

University of Toronto Scarborough – Department of Biological Sciences

## **BIOB34 – Animal Physiology – Course Syllabus – Fall 2013**

**Course Instructor:** **Dr. Jason Brown**  
Office: SW563B  
Email: [jbrow63@alumni.uwo.ca](mailto:jbrow63@alumni.uwo.ca)  
\*Students are encouraged to use the discussion boards on Blackboard for questions about course content  
Office Hours: Tuesdays 10:30-11:30am, Thursdays 1-2pm, or by appointment

**Course Coordinator:** **Angela Jiang**  
Office: SW421-D  
Email: [ajiang@utsc.utoronto.ca](mailto:ajiang@utsc.utoronto.ca)  
Office Hours: Mondays, Wednesdays, Fridays 10am-noon, Tuesdays, Thursdays 2-4pm

**Teaching Assistants:** **Peter Perri**  
Email: [p.perri@mail.utoronto.ca](mailto:p.perri@mail.utoronto.ca)

**Sherri Thiele**  
Email: [sthiele@utsc.utoronto.ca](mailto:sthiele@utsc.utoronto.ca)

**Lectures:** Tuesdays and Thursdays 12:10-1pm AC 223  
\*\*Lecture notes (PowerPoint slides) will be posted on Blackboard ~24 hours before each lecture  
\*\* An online quiz based on each lecture will be available on Blackboard immediately following each class

**Tutorials:** Every 3<sup>rd</sup> Thursday 5:10-7pm AC223 (See Tentative Schedule for exact dates)

**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

**Recommended Text:** *Animal Physiology*, 3<sup>rd</sup> 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  
\*There will be no assigned readings from this textbook; therefore, any textbook on the topic of animal physiology would be suitable, including older editions of the recommended textbook or other animal physiology textbooks used previously in this course

## Evaluation:

Term Tests	35%	(25% best; 10% worst)
Tutorials & Assignments	30%	(2% pre-survey; 3% tutorial 1 literature analysis; 2% researcher profile; 6% tutorial 2 literature analysis; 10% grant proposal; 5% tutorial 3 selection committee exercise; 2% post-survey )
Final Exam	35%	

**\*\*NOTE:** You must pass each component of this course to pass the course\*\*

## Important Notes Regarding Evaluations:

Students will write two **Term Tests**.

The first test will likely take place during the week of October 8 (2 hours; date and time TBD by the Registrar's office) and will cover all lecture material from September 5 to October 1 (inclusive). A review session will be held during lecture on October 3.

The second test will likely take place during the week of November 11 (2 hours; date and time TBD by the Registrar's office) and will cover all lecture material from October 9 to November 5 (inclusive). A review session will be held during lecture on November 7.

Generally, tests will comprise of multiple choice, fill-in-the-blank, labeling/drawing diagrams, and/or short answer questions. Students will be notified of the particular composition of each test at least 48 hours in advance. Students will have some choice with regards to which questions they answer (e.g., answer 20 out of 25 multiple choice questions).

A student's best test will be worth 25% of their final grade, and the remaining test will be worth 10% of their final grade.

Tests will be marked as quickly as possible. Once the tests are marked, an 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. Rules regarding these sessions will be posted on Blackboard.

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 at [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 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 35% 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 70%. 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.

Three **Tutorials** will be held during this course on Thursday September 12, Thursday October 3, and Thursday October 31. All tutorials will be held in AC 223 from 5-6:50pm. The tutorials and the associated **Assignments** will employ the C.R.E.A.T.E. method to help students become more confident in their ability to read and analyze primary scientific articles, understand the kinds of people who are involved in doing scientific research, and better understand the scientific process and its relationship to government and citizenry.

Prior to the first tutorial, students must complete a pre-survey, which will be available online (worth 2% of final grade) at least one week in advance. This survey will gauge students' attitudes towards various aspects of science as they are beginning this course. Failure to complete this survey before the start of tutorial 1 will result in a zero grade for the survey.

During the first tutorial, students will work in groups (6-8 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 tutorial, each group will work to interpret the data presented in the paper by completing an in-tutorial assignment (worth 3% of final grade).

Immediately after tutorial 1, each group will be assigned two papers from a laboratory that is presently conducting research in the area of animal physiology. Before tutorial 2, each student will select one author from either of these papers and write a short (maximum 200 words) profile about their career, which shall include details such as their current position, where they obtained their degrees, who supervised their graduate research, etc. Each member of the group must choose a different author. This profile must be submitted electronically prior to the start of tutorial 2 and is worth 2% of the final grade. Failure to complete this profile before the start of tutorial 2 will result in a zero grade for this assignment.

During tutorial 2, each group will complete an in-tutorial assignment (worth 6% of final grade) that focuses on analyzing and interpreting the results of the two papers, looking particularly to understand how the later publication builds upon the knowledge gained from the earlier publication.

After tutorial 2, each student must write a grant proposal (maximum two pages, doubled spaced, 12pt Times New Roman font) that outlines the next research project(s) that should be undertaken by the research group whose papers were studied by that group in tutorial 2. The grant proposal must also address the project's merit for funding by a taxpayer organization, such as NSERC. This must be submitted electronically by Thursday, October 24 at 11:59pm. Failure to submit

this profile before this time will result in a zero grade for this assignment. This proposal is worth 10% of the final grade. It will be evaluated by both the course instructor/TA (50%) and two peers (25% each). Rubrics for evaluation of these grant proposals will be posted.

Prior to tutorial 3, each student will be assigned to a mock grant agency selection committee. During tutorial 3, each mock selection committee will meet together and 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 5% towards their final grade for successfully participating in this exercise.

Following the completion of tutorial 3, and before the end of classes on December 2, students must complete the post-survey, which is worth 2% of their final grade. This survey will gauge students' attitudes towards various aspects of science as they are ending this course. Failure to complete this survey before December 2 at 11:59pm will result in a zero grade for the survey.

The **Final Exam** (3 hours) will be scheduled by the Registrar's office (December 6-20) and will be worth 35% 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, and the particular composition of the final exam will be announced at least one week prior to the Final Exam. I will consult with students prior to the final exam about suitable times for review sessions.

**Tentative Schedule:**

<b>WEEK</b>	<b>TUESDAY</b>	<b>THURSDAY</b>	
Sep. 2	Introduction to Course	Metabolism 1	
Sep. 9	Metabolism 2	Temperature 1	Tutorial 1 (Thurs, Sep. 12)
Sep. 16	Temperature 2	Feeding & Digestion 1	
Sep. 23	Feeding & Digestion 2	Feeding & Digestion 3	
Sep. 30	Nitrogen Excretion	Review	Tutorial 2 (Thurs, Oct. 3)
Oct. 7	Osmoregulation 1	Osmoregulation 2	Term Test 1 (TBD)
Oct. 14	READING WEEK – NO CLASSES		
Oct. 21	Nervous Systems 1	Nervous Systems 2	
Oct. 28	Muscle & Movement 1	Muscles & Movement 2	Tutorial 3 (Thurs, Oct. 31)
Nov. 4	Muscles & Movement 3	Review	
Nov. 11	Respiration 1	Respiration 2	Term Test 2 (TBD)
Nov. 18	Circulation 1	Circulation 2	
Nov. 25	Reproduction 1	Reproduction 2	

## 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 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).

## 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.***