



Term Paper Guidelines

Project objectives:

1. Identify an anatomical, physiological, or behavioral trait found in a particular species that *might be adaptive*
 - Use initial library and internet research to investigate traits of interest and create a list of possible traits. While it is fine to find inspiration in the mandatory readings for the class, you cannot choose a trait that is explicitly explained as an adaptation by one of the authors we have/will read: your trait choice should require independent research and thought on your part.
 - Consider which trait(s) can best fulfill the remaining requirements of the paper. Narrow your topic down to a single, specific trait found in a particular species.
 - Describe the trait and species that are the focus of your paper, explaining the defining features of the trait and any evidence that might suggest its function in this species.
 - Explain this trait from a phylogenetic perspective. How common is this trait (or similar traits) in species related to your focal species? Based on the evidence we have available, at what point in the evolution of this species did this trait arise?
2. Identify and explain hypotheses that suggest an adaptive function of your focal trait
 - Use library and internet research to discover hypotheses about the adaptive function of your focal trait.
 - Feel free to add your own hypotheses, particularly if these differ from the hypotheses suggested by your research sources.
 - You must identify at least two alternative hypotheses that explain your trait as an adaptation.
 - Describe the adaptive explanation provided by each hypothesis. Compare and contrast the explanations made by the different hypotheses that you have identified.
3. List and explain the predictions made by different hypotheses
 - Create a *Table* in your *Appendix* (see below) that compares and contrasts the predictions made by different hypotheses. Different predictions may fall into different categories, so use the table structure to demonstrate these different categories.
 - Discuss these predictions, explaining why different hypotheses make different predictions.
4. Explain how these hypotheses have been and/or could be tested using scientific methods
 - If specific scientific studies have tested any of the predictions you identified, describe and explain how these studies were conducted (their “methods”). Make it clear what kind of experiment or other confrontation with data was used to test particular predictions. Summarize the results obtained by each study and make it clear whether particular predictions were confirmed or rejected.
 - If you are not able to find specific scientific studies that test some or all of your predictions, propose some ways in which these tests might be undertaken. What methods should be used to conduct these tests? What kind of data will be collected? What results would confirm particular predictions? What results would refute particular predictions?

Stages for Completing the Term Paper:

Stage	How to complete this stage	Value	Due date
Initial Term Paper Proposal	Complete initial proposal “quiz” on the <i>LMS</i> . Your instructor will grade your quiz based on completion. If you do not receive full credit for the quiz, you must make new “attempts” until you get full credit. You may not move on to the next stage until you have completed this stage.	10 (5.9%)	Friday, September 19th, 2014 @ 11:59 pm EST
Conceptual Term Paper Proposal	Upload your completed concept map to the <i>LMS</i> . Your instructor will upload an assessment of your concept map to the <i>LMS</i> . If your map is incomplete, you must complete it before you move on to the next stage.	20 (11.8%)	Friday, October 10th, 2014 @ 11:59 pm EST
Draft Term Paper	Upload your completed <i>Draft Term Paper</i> as a PDF on the <i>LMS</i> . Your instructor will upload an assessment -- including detailed comments on your actual paper -- to the <i>LMS</i> . Make sure to respond to all instructor suggestions as you prepare your <i>Final Term Paper</i> .	40 (23.5%)	Friday, November 7th, 2014 @ 11:59 pm EST
Final Term Paper	Upload your completed <i>Final Term Paper</i> as a PDF on the <i>LMS</i> . Your instructor will upload an assessment -- including detailed comments on your actual paper -- to the <i>LMS</i> .	100 (58.8%)	Friday, December 5th, 2014 @ 11:59 pm EST

Late work in all of the above categories
is subject to a 10% per day penalty

Initial Term Paper Proposals:

You will initiate your project by indicating how you plan to meet the objectives for this assignment. Your proposal will include:

1. The common name of your chosen species
2. The scientific name of your chosen species
3. A clear description of the focal trait (possessed by your chosen species) that will be the subject of your paper
4. Proper classification of your organism based on its place in the “tree of life”
5. An estimate as to where in the “tree of life” the focal trait may have evolved
6. A list of scientific literature sources (at least two primary and one secondary) that will inform your paper

Please see the *LMS* for details on how to submit (and potentially re-submit) your *Initial Term Paper Proposal*.

Conceptual Term Paper Proposals:

All project proposals must include a concept map that:

- A. Shows all of the key ideas and concepts needed to understand the trait that you plan to investigate, including its probable evolutionary (i.e. phylogenetic) history;
- B. Lists and describes multiple hypotheses explaining the adaptive function of your focal trait;
- C. Lists all the relevant predictions made by each of these hypotheses;
- D. Describes experimental tests that have been or could be done to test the predictions made by each hypothesis;
- E. Connects your trait description (from “A” above) to the hypotheses explaining that trait (from “B” above) to the predictions made by each hypotheses (from “C” above) to the experimental tests (from “D” above); and
- F. Lists the ten sources (see *Bibliography & Citations* below) that you will use to inform your paper, connecting each source to the ideas and information it provides to some part of your concept map (“A” through “D” above).

For more help on how to create this concept map, go to <http://wp.me/p1BPr1-1pB>. In addition to the required concept map, you may also include explanatory text in the “notes” section of the *LMS* submission page or on your concept map itself. Your instructor will post comments on the *LMS* in response to your proposal; if you have any questions about this feedback, you should contact your instructor during office hours, by phone, or via email.

Draft Term Paper:

One of the major goals of writing this paper is to become a better researcher and non-fiction writer. To that end, you will produce a draft paper that represents your best research and writing effort. Your instructor will read this draft carefully, providing detailed feedback on your work. You will be expected to make significant improvements to your draft in response to this feedback before handing in an edited *Final Term Paper*. The better your *Draft Term Paper* is, the less work you will have to do to produce your *Final Term Paper*.

Restating what should already be obvious: The use of the term “draft” here should not be misinterpreted to mean “incomplete”, “not proofread”, or “not your best effort”. This version of this paper should be as close to completed and perfected as you are capable of doing (assuming that you put in adequate effort). The grading criteria used on this stage of the paper is identical to that used to grade what you submit as the *Final Term Paper*: the only difference lies in how many points this stage is worth.

Final Term Paper:

Based on feedback that you have received on your *Draft Term Paper*, you will complete a *Final Term Paper* by making improvements to your original draft. At minimum, you should respond to all suggestions for improvement made by your instructor. You should also look for ways to better meet the overall objectives of this assignment.

Format of the Paper: (both “Draft” and “Final” versions)

1. Please present your work in type-written, **single-spaced** format. Font should be 12 point, margins should be 1” on all sides.
2. Produce at least three (3) and no more than six (6) pages of **single-spaced** text.
3. Provide an *Appendix* (does not count towards page minimum or maximum) that presents figures, charts, images, or other helpful auxiliary information to support your paper. Label each part of your *Appendix* with a letter (for example, the first item will be “Appendix A”). Make sure that you refer to all parts of the *Appendix* in the main text of your paper. All material not of your own creation in your *Appendix* should include a source citation.
4. Reference all ideas that are not your own using a numbered *Bibliography* (does not count towards page minimum or maximum) appearing at the end of your paper. Either superscripts¹ or bracketed [2] citations

are acceptable, but use one consistent format for all your citations. Generally numbered citations are created “in order of appearance”, with the first citation being #1, the second #2, and so on. Footnotes are redundant to a numbered Bibliography and should not be used.

Bibliography & Citations:

1. Your bibliography must contain at least ten sources. Of these sources, at least one must be from the Pratt library and at least three must be from the primary literature. Speak to your instructor if you are not clear on what this means.
2. The source of all material that is not of your own creation must be cited. This includes:
 - ★ All print media (examples: articles, books)
 - ★ All digital media (examples: websites, downloaded books and articles, podcasts)
 - ★ All images (analog or digital) other than those that you have created entirely
2. All sources in your *Bibliography* must be referenced in the text of your paper. Do not include sources that are not cited at least once.
3. In referencing your citations, use the correct number from your numbered bibliography. *For example:* “Methane released by livestock represents a major contribution to greenhouse gas emissions [6].”
4. Please use a standard bibliographical format and use it consistently. Although I am flexible about *how* you organize the information presented in each citation, there are particular pieces of information that *must* be in each citation. For help on citing properly, please see this page: <http://www.christopherxjensen.com/teaching/for-students/#citation>.
5. Please be careful about web citations. Much of what is published on the web is unreliable. It is up to you to assess the validity of all your sources.

How you will be graded:

Your grade will be primarily based on how well you meet the objectives stated above. In addition, your instructor will assess how well you expressed an understanding of evolutionary concepts. All written work is expected to use proper spelling and grammar, except where obvious and necessary creative liberties are being taken with the language. Please see the *LMS* for sample grading sheets that provide you with a precise idea of how you will be graded.

On academic honesty:

Plagiarism of any kind will not be tolerated. All cases of suspected plagiarism will be turned over to the Registrar’s office for potential referral to the academic judiciary. Please be careful to indicate the source of all ideas other than your own; this includes both direct quotes (“evolutionary biology is the science of...”) and paraphrasing of books, scientific papers, and websites. Careful citation makes you seem more authoritative in whatever you write. For more detailed information on avoiding plagiarism, please see: <http://www.christopherxjensen.com/teaching/for-students/#no-plagiarism>.

Help with writing:

The *Term Paper* in this class will require you to produce written work. All students can benefit from feedback on their writing. I am happy to read and respond to rough drafts of either assignment, provided they are emailed to me no later than 5 days before the day the paper is due.

Pratt’s *Writing and Tutorial Center* can also help you produce the best project possible. The center is located on the 1st Floor of North Hall (it has all the great fish tanks... you can’t miss it!). Call them at (718) 636-3459 or send an email to wtc@pratt.edu to make an appointment.