

Biology 3222G – Special Topics in Evolution 2013
DRAFT OUTLINE

“Nothing in biology makes sense except in the light of evolution”

Theodosius Dobzhansky 1973

Instructor:

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Outline:

A critical examination of topics in evolutionary biology such as levels of selection, speciation, patterns of diversification and distribution of diversity around the globe, origin and radiation of selected groups, biogeography, and phylogeny. Additional topics as requested by students will be considered. Guest lecturers will highlight cutting-edge evolutionary research questions.

Classes and tutorials:

Lectures in P&AB 150, M & W 9:30-10:20

Tutorials in P&AB 150, F 9:30-10:20

Course website:

Course materials will be available through OWL. Please make sure you have Bio3222G in your list of courses on OWL.

Texts:

Since this is a “selected topics” course, the readings come from many sources and I do not expect you to buy all the books. All are available for 2 hours on reserve at the Taylor library.

Assigned readings are posted on the course website.

Evaluation:

Tutorial Sessions (15% of final grade)

Most of the labs consist of the presentation and discussion of relevant journal articles in evolutionary biology. The goal of this exercise is to illustrate and expand on lecture ideas and to give students practice in the critical evaluation of publications. In engaging thus in a scrutiny of scientific papers and their content, we shall gain some understanding of how people actually approach scientific inquiry, an appreciation for the difficulty of conducting water-tight studies, some capacity in maintaining a skeptical posture in the face of persuasively-written material, and a more hands-on involvement with the ideas and their empirical underpinnings. All the articles are available through the library. If you are having problems accessing the papers please get in touch with me ASAP.

See OWL website for the schedule of the tutorials.

Credit for the tutorial mark comes from 2 sources:

1) Presenting and leading a discussion of 2 articles (first article worth 5%, second article worth 10%)

Students will present papers and lead a discussion. Presentations will be either alone or in partners depending on course enrollment. The presenters should prepare a brief overview of the main points of the paper and define/explain key terms. Read the papers with a critical eye and be prepared to initiate discussion, raise questions and keep the discussion moving. Each student will present once. Presentation dates will be assigned during tutorial 1.

4) Attendance and participation in group discussions (5%)

Useful contribution to class discussion of the papers will be assessed.

All material covered in lab is testable on both the mid-term and the final exam!

Term Papers (45% of final grade)

It is intended that, in researching and writing your term papers, you should gain an increased awareness of the coherence and power of an evolutionary world-view. Consequently, it is one of your primary tasks to try to make it clear to the reader (me) that you have achieved something of such an awareness. Your paper will be in the style of a review article for a journal.

Students *must* choose topics. You should identify an area of evolutionary biology in which you are particularly interested; your topic should be broad enough to be of interest to a general audience but not so broad that it cannot be reviewed in about ten pages. (For example, “Sexual selection” is too broad; “Sexual selection on dawn song output in black-capped chickadees” is too narrow; “Is sexual selection an important force in plants?” is about right). I recommend browsing recent review articles in journals such as Trends in Ecology and Evolution, Science, or Nature for a starting point: you may also get ideas from the readings assigned for lab.

Using the format for Reviews in the journal Trends in Ecology and Evolution (TREE; guidelines available at <http://www.cell.com/trends/ecology-evolution/authors>), you will present a synthesis of previous work, provide a critique of the field, and identify directions for future work, that is, what open questions remain. Most (but not all) of your references should be from primary sources (i.e. not textbooks or review articles), and most (but not all) should be published within the last five years.

I will give you further details as to the steps below, but please be aware of the timeline for the development of your paper:

Topics should be discussed with me by **February 8th**.

Outline (5%)

Do some reading, concentrating on primary sources (journal articles) and have an outline to me by **March 4th**. I will have these back to you by March 8th with comments and suggestions.

Final paper (40%)

The final paper is due on **April 10th** at 9:30am (based on time stamp in OWL). There will be a 10% per day late penalty that starts at 9:31am! That's 4% of your final grade per day. I will not accept papers after April 17th.

The paper should be 8-10 pages long but no longer (this is exclusive of figures and tables etc.). More detailed instructions will follow.

Mid-term test (15% of final grade)

In class **February 27th**. The test will consist of short answer questions of the type you will see on the final exam. This is an opportunity to gauge your progress through the course. Both lecture and lab material will be covered.

Final Exam (25% of final grade)

The final exam is cumulative and will be a 3-hour exam during the regular exam period. Both lecture and lab material will be covered. It will consist of a (i) short answer section (1/2 page answers) dealing usually with matters of definition, critical distinction, logical structure, etc, and (ii) an essay section where you will be given a choice among a few alternative questions.

Absences and Illness Accommodation

Please speak to me in advance if you require extensions for assignments or rescheduling of exams for medical or personal reasons if at all possible (even a short email). It is much easier to make arrangements if I know in advance that you will miss an exam or deadline. You must provide proper documentation directly to the Dean's office to receive accommodation for any work in this course. Please refer to the University's Policy on Accommodation for Medical Illness (<https://studentservices.uwo.ca/secure/index.cfm>).

Unexcused late assignments will be penalized 10% per day to a maximum of 5 days. After 5 days unexcused late assignments will not be accepted and a grade of 0 awarded.

Scholastic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf .

Plagiarism is the submission of the work of someone else without giving credit to the author, and presenting the work as your own. When the ideas or words of others are used, as they necessarily will be, proper citation and reference to their source must be given. Plagiarism is unacceptable and is considered a major offence by both the university and myself. There will be little, if any, sympathy for a student caught plagiarizing. If you are unsure what plagiarizing is please familiarize yourself with the University guidelines (see website above). If you are still unsure please talk to me. Your paper will be assessed using Turn-it-in.com.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Accessibility

Please contact me if you require material in an alternative format or require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 x 82147 for any specific question regarding an accommodation.