

Guidelines for the Dev Bio final:

- 1) Due date: June 12, 2006 noon. Please email it to the TA, Isla Cheung.
- 2) Format: option of 'research proposal' or 'news and views' (1.5-3 pages recommended).

A. research proposal:

Topics can range from how a yeast cell polarizes or how the *Drosophila* tracheal tube forms a lumen to topics approached in class such as how an embryo sets up an axis (dorsoventral, anterior-posterior or left-right) or how a morphogen gradient is translated into the differential activation of target gene expression (to name just a few from the topics already introduced in class). Other sources of inspiration include the articles selected for discussion as well as reviews on developmental biology topics in journals such as *Nature*, *Science*, *Cell*, *Developmental Cell*, *Genes and Development*, *Development*, *Nature Reviews Genetics*, *Nature Reviews Molecular Cell Biology*, *Nature Reviews Neuroscience*, *Trends in Genetics* and *Trends in Cell Biology*.

The research proposal should be similar in format to the one you wrote for NSF and consist of the following: background and significance, specific aims for 2 scientists for 2-3 years (2 specific aims recommended), methods (in general terms), expected results and interpretation, and possible experimental difficulties. Reasonable experimental assumptions can be made when writing the proposal (for example, if a mutant in gene X in organism Y is required for your experiments, you don't have to check whether that mutant actually exists but can assume it does).

B. news and views:

Topic (same as above). The critical point about a 'news and views' is that it needs to go beyond summarizing the paper under discussion. **It needs to put the work in the context of the field and make connections not raised in the paper itself. It should critically evaluate the paper and address how it impacts the field.** It should also raise future research directions. In addition, it needs to be written for a broad audience and convey a sense of excitement and novelty.

Following are instructions for *Nature* 'news and views':

The 'news' should be highlighted in a brief opening paragraph to attract the attention of those who are not experts in the field. This paragraph should explicitly refer to the paper under discussion and touch on the general significance of the work. More detail, background and explanation should follow, including your own 'views'. The text is often best rounded off with comment on the

limitations and implications of the new work, and on future research directions.

(Examples selected by a Nature editor will be emailed separately and posted on the Web site).

All faculty associated with the course, as well as the TA, are of course available to discuss ideas, give suggestions for topics, and/or feedback at any stage of the writing process.

3) The purpose of your presentation during discussion is to get additional feedback on your 'research proposal' or 'news and views' from your classmates. Approximately 30 minutes is set aside for this purpose (and the remaining hour for the discussion paper). Please email your written work to your group the day before your presentation so that they have time to read and think about it. It is up to you how you use the time allotted. We suggest that you spend about 10 minutes explaining your topic and your aims/views and spend the remaining time soliciting feedback. The audience is expected to have read the written work and to provide comments. The feedback you receive from your classmates will then help you revise and finalize your written piece.

4) Grading. The course grade is based on your final written work and your participation in discussion. Isla and I will both read your work and obtain feedback from your discussion leader(s). The completion of a written document of satisfactory quality is required to obtain a passing grade.