FINAL COURSE REQUIREMENTS
1. A review of a recent paper, as indicated below.
2. An updated list of your research techniques compilation.

Your review and compilation is due on Friday December 15, by 4pm (in my office Whitehead 401C)), in hard copy and by midnight, electronically.

PAPER REVIEW

One recent paper relevant to the course will be assigned to you. You will need to write a review of the paper, see below, and to propose one good next experiment. See Guidelines for reading papers below. The review should be approximately 10 typed double-spaced pages, 11 or 12-point font (Arial or Georgia).

Please organize the review clearly, into the following sections.
- Indicate the title/reference of the paper and your name.
- A summary of relevant background information and statement of the major question being addressed and hypotheses tested (~1 page).
- A discussion of the experimental approaches- explaining the methodology, results and interpretation of the data (~3 pages).
- A summary of the overall conclusions, including a discussion of whether hypotheses were supported or not, and the strengths and weaknesses of the paper (~2 pages).

Finally, you will need to propose one further experiment you feel would ***best*** extend the study described (~4 pages).
- *A good next experiment will not only improve understanding of the subject, but will be constructed so that any results obtained will be meaningful.*
- You need to include any hypothesis to be tested (rationale), experimental approach including potential problems and resolutions, potential results and discussion of which would support or refute your hypothesis. Diagrams may be included.
- A bibliography, not part of the 10 page limit, must be included. You should indicate at least one good review, which helped you understand the paper.

READING RESEARCH PAPERS – SOME GUIDELINES
In reading papers, it is useful to ask the following:
- What is the background to the paper- that is, the historical context? What was known before the present study was performed?
- What is the broad question that the authors wish to ask- for example, how does the embryo decide to form a neural tube?
- What is the specific question that the authors ask- for example, what is the role of the actin gene in regulating neural tube formation?
- What hypotheses are proposed and tested?
- What experimental approach tests the hypotheses? For each figure what experiments were performed? What aspect of the hypothesis does an experiment address?
- Are the experimental approaches appropriate, or would other approaches be better?
- Have appropriate controls been performed?
- Are you convinced by the conclusions that the authors draw from each experiment?
- Are the hypotheses made supported or not supported?
- Have the authors answered the specific question they set out to?
- What experiments would logically follow from this study?