

University of Toronto Scarborough – Department of Biological Sciences  
**BIOD33 – Comparative Animal Physiology – Fall 2015**

**Course Instructor:**           **Dr. Jason Brown**  
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Office Hours: Thursdays 5-7pm, Fridays 9am-1pm

**Teaching Assistant:**       **Derrick Groom**  
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**Course Description:** This course will focus on the comparative aspects of animal physiology and address how various physiological systems are specialised to meet many of the environmental challenges encountered by terrestrial and aquatic environments. Topics include breathing, cardiovascular physiology, nutrition/feeding, energetics, thermal regulation, hibernation and ionic/osmotic regulation.

**Prerequisites:** BIOC33H3 or BIOC34H3

**Exclusions:** BGYD33H3

**Lectures:** Thursdays 3:10-5pm, BV363

Lecture notes will be posted (in PowerPoint format only) on Blackboard ~24 hours before each lecture. Within one week following the lecture, an *optional* quiz based on the week's lecture will be posted on Blackboard. The quiz will allow students to i) assess their basic understanding of the lecture content, ii) think critically and creatively about lecture content, as well as apply lecture content to novel situations and problems, and iii) prepare for Term Tests and Final Exam. Students are strongly encouraged to discuss these quizzes with the course instructor when they encounter any difficulties, whether by email or during office hours (preferably).

**Textbook:** This course will be taught primarily using studies from the primary scientific literature; therefore, there is no textbook for this course. It may be worthwhile, however, to have access to an introductory animal physiology textbook in case you need to review any basic animal physiology concepts that underlie the more advanced concepts discussed in this course.

**Evaluation:**

Term Tests	35%	(23% best; 12% worst)
Podcast Assignment	30%	
Final Exam	35%	

## Important Notes Regarding Evaluations:

### Term Tests

The dates of the Term Tests will be determined by the Registrar's office during the first few weeks of the semester, and I will post the dates on Blackboard as soon as they are available. The lectures covered on each Term Test will be announced in class and on Blackboard. Term Tests will be 2 hours long and will comprise of short answer questions only. Students will have some choice with regards to which questions they answer (e.g., answer 1 out of 2 questions). **A large proportion of the Term Test questions will require students to think critically and creatively about the lecture content as well as apply the lecture content to novel situations and problems.** The optional online quizzes will help students prepare themselves to tackle such questions successfully. Additional office hours (either in-person or online via Blackboard Collaborate) may be made available during the week prior to the Term Tests.

If you know in advance that you cannot write a Term Test at the scheduled time because it conflicts with some other valid activity, please notify me as soon as possible so that we can make arrangements for you to write the Term Test at an alternative time.

If you miss a Term Test due to medical illness, then you must submit a detailed UTSC Medical Certificate filled out by the physician who saw you. This note must be submitted to the course instructor as soon as possible following the Term Test. Other medical notes will not be accepted, and if the UTSC Medical Certificate is not completed to the satisfaction of the course instructor, it may be refused. The UTSC Medical Certificate can be found via the following link:

[http://www.utsc.utoronto.ca/~registrar/resources/pdf\\_general/UTSCmedicalcertificate.pdf](http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf).

If you miss a Term Test for any other valid reason, please consult with the course instructor as soon as possible. The course instructor will determine whether the reason given for a missed Term Test is valid in accordance with university policies. Also, the course instructor may ask for any documentation required to verify the reason given.

Students who miss one Term Test for a valid reason (medical or otherwise) will not be permitted to write a make-up Term Test; rather, the weight of the remaining Term Test will be increased to 35% of their final grade. Students who miss both Term Tests for valid reasons will not be permitted to write make-up Term Tests; rather, the weight of their final exam will be increased to 65% and they will be asked to submit an additional written assignment worth 5%. **This will not be negotiated.**

Students who miss a Term Test for any invalid reason will receive a grade of zero for that Term Test.

### Podcast Assignment

The details of the Podcast Assignment will be outlined in a PowerPoint presentation given during the first class. This presentation will be posted on Blackboard along with this syllabus and will constitute part of this syllabus.

**Final Exam**

The Final Exam (3 hours) will be scheduled by the Registrar's office (December 8-22) and will be worth 35% of the final grade. The Final Exam will cover all material covered in the lectures throughout the course, though it will place emphasis on the material covered since the last Term Test. It will have the same format as the Term Tests.

**Tentative Schedule:**

<b>DATE</b>	<b>THURSDAY LECTURE</b>	<b>PODCASTS (DUE BY THURSDAY at 11:59pm)</b>
Sep 3	Introduction to Course; Life at High Altitude	Introduction to the Podcast Assignment
Sep 10	Life in Hypoxic Waters	
Sep 17	Life in Arid Environments	
Sep 24	Life in Brackish Waters	
Oct 1	Controversies in the Handling of Nitrogen Excretion	Episode #1: Sponges and Cnidarians
Oct 8	Life in the Cold: Mammalian Torpor	
Oct 15	<b>NO LECTURE – READING WEEK</b>	Episode #2: Flatworms, Roundworms, and Segmented Worms
Oct 22	Life in the Cold: Insect Cold Tolerance	
Oct 29	Migration in Birds and Bats	Episode #3: Molluscs and Echinoderms
Nov 5	The Cost of Locomotion and its Environmental Influences	
Nov 12	Life in the Deep Ocean	Episode #4: Amphioxus, Sea Squirts, and Jawless Fishes
Nov 19	Life in Urban Environments	
Nov 26	Catch-up Lecture	Episode #5: Amphibians and Reptiles

## **AccessibilityNeeds:**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or [ability@utsc.utoronto.ca](mailto:ability@utsc.utoronto.ca).

## **AcademicIntegrity:**

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's *Code of Behaviour on Academic Matters* (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

- In papers and assignments:*
- using someone else's ideas or words without appropriate acknowledgement
  - submitting your own work in more than one course without the permission of the instructor
  - making up sources or facts
  - obtaining or providing unauthorized assistance on any assignment.
- On tests and exams:*
- using or possessing unauthorized aids;
  - looking at someone else's answers during an exam or test
  - misrepresenting your identity
- In academic work:*
- falsifying institutional documents or grades
  - falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. There are other offences covered under the Code, but these are the most common. ***Please respect these rules and the values that they protect.***