The purpose of the project is to give you practice in the process of analysis (from data entry to hypothesis testing) or to develop detailed knowledge of a particular statistical technique that is useful in ecological or evolutionary research. Each student will be required to present their project to the class (15 minutes). A short report (i.e., ≤ 5 pages + output or annotated references) summarizing the approach and major results will also be required. Listed below are some guidelines that should help you get started. **Topic for semester project must be approved by Oct 19th, and the report is due Dec 7th.**

**Subject:** Should be a topic that is relevant to students in behavior, ecology and evolutionary biology. Basically, anything goes within that constraint. **The best use of your time will be to analyze some or all of your own data.** For those of you just starting out, you have several options. 1) Going out and doing a "quick and dirty" study is fine (say a weekend's worth of sampling). The question should have some relevance (i.e., don't make it frivolous). 2) Talk to your advisor and find out if he/she has any data sets that are gathering dust and in need of analysis (note: your rank in your lab will rise in direct proportion to how long the data have remained unanalyzed). 3) Retrieve data from the literature and analyze them with a unique question in mind or a different (better[?]) technique.

If none of these option are appealing/feasible, you can do a project on a specific technique that is useful in the disciplines listed above. For this option, you should refrain from choosing a technique that has been discussed in detail in lecture.

**Suggested Content for Data-Oriented Projects:** Your presentation should have most of the following elements

- **Research Question(s)** - basically what is the biology and science that motivated the analysis.

- **Sampling Procedures** - How was the sampling protocol decided upon.

- **Tests** - how you tested the hypotheses generated by your research questions (note: for this you should present evidence that you were aware of assumptions). Why did you perform the tests you used?

- **Conclusions**

**Suggested Content for Technique-Oriented Projects:**

- **Background:** type of questions or data structures where the technique is applicable
Example(s): detailed, step-by-step (from the literature or ones you contrived), include assumptions,

Practical Advice: References? Software? Caveats?

General Comments:

1) your project does not have to involve hypothesis testing; that is, if you feel it is appropriate, a detailed set of graphical analyses can suffice if it answers a god set of questions.

2) The project should have a reasonable level of complexity - a presentation of nothing more that a two sample t-test might be a bit on the lean side. Alternatively, the material should be simple enough to be understood and clearly presented in 20 minutes.