University of Toronto Scarborough – Department of Biological Sciences

BIOB34 – Animal Physiology – Summer 2014

Course Instructor: **Dr. Jason Brown**
Office: SW563B
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Office Hours: Tuesdays 3-5pm, Wednesdays 4-6pm
*I am also available by appointment, both in-person and online.

Course Coordinator: **Kelly Barnes**
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Office Hours: Mondays, Wednesdays, Fridays 10am-2pm
Tuesdays, Thursdays 2-4pm

Teaching Assistant: **Peter Perri**
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Lectures: Wednesdays 7:10-9pm SY110
-Lecture notes (PowerPoint slides) will be posted on Blackboard ~24 hours before each lecture.
-An *optional* online quiz based on each lecture will be available on Blackboard within 24 hours following the lecture.

Tutorials: Wednesdays (after lecture; see Tentative Schedule for exact dates and times)

Course Description: A comparative animal physiology course covering regulatory and control mechanisms such as: homeostasis; metabolism and energetics; excretion and osmoregulation; feeding and digestion; muscles and locomotion; nervous systems.

Prerequisites: BIOA01H3 and BIOA02H3

Textbook:

-I do not "teach from a textbook".

-There will be no assigned readings from any textbook, and only material covered in class will be subject to examination. However, in my experience, many students enjoy having a textbook to supplement their lecture notes. If you so desire, I would recommend the following textbook:

Animal Physiology, 3rd edition; Hill, Wyse, and Anderson
*Copies of this textbook are available in the campus bookstore in both hard cover (~$150) and loose-leaf (~$90) versions; this textbook is also available online via www.coursesmart.com (~$70 for 180 days rental; not the best option if you plan to take BIOB32).

-I will post suggested readings from this textbook; however, the textbook may discuss material not covered in lecture, and I may discuss material in class not covered by the textbook. ***You are responsible for all material covered in class only.***

Evaluation:

Term Tests	34%	(25% best; 9% worst)
Pre-Lecture Videos	11%	(1% each)
Tutorials	21%	(3% tutorial 1 literature analysis; 3% tutorial 2 literature analysis; 2% peer-review; 3% tutorial 4 selection committee exercise; 10% grant proposal)
Final Exam	34%	

Important Notes Regarding Evaluations:

Term Tests

The first test will likely take place during the week of June 9 (2 hours; date and time TBD by the Registrar's office), and the second test will likely take place during the week of July 21 (2 hours; date and time TBD by the Registrar's office). The lectures covered on each Term Test will be announced in class and on Blackboard. Tests will comprise of multiple choice, fill-in-the-blank, and short answer questions. Students will have some choice with regards to which questions they answer (e.g., answer 20 out of 25 multiple choice questions). An online review quiz will be posted on Blackboard about 1 week prior to the each test, and additional office hours (both in-person and online) will also be made available. A student's best test will be worth 25% of their final grade, and the worst test will be worth 9% of their final grade.

Tests will be marked by the course instructor as quickly as possible (usually within 1 week). Once the tests are marked, a test viewing session will be set up to allow students to view their marked tests and ask questions. The date and time of these test viewing sessions will be announced on Blackboard and in class. These sessions are governed by the same rules as the test itself.

If you miss a test due to medical illness, then you must submit to the course coordinator a detailed UTSC Medical Certificate filled out by the physician you saw on the day of the test itself. This note is due within three business days of the test. We will not accept any other medical notes, and if the UTSC Medical Certificate is not completed to our satisfaction, we reserve the right to refuse it. The UTSC Medical Certificate can be found via the following link:

http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf.

If you miss a test for any other valid reason, please consult the course coordinator as soon as possible. The course coordinator will determine whether the reason given for a missed test is valid in accordance with university policies.

Students who miss one test for a valid and verified reason will not be permitted to write a make-up test; rather, the weight of the remaining test will be increased to 34% of their final grade. Students who miss both tests for valid and verified reasons will not be permitted to write make-up 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 3%. **Students who miss a test for any unverified and/or invalid reason will receive a grade of zero for that test; this will not be negotiated.**

If you know in advance that you cannot write the term test at the scheduled time because it conflicts with some other valid activity, please notify the course coordinator as soon as possible so that we can make arrangements for you to write the exam at an alternate time.

Pre-Lecture Videos

Each Monday (by about noon), I will post a video (~ 5 minutes) about the life of the some of the animals that will be discussed in that week's lecture. Students are expected to watch the video and then complete a short quiz about the content of the video before the start of each lecture. (**The links to these quizzes will expire as the lecture begins at 7:10pm, and no extensions will be granted.**) Each of these pre-lecture videos is worth 1% of the student's final grade.

Tutorials

Three mandatory tutorials will be held during this course on Wednesday May 21, Wednesday June 4, and Wednesday July 30. All tutorials will be held in SY 110 following the lecture. (Please see the Tentative Schedule for tutorial start times).

The tutorials will employ the C.R.E.A.T.E. method (see Hoskins et al. CBE-Life Sciences Education 10: 368) to help students become more confident in their ability to read and analyze primary scientific articles, formulate hypotheses, plan experiments, and understand the relationship among scientists, government, and citizenry.

During the first tutorial, students will work in groups (4-5 students) to analyze a recent scientific paper. (All groups will be analyzing the same paper.) The Introduction to the paper will be posted one week in advance of the tutorial, and students will be expected to read it prior to attending the tutorial. The methods and results will be posted just prior to the tutorial. During the tutorial, each group will work to understand the objectives and hypotheses of the study as well as interpret the data presented in the paper by completing an in-tutorial assignment (worth 3% of final grade).

Immediately after the first tutorial, each group will be assigned two papers from a laboratory that is presently conducting research in the area of animal physiology. During tutorial 2, each group will complete an in-tutorial assignment (worth 3% of final grade), similar to that completed during tutorial 1, for the two papers assigned to the group.

After tutorial 2, each student must write a grant proposal (maximum two pages, doubled spaced, 1-inch margins, 12pt Times New Roman font) that outlines the next research project that should be undertaken by the research group whose papers were studied by that group in tutorial 2. An optional tutorial (tutorial 3) outlining how to write a successful grant proposal will take place on Wednesday June 11. The grading rubric for evaluation of the grant proposal will be posted at the same time. The grant proposal must be submitted electronically by Wednesday, June 25 at 11:59pm. Failure to submit this profile before this time will result in a zero grade for this assignment. **NO EXCEPTIONS WILL BE MADE FOR ANY CIRCUMSTANCES.** For the purpose of submitting and tracking this grant proposal, each student will be assigned a PIN (personal identification number) via Blackboard. This PIN **must** be included in the title of your grant proposal for the proposal to be considered for funding (see below). Students should not include their name on their proposals.

After this submission deadline passes, students will be randomly assigned to peer review grant proposals written by two students in the class. Students can access these proposals via the same link used to submit their own grant proposals. These reviews must be completed by Wednesday, July 9 at 11:59pm or no marks will be awarded for these reviews, which are worth 2% of the final grade. After this review deadline passes, students will be able to see their peer reviews. Any student who feels that any one of the peer reviews they received were inadequately completed should contact the course instructor. The course instructor will determine whether the claim is merited and, if so, no marks will be awarded for that peer-review.

Using their peer reviews, students should edit their proposals (if so desired) and resubmit a final version of their grant proposals. **Even if you do not edit your grant proposal, you must resubmit it via the new submission link that will be made available.** The final grant proposals must be submitted electronically by Wednesday, July 23 at 11:59pm. Failure to submit this profile before this time will result in a zero grade for this assignment. **NO EXCEPTIONS WILL BE MADE FOR ANY CIRCUMSTANCES.** Please do not forget to include your PIN in the title of your grant proposal if you wish to be considered for funding.

Following this final submission, each student will be assigned to read grant proposals from two additional students. During tutorial 4, each group will serve as a mock selection committee and will meet together to decide which of the grant proposals assigned to it deserve to be funded and which do not. (Each selection committee will be notified about the number of total projects that can be funded). Students whose grant proposals are selected for funding will receive bonus marks (+1% of their final grade for regular funding; +2% of their final grade for accelerated funding). Students will receive 3% towards their final grade for successfully participating in this exercise. *The course instructor will ensure that each student's grant proposal had an equal chance to be considered for funding.*

The grant proposal is worth 10% of the final grade. It will be evaluated by the teaching assistant.

Final Exam

The final exam (3 hours) will be scheduled by the Registrar's office (August 8-21) and will be worth 34% of the final grade. The final exam will cover all material covered in the lectures throughout the course. It will have the same format as the term tests.

Tentative Schedule:

DATE	LECTURES	TUTORIALS	
May 7	Introduction to Course; Metabolism		
May 14	Temperature 1		
May 21	Temperature 2	Tutorial 1: Primary Literature Analysis 1 (Starts at 8:30pm)	
May 28	Feeding & Digestion 1		
Jun. 4	Feeding & Digestion 2	Tutorial 2: Primary Literature Analysis 2 (Starts at 8:30pm)	
Jun. 11	Nitrogen Excretion & Osmoregulation 1	Tutorial 3 *(Optional)*: Writing a Grant Proposal (Starts at 9:00pm)	Term Test 1 (TBD)
Jun. 18	READING WEEK – NO CLASSES		
Jun. 25	Osmoregulation 2	Grant Proposal – First Submission DUE	
Jul. 2	Nervous Systems 1		
Jul. 9	Nervous Systems 2	Grant Proposal – Peer Revisions DUE	
Jul. 16	Muscles & Movement 1		
Jul. 23	Muscles & Movement 2	Grant Proposal – Final Submission DUE	Term Test 2 (TBD)
Jul. 30	Circulation	Tutorial 4: Selection Committee Exercise (Starts at 9:10pm)	

Accessibility Needs:

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 Access*Ability* Services Office as soon as possible. I will work with you and Access*Ability* Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC Access*Ability* 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.

Academic Integrity:

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.***