SAN JOSÉ STATE UNIVERSITY
Mechanical and Aerospace Engineering Department

ME 195A Senior Design Project Ethics Assignment 1 Fall 2006

The profession of engineering carries with it the responsibility for ethical behavior. It is important therefore that you understand what ethical engineering practice looks like. This assignment will expose you to the ASME Code of Ethics. You must satisfactorily complete this assignment to pass the class.

Learning Objectives:

At the end of this assignment you should be able to:

- Explain the Fundamental Principles of the ASME Code of Ethics
- Explain the Fundamental Canons of the ASME Code of Ethics
- Apply the Code to solve an ethical dilemma

Assignment **Due 10-18-06** (answers must be typewritten):

- Read the ASME Code of Ethics and Criteria for Interpretation of the Canons. (see: http://www.engr.sjsu.edu/bjfurman/courses/ME195/ME195pdf/ASME_Code_of_Ethics_1994.pdf).
- Summarize the Fundamental Principles of the ASME Code of Ethics.
- Which Canon deals with making a mistake in a calculation? What is your responsibility?
- Which Canon deals with self-promotion at the expense of others? What is your responsibility?
- Consider the following scenario. Which aspect of the ASME Code of Ethics applies, and what should Christopher do?

Software Engineer Christopher is hired by a software company and involved in the design of specialized software in connection with the operations of facilities that impact public health and safety, such as those that control air and water quality. Testing the software system is part of the design process. Christopher conducts extensive testing and finds that the software is safe to use under existing standards. But Christopher is aware that new draft standards are about to be released by a standard setting organization-- standards that the newly designed software may not meet.

Christopher could suggest that the software company and its client perform more tests on the software to see if it meets these new safety standards. Such tests would determine whether the company should move forward with the use of the software. But the client is eager to move forward and the company is eager to satisfy its client and protect its finances and existing jobs. Doing the tests would be extremely costly and delay the project at least six months. This would put the company at a competitive disadvantage and cost the company a lot of money-- putting the goals of protecting its finances, existing jobs, and pleasing the client in jeopardy. Testing would also result in a significant rise in the state public service commission utility rates during the six months the new testing would delay the project. But at the same time, the management of the software company wants to be sure that the software is safe to use.

The company requests Christopher's recommendation concerning the need for additional software testing. What should Christopher recommend?