

University of Toronto Scarborough – Department of Biological Sciences
BIOC32 – Human Physiology I – Fall 2015

Course Instructor: **Dr. Jason Brown**
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Office Hours:
 In office: Thursdays 5-7pm, Fridays 9am-1pm
 Blackboard Collaborate: Mondays 12-1pm

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Course Description: An introduction to human physiology covering the function of neurons, the brain, hormones and our immune systems in both healthy and diseased states.

Prerequisites: BIOB34H3 or NROB60H3

Exclusions: BIOB30H3, PSL300H

Lectures: Tuesdays and Thursdays 12:10-1pm, AC223

**Lectures will be available via Weboption Lecturecasts for the entire semester

Lecture notes will be posted (in PowerPoint format only) on Blackboard ~24 hours before each lecture. Within one week of each lecture, an *optional* quiz (here *optional* means not worth any marks) 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 the Term Tests and Final Exam. Students are strongly encouraged to discuss these quizzes with the course instructor when they encounter any difficulties, either by email or during office hours (preferred).

Tutorials: Fridays 2:10-3pm, AC223 (please see Tentative Schedule)

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, which is available in the campus bookstore:

Human Physiology: An Integrated Approach, 7th ed., Silverthorn

I will post suggested readings, where applicable, from this textbook on Blackboard; however, this 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	35%	(23% best; 12% worst)
Tutorial Assignments	30%	(3% x 6 best “flipped exams”; 6% x 2 short communications)
Final Exam	35%	

Important Notes Regarding Evaluations:

Term Tests

There are two Term Tests in this course. The dates and times of the Term Tests will be determined by the Registrar’s office during the first few weeks of the semester, and I will post this information on Blackboard as soon as it is available. The lectures covered on each Term Test will be announced in class and on Blackboard. Term Tests will be 2 hours and will comprise of multiple choice questions only. Students will have some choice with regards to which questions they answer (e.g., answer 20 out of 25 multiple choice questions). **A large proportion (about 70%) 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 to 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.

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.

Tutorials

Please consult the Tentative Schedule for tutorial dates. Each tutorial consists of two parts.

1) The first part of each tutorial involves a “flipped exam” (based loosely on Lujan et al. 2014 Adv. Physiol. Edu. 38: 339) that each student will complete **individually** (i.e., each student will submit their own answer). Students will have 20 minutes (the clock will start promptly at 2:10pm!) to answer one multiple choice question posted on the screen in the lecture hall. The question will be a research question related to recent lecture content and/or recent human physiology research. In attempting to answer the question, students may consult with any resources available, including other students in the class, online research journals, etc. Students will provide a ranked list of their answers, and the marks received on this exam will be based on which of their answers is correct. For example, if the student’s first answer is correct, they will receive 100%; if the student’s second answer is correct; they will receive 80%; if the student’s third answer is correct, they will receive 60%; and so on. Since there will always be five possible answers, the lowest mark that a student who participates in any tutorial can receive is 20%. If a student does not submit an answer and/or does not participate in a tutorial, they will receive 0%. Once time expires, the course instructor will indicate the correct answer and how it was derived.

2) The second part of each tutorial involves preparing to submit a “short communication”. Working in **groups of 2 or 3**, students will have 20 minutes to derive their own follow-up research question to the question posed in the first part of the tutorial as well as a hypothesis, which they must submit before leaving the tutorial. Then, *within one week (i.e., by 11:59pm on the following Friday)*, they must test their hypothesis using HumMod (available for free at hummod.org) and write up a short communication that details the research question/hypothesis, methods (i.e., the experimental manipulations made and the parameters investigated), results (in the form of tables/figures and some text), as well as their interpretation of the results. **The maximum length of this short communication is 500 words and 2 figures/tables.** Students are only permitted to submit two short communications. One must be submitted before Friday, October 9th at 11:59pm, and the other must be submitted before Friday, December 4th at 11:59pm. Students can only submit a short communication if they submitted their research question/hypothesis before leaving tutorial, and, because students can only submit two short communications, if you decide not to complete a short communication for a particular week, then you are free to leave the tutorial after the “flipped exam” is complete. Also, the research question/hypothesis submitted must be the same as the research question/hypothesis on the short communication, otherwise your short communication will be rejected.

Short communications will be evaluated as follows:

a) Accepted. 10/10. No further action required.

b) Accepted with Revisions. In this case, students have two options: i) They can do nothing and receive a grade of 7/10, or ii) they can submit a revised copy of their short communication. If their revised short communication is accepted following revisions, they will receive 10/10; if it is not, they will receive 7/10. **Any revisions made must be shown via Track Changes.**

c) Rejected. In this case, students will not be permitted to revise their short communication, and it will be considered as if no short communication were submitted. Students will, therefore, have to submit another short communication in a following week.

**TAs will only provide feedback to those short communications that are Accepted with Revisions or Rejected.

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:

WEEK	TUESDAY LECTURE	THURSDAY LECTURE	FRIDAY TUTORIAL
Aug 31	NO CLASS – Classes Start Sep. 3	Introduction to the Course	NO TUTORIAL – Enjoy the Labour Day Weekend!
Sep 7	Electrophysiology of Neurons		Flipped Exam 1
Sep 14	Synapses and Neuronal Integration		Flipped Exam 2
Sep 21	Central and Peripheral Nervous Systems		Flipped Exam 3
Sep 28			Flipped Exam 4
Oct 5			Flipped Exam 5
Oct 12	READING WEEK – NO CLASS		
Oct 19	Ear: Equilibrium	Ear: Hearing	Flipped Exam 6
Oct 26	Vision	Chemoreception: Smell and Taste*	Flipped Exam 7
Nov 2	Hormones and their Basic Mechanisms of Action	Hypothalamus and Pituitary Gland	Flipped Exam 8
Nov 9	Hormones of the Adrenal Glands	Hormones of the Pancreas	Flipped Exam 9
Nov 16	Thyroid, Parathyroid, and Growth Hormones	Paracrine and Autocrine Regulation*	NO TUTORIAL
Nov 23	Immune System: Pathogens and the Body's Defenses	Immune System: Humoral Immunity	Flipped Exam 10
Nov 30	Immune System: Cell- Mediated Immunity	NO CLASS – This day is a UTSC Monday	NO TUTORIAL – Classes End Dec. 3

* Indicates a topic that will only be covered if time permits

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.

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.***