Part of your course grade in STAT 401 depends upon successful, on time, completion of Team Project #1. This project is to be done in a team of 4 or 5. It should result in a thorough, but concise, professional quality technical report of not more than 10 typed (12 pt font or larger) double-spaced pages. Projects are to be handed in to Dr. Bob and presented by your team in lab on Tuesday, October 24, 2006. The written reports will not be returned, so if you want to have a copy to keep, make a copy before turning in the report.

Statistics is the study of how best to collect, summarize and draw conclusions from data. When working with data one is always faced with variability. The focus of this project is on correlation and simple linear regression, using one variable to help explain the variability in a second variable. You must plan, collect, and analyze the results of a sampling study or experiment that looks at the relationship between two numerical variables. You must have at least 25 data points in your study. You are to make a thorough but concise report of your entire study. Include at least:

- An executive summary (a brief, one or two paragraphs, but complete summary of what you have done and what you have learned). This should be written in a manner that can be read and understood by a busy executive who may not know much about statistics.

- A description of your sampling study or experiment including:
  - The question, or problem, you investigated.
  - Explanatory and response variables.
  - A statement of how you \textit{a priori} expected the study to turn out.
  - What you did to collect the data.
  - A list of the raw data you obtained and circumstances surrounding their collection.

- Appropriate statistical analyses of the data (use graphical as well as numerical summaries).

- A statement of the subject matter implications of your study.

- A discussion of further questions raised by your study that might be investigated in the future.

Simply attaching a ream of JMP output is not what is meant by including an appropriate statistical analysis! The main body of the report should include only the end products of any statistical calculations. You can cut/paste important graphs and output. Remember JMP gives you more than you need so do not include graphs and output that are not needed. If you want to include entire printouts, they should be annotated and included only as appendices. These appendices count towards the 10 page limit.
Write the report as though a busy executive/manager were going to read it. Statistical jargon used just for the sake of using statistical jargon will not be well received. If you need some suggestions for projects, please see me: however, topics chosen by the individual teams are usually more meaningful and interesting to the team than topics suggested by others (including me). **Surveys or opinion polls are usually too complicated and time consuming and are not suitable for this type of project. It is important that you use random sampling for a sampling study and randomization for an experiment.**

Together with the written report, each team member will include a separate sealed envelope giving his/her assessment of the percentage of total team effort provided by each team member. In the event it becomes evident that the project workload is wildly unbalanced within a team, I will assign differing individual project grades to team members. If no envelopes are turned in I will assume that everyone on the team contributed equally.

**Due Dates:**

- **Oct. 3** Determine your team members (submit names to me) and turn in a brief proposal for your project. This should include the question or problem you want to investigate and the explanatory and response variables. Project proposals must be approved by me before you can proceed.

- **Oct. 10 and 17** You will have an opportunity during lab to work on your project and for your team to meet with me to discuss the team’s progress.

- **Oct. 20** A copy of your data is sent via email to me. Data collection must be finished by this date and no changes can be made to your data once it is submitted.

- **Oct. 24** Final reports, one per team, are due. These are to be typed (word processed) on plain white paper and should not exceed 10 double-spaced pages, JMP output and appendices count towards the total of 10 pages. Each team will present a brief summary of their project during the lab time (a 5 to 10 minute oral presentation). You can hand in your project in lab or email it to me in electronic form (Word or pdf).