Science Fair Project:

Each student enrolled in PsSc 102 will be required to participate in a group science fair project. Each group will consist of 3 to 4 students. The science fair projects will be presented to the students of Miles Avenue Elementary School on **Tuesday, February 17 from 1:00-3:00 pm (set-up starts at 12:30 pm)**. The project must be in the area of physical science and presented at a level that is understandable by elementary school students. Investigate, experiment and demonstrate some phenomenon in the physical sciences that you think will engage and stimulate elementary school students. Be sure your project is an experiment **not** a demonstration. There are numerous books available on science fair projects for elementary school students. It is highly recommended that you form your groups and acquire one or more science fair project books **as soon as possible**.

Each student must submit a unique one-page summary of a proposed science fair topic by **Jan 22**. The summary must contain a statement of the problem (a question a grade school student might ask), a hypothesis that answers the question with an explanation and justification that includes the science fundamental to the project and the experimental procedure you are going to perform to investigate the problem.

The actual science fair will be a poster describing the project, and must include a; (1) Title, (2) Statement of the problem, (3) Hypothesis (an explanation of an observation), (4) Discussion of the science behind the project, (5) Description of the experiment performed, (6) Data, (7) Results, and (8) Conclusion. Pick a project that you will actually be able to demonstrate to the grade school students making sure the procedure is safe: i.e. no smoke or flames or hazardous materials.

Each student must write a final report on the project due **Feb 26**. The final report (2 to 3 pages) must include the following: (1) title page that includes student name, course and section, names of partners and title of project (2) an introduction that discusses the problem and hypothesis, (3) an explanation and discussion of the science involved in the project, (4) a description of the experiment including experimental procedure, data and results, (5) a discussion of the reactions of the elementary students to your project, (6) a conclusion that relates the experiment back to the hypothesis and (7) any references used cited correctly.

**IF YOU HAVE QUESTIONS, ASK WELL BEFORE ANY DUE DATE!!!!!!!**
Guidelines for science fair project

1. Ask a question.
   What do you want to know?

2. Research
   Research the science involved in your question. Find at least 3 sources of information.

3. Form a Hypothesis
   This is your answer to your question and the reason for this answer. (An explanation!!! Not a prediction.)

4. Procedure
   Set up the step-by-step experiment that will test your hypothesis. Review dependent and independent variables. Remember in a good experimental procedure only one variable can be changed at a time, otherwise it is impossible to determine how and which variable affected the results. Multiple trials for each set of data is suggested with the average reported.

5. Testing
   Begin testing your hypothesis by executing the experiment. Record all the measurements and observations you see. Use all your senses to gather the observations. Make all measurements in the metric system. Write down all the information you observe and measure so you have a permanent record. (This should be in pen and in a bound composition book) Compile data in tabular form for ease of presentation in poster and final report.

6. Results
   Gather together the information from your experiment and show your results. Graphs, pictures, charts, and tables are suggested. You might use more than one to display your results. Find the relationships the variables have by observing how they interact with each other. Arrange variables together that behave similarly.

7. Discussion
   Explain the science behind your question and discuss what happened during the experimentation part of the process. Make a guess of why the results turned out the way they did or what could have happened to make them wrong.

8. Conclusion
   Explain how your results relate back to the hypothesis.