

BIOD33: Comparative Animal Physiology**Fall 2019****Course Instructor:** Dr. Stephen Reid; Office SW526; sgreid@utsc.utoronto.ca

Please note that all correspondence should be via direct e-mail. You should not e-mail using the e-mail function on Quercus.

Lecture Time and Place:

Monday, 12PM to 1PM; BV363

Wednesday, 12PM to 1PM; HW308

Note that there is a tutorial session also included in the timetable from 1 PM to 2 PM on Wednesday in HW308. This tutorial is NOT mandatory; it is still a work-in-progress as it has never been included in the course before. We may or may not use this time.

Stephen Reid's Office Hours

Monday, 1:15 PM to 2:45 PM.

Wednesday, 1:15 PM to 2:45 PM (depending upon if anything happens in the tutorial session).

You may also stop by my office any time my door is open. You may also (via e-mail) book a specific appointment. I will also answer questions via e-mail.

Teaching Assistant: Terrence Chang; terrence.chang@utoronto.ca**Recommended Textbook:** Animal Physiology by Hill, Wyse and Anderson. Sinauer. The bookstore carries the latest version. Earlier editions are also perfectly suitable.

Evaluation

Assignment #1: “Inside/Outside JEB-Style Summary Article”; 10%

Due Date: Sunday October 13, 11:59 PM.

Submission Method: Send a PDF file via e-mail to:

- 1) Stephen Reid at sgreid@utsc.utoronto.ca (All Students). ALL STUDENTS MUST SUBMIT AN COPY OF THEIR ASSIGNMENT TO DR. REID. THE MARK IS AUTOMATICALLY ZERO IF THIS DOESN'T TAKE PLACE.
- 2) Terrence Chang at terrence.chang@utoronto.ca (Students who met with Terrance for this assignment should ALSO send a copy of it to him.)

In this assignment you will select an article from an animal physiology/comparative physiology journal and write a summary about this article. However, this is not a standard summary. The assignment will take the form of the summary articles that are found at the beginning of each issue of the Journal of Experimental Biology in the “Inside JEB” or “Outside JEB” sections.

These “Inside JEB/Outside JEB” articles are essentially a layperson summary of the scientific article that is being summarized. Articles within the “Inside JEB” section are summaries of articles that appear in the Journal of Experimental Biology (usually the same issue). The “Outside JEB” section includes summaries of articles that appear in other journals. Links to JEB are below.

<http://jeb.biologists.org/> (Links to an external site.)Links to an external site.

<http://jeb.biologists.org/content/by/year> (Links to an external site.)Links to an external site.

Step 1: Look at “Inside/Outside JEB” sections within the Journal of Experimental Biology to see what kind of summary article you are expected to write.

Step 2: Select a full journal article that you will summarize. This article may come from JEB or it may come from any other animal/comparative physiology journal. You may not select an article that has already been summarized in the “Inside/Outside JEB” section of JEB. Do not select a review article. You are writing a summary of an original research article; one with the standard abstract, introduction, methods, results and discussion sections.

The summary article that you write should be written so that it can be understood by someone who has relatively little background in science but isn't completely lacking in some knowledge of science. For example, an individual who is half-way through high school. It is an important skill to be able to explain one's research to a “lay crowd” and this is the primary purpose of this assignment.

Your summary should be more “easy reading” than an in-depth detailed scientific report.

The maximum word limit is 600 words.

You should come up with a “catchy” title for your summary (see examples in JEB).

Your summary should also have an interesting picture accompanying it (again, see examples in JEB).

The summary is something that you or I might pick up to read as easy-reading “at the cottage” rather than an article that you would read because you are researching or studying in that field.

There are no required formatting instructions. Please do not ask about formatting issues such as single or double-spacing etc. Use your own judgement as to what is appropriate. The only thing I ask is that you don’t waste paper as I will likely print these to mark them and make comments.

There is only one reference. This is the paper that you are summarizing.

Step 3: Meet with the instructor or TA to discuss the assignment. THIS IS MANDATORY.
Your assignments will only be graded and receive a mark greater than zero if you arrange for this meeting.

The meeting will be worth 2% out of the total of 10% (of the final grade) that this assignment is worth toward the final grade.

The reasons for this meeting are: 1) to make sure you understand exactly what the assignment is and what is expected. 2) To check that you have selected an appropriate article to summarize. 3) To prevent you from leaving everything until the last minute. The meetings are mandatory because experience in the past few semesters reveals that students who don’t attend these meetings do not complete the assignment properly.

Students with last names beginning with “A” to “L” will meet with Dr. Reid for the first assignment.

Students with last names beginning with “M” to “Z” will meet with Terrence Chang for the first assignment.

These individual meetings (which will take approximately 15 minutes each) will ideally occur in weeks 4, 5 or 6 of the semester. Please send an e-mail to either myself or Terrence (depending upon whom you are meeting with for this assignment) to book a time for the meeting.

The assignment is due by Sunday October 13 by 11:59PM. This is at the end of the sixth week of classes (not including reading week). Submit by sending a PDF file via e-mail as described above.

Assignment #2: “Climate Change and Animal Physiology/Function”; 20%

Due Date: Sunday December 1, 11:59 PM.

Submission Method: Send a PDF file via e-mail to:

1) Stephen Reid at sgreid@utsc.utoronto.ca (ALL STUDENTS). ALL STUDENTS MUST SUBMIT AN COPY OF THEIR ASSIGNMENT TO DR. REID. THE MARK IS AUTOMATICALLY ZERO IF THIS DOESN'T TAKE PLACE.

2) Terrence Chang at terrence.chang@utoronto.ca (Students who met with Terrance for this assignment should ALSO send a copy of it to him.)

In this assignment you will write a mid-size paper (approximately 2500 words) that examines some aspect of climate change/global warming/habitat destruction on some aspect of animal physiology/biochemistry/overall function.

Your paper should be based on at least three (3) original research articles. Ino there words, you should look at at least 3 original research papers to help you select a topic. More than 3 will be needed for your full paper; 6-12 have been typical with these papers over the last two semesters.

Your paper should contain at least three (3) figures that come from these articles or elsewhere.

Please note that this word limit of 2500 words is the official word limit. If other word limits appear elsewhere they are to be ignored.

Titles, figure legends and references do not count toward the word limit. The word limit is somewhat flexible. I will not count words. If your paper is 2500 “plus or minus several hundred words” that is fine. Don't waste time trying to adhere to an absolute word limit if your are only going to be slightly over or under.

Step 1: Select a topic. You have very broad latitude to write about some aspect of climate change/global warming/habitat destruction on some aspect of animal physiology/biochemistry/behavior/general function. You can look to many sources to help you select a topic (scientific journals; news articles; documentaries).

Step 2: Once you have selected a topic, gather some research articles on that topic (you need to use a minimum of three) and formulate a plan for your paper. The paper should ideally have an introduction that discusses the type of climate change etc. that you are discussing and an introduction to the physiology etc. The paper should also have some form of concluding paragraph. How the paper is organized in the middle sections will depend upon your topic and the areas that you wish to discuss. Do not default to the “Ontario High School Essay Format” of introduction, three body paragraphs and a conclusion. You can have 1000 paragraphs if the format of your paper warrents that.

For example, if you write about “global warming” and “rainbow trout physiology”, there could be sections of the paper that address how global warming alters different physiological systems. Another example could be how habitat destruction alters energy metabolism in large versus small mammals. The point is that you are investigating how some form of climate change alters some form of animal form/function.

Step 3: Meet with the instructor or TA to discuss the assignment. THIS IS MANDATORY.
Your assignments will only be graded and receive a mark greater than zero if you arrange for this meeting.

The meeting will be worth 4% out of the total of 20% (of the final grade) that this assignment is worth toward the final grade.

The reasons for this meeting are: 1) to make sure you understand exactly what the assignment is and what is expected. 2) To check that you have selected an appropriate article to summarize. 3) To prevent you from leaving everything until the last minute.

Students with last names beginning with “M” to “Z” will meet with Dr. Reid for the second assignment.

Students with last names beginning with “A” to “L” will meet with Terrence Chang for the second assignment.

The assignment is due by Sunday December 1 at 11:59PM. This is almost at the end of the twelfth week of classes (not including reading week). These individual meetings (which will take approximately 20-30 minutes each) will ideally occur in weeks 9, 10 and 11 of the semester. Please send an e-mail to either myself or Terrence (depending upon whom you are meeting with for this assignment) to book a time for the meeting.

Midterm Exam, 30%

This exam will cover the material from lectures 1-6. It will consist of a combination of multiple choice questions and short-answer questions.

Final Exam, 40%

The final exam will cover the entire course with most of the questions coming from lectures 7-12. A breakdown of the exam questions will be provided prior to the exam. The format will be the same as the midterm.

Policy Regarding Illness, Term-Work and Self-Declaration

Unless otherwise noted, the UTSC-wide policy regarding self-declaration for missed term-work is still in effect as is the requirement to submit medical notes to Jennifer Campbell in the biology office if you miss the midterm exam.