You will be writing one research paper, the purpose of which is to allow you to learn more about a topic in developmental biology and to allow you to exercise your skills in scientific writing. Writing is not only an essential means of communication, but a superb learning tool as well, allowing you to develop your thoughts logically and really come to grips with what you do and do not understand.

Your research paper is due in class on 24 April 2001, at 2:00 p.m. Papers up to 24 hours late will incur a 10% penalty. Papers up to one week late will incur a 25% penalty. Papers later than that will not be accepted. Please turn papers in during class; under my door, in my lab, or even into my hands at other times is risky. The paper is worth approximately 200 points, out of a total of approximately 550 for the semester.

The paper should be 8-10 pages in length (excluding references, tables and figures), on any specialized subject area within the purview of the molecular biology of development. This is a particularly good opportunity for you to explore an area that we are unable to cover in class. You should review a concept fully, backing it by relevant literature, identifying the gaps in our understanding and the experiments that could be performed to bridge these gaps. You may use a combination of primary research papers, reviews, and other sources, but must include at least 2 primary research papers published in 1995 or later.

Academic honesty is imperative. You should work alone in writing the paper, although you may discuss problematic issues with other students. Your paper should not resemble anyone else's paper for this or any other class, and should not be similar to a paper prepared for another course. You should not quote directly from other sources unless you use quotation marks and identify your source. Close paraphrasing should be avoided. All statements you obtain from published sources should be carefully documented.

Some suggestions for journals include Science, Nature, Nature Genetics, Developmental Biology, Genes and Development, Molecular and Cellular Biology, Cell, and Proc. Natl. Acad. Sci. Supplementary references can include primary experimental research papers, reviews, "News and Views" from Science or Nature, or the kinds of write-ups you find in Trends in Genetics, Nature Reviews Genetics, Current Opinion in Genetics and Development, CRC Critical Reviews in Eukaryotic Gene Expression or BioEssays. The course bibliography (updated handouts or material provided in the back of the course reader) may be very useful in helping you select topics and find some pertinent references. Do not focus on papers discussed in class; looking ahead in the course reader/notes will help you determine which papers these are. You can search Medline at no charge in the library, and you are encouraged to do so. The staff members at the reference desk are eager to assist you. Your paper should make sense to anyone with a senior-level knowledge of
cell and molecular biology. The tone of your paper should be professional, not tongue-in-cheek.

Your report should be typed and double spaced. Please use a letter quality printer or typewriter. Use standard 8.5 x 11 inch paper with a margin of at least 1/2 inch on all sides. Type size should average no more than 10 characters per inch (on most word processors, this is font size 12). Cite references in the text and use the referencing style of primary research articles (not reviews) in this year's Cell—cite by author and date, giving full authors, title, journal and pagination in the reference section. Please include a copy of each of the articles that form the major focus of your report (supplemental references need not be copied). Note that I might swipe your papers. Please place your report and the accompanying materials in a manila file folder (letter, not legal sized), not in a binder. Please include a cover sheet on your paper, indicating the title of your work, the date, your name and full contact information. Print your name (last name first) clearly on the tab of the folder. File folders are available in my office if you do not have any. You will be penalized for departing from the length, format, supplementary materials and referencing style requested. I am also requesting that you send an electronic copy of your paper by pasting the text into an email message. (Please do not use an attachment or html formatted message—text only.) You can send the electronic copy to goldman@sfsu.edu, and I would like to receive it within three days or the paper due date.

You will be graded on accuracy, style and creativity. Although your writing ability is not the primary focus of this course, your ability to communicate is essential to your success in science. Pay close attention to what you're writing. Spelling should not be a problem, since everyone can use a dictionary. You may want to have a friend read your paper before you turn it in. Papers exceeding the page limit will be graded with a penalty of 5 points per line in excess of the page limit, so pay attention to the limit! Note that the penalties assessed for inappropriate topic, length, format, grammar, referencing, etc., are substantial. And there is no reason for anyone to lose any of those points.