvement:* Uses specified format but several formatting errors.

*Unsatisfactory:* Doesn’t use specified format.