

**BIOC32F: Human Physiology**  
**SYLLABUS**



**Fall 2014**

**Instructor: Professor Joanne Nash**

*Overview:*

Physiology may be defined as the study of the functions of living organisms. BIOC32 will address how organs and systems within the human body perform their functions at the molecular and cellular level, and the impact of these functions on the entire human body. This course will also cover how and why the human body fails in certain pathological or diseased states, and how this impacts the organism as a whole. The following topics will be covered: neurons, the special senses, the central nervous system, the endocrine system and the immune system.

*Objectives:*

The primary objective is to provide a solid understanding of the topics covered in this course. This course also aims to help students understand how research in the laboratory – both modern day and historically, leads to understanding of the functions of the human body, and how the latest scientific technologies are being applied to further understand the workings of the human body.

A variety of evaluation techniques will be employed to encourage student participation in class and to assess the course material covered. To help understand how scientific technologies are used in physiology, students will be introduced to peer-reviewed research articles, taught how to read and understand these articles, then produce a written assignment to demonstrate their newly acquired skills.

**I hope you enjoy taking this course!**

**Prerequisites:** BIOB34H3 or NROB60H3; **Exclusions:** (BIOB30H3), PSL300H

**Teaching Assistants:** Peter Perri (email: [p.perri@mail.utoronto.ca](mailto:p.perri@mail.utoronto.ca)) and Andrew Peters (email: [a.peters@mail.utoronto.ca](mailto:a.peters@mail.utoronto.ca))

**Communication Information:**

Course announcements, communications and lecture outlines will be available on the BIOC32 course page. Lecture outlines will be posted the day before lecture. Videocaptures of the lectures will be posted 24 hours after the lecture and will be available for 2 weeks.

*Lecture content-questions will not be answered by email. These types of questions will be answered during office hours. If you are not able to attend office hours, please make an appointment to see Dr Nash ([jnash@utsc.utoronto.ca](mailto:jnash@utsc.utoronto.ca)) another time.*

Non lecture content-related emails relevant to BIOC32, e.g. general questions, medical emergencies should be sent to [jnash@utsc.utoronto.ca](mailto:jnash@utsc.utoronto.ca).

**Office hours:**

COURSE CONTENT-RELATED QUESTIONS: Thursdays 12 – 2pm in S532

TUTORIAL ASSIGNMENT-RELATED QUESTIONS: Friday 3:30 – 4:30pm in S524A

**Course e-mails:**

Tutorial assignment-related questions: [p.perri@mail.utoronto.ca](mailto:p.perri@mail.utoronto.ca)

General questions & course-related emergencies (not related to lecture material): [jnash@utsc.utoronto.ca](mailto:jnash@utsc.utoronto.ca)

*Lecture content-questions will not be answered by email. These types of questions will be answered during office hours. If you are not able to attend office hours, please make an appointment to see Dr Nash ([jnash@utsc.utoronto.ca](mailto:jnash@utsc.utoronto.ca)) another time.*

**iClickers:** Sample exam questions will be given in class and these can be answered using iClickers. To enhance your learning experience, it is strongly recommended that you bring an iClickers to class. However, there will be no mark contribution for answering questions.

**Recommended Textbook:** Human Physiology (author Silverthorn). Pub Pearson Benjamin Cummings . Any edition is OK. It is not mandatory that you purchase this text book.

**Lectures:** Tuesdays and Thursdays: 9 – 10 am AC223.

**Tutorials:** Fridays 2 -3pm, AC223.

**Videocaptured lectures:** BIOC32 is not a WebOption course. The videocaptured lectures are intended solely as study aids. Videos will be available 2 weeks after the lecture.

## **Tutorial Information**

### **First Tutorial**

Friday Sept. 12<sup>th</sup>: In the first tutorial, the tutorial-based assignment will be described. You will also receive information that will help to understand and critique research articles. It is strongly recommended that you attend this tutorial, since important information will be given relating to subsequent tutorials..

### **Exam Review Tutorials**

The very last tutorial (November 27th) and a lecture prior to the midterm have been reserved for the review of course material. The date of the review tutorial pre-midterm will be determined once the dates of midterms have been announced.

### **Remaining 8 tutorials and the written assignment.**

For the remaining 8 tutorials, the class will be divided into groups of approx. 55 - 55 students. Students will attend only one of these 8 tutorials, and attendance will be taken for this class (2%). The format of each tutorial will be exactly the same each week.

Prior to the tutorial students must read the “research article for tutorial assignments” by Kravtiz et al. At the beginning of the tutorial there will be a pop quiz consisting of 10 questions (the questions will be different each week). The pop quiz is worth 5% of your final mark. The purpose of the quiz is to check that you have read the article, so the questions will not be in-depth and are multiple choice. The TA will give a presentation on the article by Kravtiz et al. Students will then be divided into groups of 5 to discuss the article further. Discussions will be aided by following the ‘Evaluation of Research Articles’ document.

Students will submit a critique of the research article fourteen days after attending the tutorial onto the course page using turn-it-in (18% of final mark). Critiques will be written individually. The critiques should be no more than 2 pages long (single sides), times new roman font, size 12, double spaced. The critiques should be written following the guidelines given by the TA. Tutorial assignments will be submitted electronically using Turnitin.com in Blackboard

## **Course Evaluation**

**Evaluation:** The assignments and tests for BIOC32 have been designed to ensure that the objectives of the course are met. Tests and the final will be multiple choice. Only material covered in the lectures and tutorials will be included in the exam. Material in the text book that is not covered in the course will not be included.

### **Distribution of marks PLEASE READ BELOW FOR MORE INFORMATION:**

Midterm: 25%

Final exam: 50%

Pop Quiz on research article (in tutorial): 5%

Tutorial assignment research article critique: 18%

Attendance to tutorial: 2%

### **Further details of assignments and exams:**

#### **Midterm exam (held during a scheduled term test time): 25%**

Test length: 2 hours. Will cover Lectures 1 – 12. I have requested that this exam be held on the weeks beginning October 20<sup>th</sup> or October 27<sup>th</sup>.

#### **Final Exam: 50%**

Exam length: 2 hours. Multiple choice. Will cover the entire course.

#### **Pop Quiz in Tutorial: 5%**

#### **Tutorial Assignment: 18%**

#### **Attendance to Tutorials: 2% (Tutorial assignment slot ONLY)**

**Missing Midterms:** If you miss the term test, and submit the appropriate documentation stating the reason (e.g.medical), the weight from the term test(s) will be shifted to the final. There will be no make-up opportunities. Please notify Dr Nash know within 3 days of missing the test submit documentation as soon as you can.

**Course Outline Summary\***

<b>Lecture</b>	<b>Date</b>	<b>Topic</b>	<b>Chapter (Silverthorn)</b>
1	September 2nd	Introduction and how to design an experiment	1
2	September 4th	Excitable cells	5,8
3	September 9th	Action Potential (1)	8
4	September 11th	Action Potential (2)	6,8
5	September 16th	Chemical Synapse (1)	8
6	September 18th	Chemical Synapse (2)	8
7	September 23rd	Neuronal Integration (1)	9
8	September 25th	Neuronal Integration (2)	9
9	September 30th	CNS (1)	9
10	October 2nd	CNS (2)	9
11	October 7th	CNS (3)	9
12	October 9th	CNS (4)	10
Oct 14 <sup>th</sup> – 17 <sup>th</sup> READING WEEK			
13	October 21st	The Special Senses (1)	10
14	October 23rd	The Special Senses (2)	10
15	October 28th	The Special Senses (3)	10
16	October 30th	The Special Senses (4)	10
17	November 4th	Autonomic and Somatic control	11
18	November 6th	Endocrinology (1)	22 - 23
19	November 11th	Endocrinology (2)	22 - 23
20	November 13th	Endocrinology (3)	22- 23
21	November 18th	Muscles (1)	12
22	November 20th	Muscles (2)	12
23	November 25 <sup>th</sup>	Muscles (3)	12
24	November 27 <sup>th</sup>	Technological Advances / Review of course material	NA

\* Disclaimer: The above schedules, procedures and policies are subject to change in the event of extenuating circumstances.

### Other Important Information

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**Important Dates:**

November 17 <sup>th</sup> 2014	Last day to drop F courses without academic penalty and have them removed from the transcript.
December 5 <sup>th</sup> 2014	Last day to drop the course without academic penalty. LWD will be recorded on your transcript. (e-service only).
December 5 <sup>th</sup> – 19 <sup>th</sup> 2014	Examination period

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**Academic Integrity:** Please refer to <http://www.governingcouncil.utoronto.ca/policies/behaveac> for the University of Toronto's Code of Behaviour on Academic Matters. Potential offences include, but are not limited to:

In Tests and Exams: to use or possess an unauthorized aid or to look at the answers of another student's exam; misrepresentation of identity.

Medical Notes and other Official Documentation: Falsification or alteration of documentation required by the University.

**AccessAbility Information:** Please let me and / or AccessAbility services know if you require any accommodations to ensure that you achieve your learning goals in this course. AccessAbility services is located in SW302 (tel: 416-287-7560; email: [ability@utsc.utoronto.ca/ability](mailto:ability@utsc.utoronto.ca/ability)), where you can arrange appointments to assess and accommodate your specific needs. Enquiries are confidential.

**Turnitin.com:** Normally students will be required to submit their tutorial assignments using Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their assignments to be included as source documents in the Turnitin.com reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of the Turnitin.com service are described on the website. Turnitin.com is most effective when it is used by all students in a particular course; however, if and when students object to its use on principle, a reasonable offline alternative must be offered. There is a wide variety of non-electronic methods that can be used to deter and detect plagiarism; for example, to require that all rough work is handed in with the paper or that the student include an annotated bibliography of the paper. Instructors may wish to consult with the Centre for Teaching and Learning Support & Innovation when establishing these alternatives.