Problem Set No. 1
Due: Friday, January 7, 2011 (by 5pm)

Objective: To establish the broad scope and practical relevance of thermodynamics in the world around us. To develop practice in professional correspondence.

Thermodynamics is the foundation upon which many concepts and techniques of chemical engineering are built, and its fundamental principles are present and visible throughout the world around us. Using your knowledge from previous courses, such as CHE 10, and the definition of thermodynamics, identify an example (e.g., product or process) from everyday life, current events, or society that exemplifies thermodynamic concepts or ideas. Create a brief email memo to me in which you describe your example, explain how it embodies thermodynamics, and suggest possibilities for thermodynamic analysis. Your email need not exceed one or two paragraphs. Be creative in your selection and try to pick an example that is novel, avoiding classic examples like engines and power plants.

Please address your email to me but send it to my assistant's address:
bknott@engineering.ucsb.edu.

Keep in mind these general guidelines that you should always apply to any professional email communication:

1. Paragraphs should be well-constructed, using complete sentences and clear writing.

2. Avoid confusing wordy and run-on sentences in favor of simple, direct, and concise ones that use active voice.

3. There should be no spelling or grammatical mistakes.

4. An email should always start with a salutation (e.g., "Dear Dr. Shell," or "Prof. Shell,") and close with a signature (e.g., "Sincerely, Joe Smith").

5. Avoid unnecessary decorative elements and fonts.

6. Be responsive! Always respond to professional emails sent to you within one business day. Send acknowledgement emails so the other person knows that you have received their communications. If an email to you requests information that will take you more than one day to respond, first send an email acknowledging the request and stating that you will complete it within a specified date range.