

Quantitative Phylogenetics Spring 2014

Requirements for Final Project

We require that each student design and complete an independent research project. The written report on this project will be your final paper.

The final paper is due in electronic copy no later than Friday, May 2. All deadlines are at 5 pm of the due date. Assignments not turned in by the deadline will receive a zero. If special circumstances prevent you from meeting a deadline, please discuss them with us. *Please submit all materials to us electronically, to both of our emails.*

Deadlines:

Mon Feb 3: A one-page proposal for your final paper project is due in class. This should include brief descriptions of the topic, the data and methodologies to be used (5% of course grade). We strongly advise that you schedule a meeting with one (or both) of us to discuss your ideas for the final project BEFORE this deadline.

Fri Feb 21: An electronic copy of your preliminary data for final project is due. Submit this as ONE SINGLE Nexus file. If multiple data partitions are included, please annotate them so that we can clearly sort them out. DNA sequence data should be ALIGNED. Indicate in comments in the data file how the data were aligned. If you are including morphological or behavioral data, please provide brief explanations of the character codings, and how the characters are to be treated (ordered, unordered, etc.) (5% of course grade)

Monday Apr 7: First draft of final paper (15% of course grade)

Monday Apr 14: Written reviews of peers' papers to instructors (10% of course grade)

Fri May 2: Final paper due (25% of course grade)

Objectives of the Final Project:

1. **obtain** expertise on the topics covered in the course
2. **practice** the development of original research projects
3. **practice** the preparation of manuscripts for peer-reviewed publication
4. **practice** peer-review of colleague's manuscripts

Topic Selection: The project should address an interesting or controversial question in your field. You may use published data or original data. We expect that you will employ a comprehensive and contemporary set of analytical methods appropriate to your data, and we expect critical discussion and interpretation of your results. You should plan to meet with one (or both) of us prior to submitting your proposal to discuss the idea for your project.

Format: The final paper (and the first draft) should be in the form of a journal article with the standard sections: Abstract, Introduction, Materials & Methods, Results, Discussion, and Literature Cited. In the Introduction you should provide sufficient background for your project so that we can understand the antecedents in the literature and their significance, and you should pose the major questions that will be addressed in the paper. Return to these questions in the Discussion section, and tell us how your results have helped to answer them. Literature citations should follow the format of any peer-reviewed journal of your choice.

Length: The paper should be no longer than 15-pages, at 12pt font, double-spaced type, including figures and tables, but not including Literature Cited. In a separate letter (not included in the 15-page limit), each student must explain how the reviewer's comments were addressed.

Review of peers's papers: Each student is expected to review the final paper drafts of two other students. We will give more specific guidelines later, but the expectation will be similar to what you would provide in reviewing a journal article for an editor.

Grading scheme of final paper (including first draft)

The following aspects of the final paper will be evaluated (each are equally weighted):

- 1- Are the evolutionary or biological questions underlying the study and the objectives of the paper clearly stated?
- 2- Is enough background provided for you to place the proposed project in the larger context of research in the field?
- 3- Is the proposed project likely to be an original contribution to the field?
- 4- Are the data proposed to be collected appropriate to answer the questions raised in the introduction?
- 5- Are the proposed methods appropriate to the data, and to address the proposed questions? Are they sufficiently rigorous and do they reflect the current state of the field?
- 6- Are the results of analyses or experiments clearly and completely presented, and do any conclusions or interpretations drawn from them appear to be sound?
- 7- Does the author return to the questions or objectives of the study in the discussion, and discuss them in terms of the results?
- 8- Is the paper well written and free of errors?
- 9- Are points in the text referenced appropriately, using a consistent format?