

BIOLOGY 3ZZ3 – TOPICS IN PHYSIOLOGY 2018-2019 (Fall term)

INSTRUCTOR:

Dr. Joanna Wilson (LSB 528, joanna.wilson@mcmaster.ca)

Office hours are not set. Please contact the instructor to set an appointment when needed

TA – TBD

LECTURES/ SEMINARS:

Friday 1230-220 pm, BSB120

**** A full schedule of speakers will be provided on Avenue to Learn. The schedule will be updated should a speaker need to withdraw or change the presentation date.****

TUTORIALS:

Wednesday 1130-120 pm, GS101

**** A full schedule of tutorial topics will be provided on Avenue to Learn. The schedule will be updated if need be. ****

Course Objectives: Students in this course will be exposed to recent research advances and methodologies in the broad field of physiology. Students will become competent at locating, reading and analyzing information from the primary literature. Students will gain both oral and written communication skills. Students will engage in active discussions of scientific research and pose questions related to the physiology topics presented in class. Students will learn about the scientific method including such things as hypothesis testing, experimental design, physiology methods, model systems, data analysis and interpretation, and statistical analyses of data. Students will be able to value a wide range of physiology research areas.

Lecture Format: This course focuses on “**Topics in Physiology**” and combines study of the primary research literature with seminar presentations by McMaster Professors, post-doctoral researchers and Ph.D. graduate students, as well as outside speakers from other institutions. Each week we will consider one research paper, typically from the speaker’s laboratory (or from a closely related research group or a review article). The citation will be posted on ‘Avenue’ prior to class, and all students should come to class having read the paper and be *prepared to enter into a discussion* on that paper.

A group of students will be assigned each week’s paper. This group will lead the first hour of class, giving an oral presentation about the paper, the physiological system, species of interest, and/or methods. Presenting students should be prepared to answer questions from other students in the class and lead an in-class discussion. The invited speaker will then give a ~40 minute lecture, followed by questions from the class and discussion about the presentation. The goal of the student presentation is to prepare the class for the

speaker and ensure that everyone in the class understands the topic in physiology to be discussed that week. Please note that the goal is NOT to go over every aspect of the paper, as all the students have read the paper, but to *ensure the class understands the paper*. Physiological systems, organisms, methods etc that are unfamiliar to students from other course work should be emphasized in the group presentation. Groups will consist of 1-3 students and depends on class enrollment.

Each student will write an individual report on their assigned paper, which will be due one week after their oral presentation (max two pages, single spaced). They should be written in the style of a “journal feature” such as the “Outside JEB” section of the Journal of Experimental Biology (<http://jeb.biologists.org>). Rather than trying to write for a specialist audience, students should write their report in such a way that it is interesting and easily understood by an undergraduate biology audience. The written report should distill the paper’s main findings, most interesting work, or implications for a broader field and have a clear point of view; this should not simply summarize the paper section by section. A good example of an “Outside JEB” feature and its target journal article will be posted on ‘Avenue’. Make the report interesting – think of it as scientific journalism!

Each student should hand in an annotated bibliography to the course instructor at the time of the report. An annotated bibliography should list all the pertinent publications that the student read to prepare both the seminar and report. Full bibliographic details should be provided along with ~5 bullet points detailing the main points of the publication and critical data it provided for the seminar and report; students need to document what they used the publication for. An example of an annotated bibliography will be posted on ‘Avenue’. Do not add extraneous publications as the point is not to have the most publications listed but to demonstrate that you have read a number of important papers related to your topic and can distill the critical information from the paper for your work.

Tutorial Format: Tutorials will take place weekly and will be focused on skills development, class discussion, and active learning to complement the lectures. Flash updates will be short (10 min) presentations on targeted topics. Students will need to submit presentations (pdfs of slides) prior to class so they are easily available in Avenue to Learn for use during the tutorial. During tutorial time, students will complete work sheets or tutorial assignments. A full list of tutorials and flash updates will be provided on Avenue to Learn.

Text: There is no required textbook for this course. Students will be asked to read and interpret primary research literature.

Presentations: Students should bring a powerpoint presentation (or similar) to class on a USB key. Alternatively, they may bring their laptop computer to present from their software of choice. If you bring a laptop please ensure that you have the appropriate dongle needed to connect your laptop to the classroom projection system.

Exams: There is a take home exam for this course. It will be given to the class before the exam period starts and will be due during the exam period. Students will submit their exam answers via Avenue to Learn.

MARKS:

Presentations	20%	1 / term; given in a group during lecture
Reports	20%	1 / term; individually completed based on presentation paper, due one week after presentation
Annotated Bibliographies	5%	1/ term; individually completed based on presentation and report, due one week after presentation
Flash Update	10%	1/ term; individual, in tutorial
Tutorial Assignments	15%	9 per term; weighted individually from 1-5%
Take Home Exams	20%	Handed out at end of term
Class Participation	10%	Based on student attendance, participation in student led discussions, participation in question period with speakers, and tutorial discussions. Quality of questions and contributions considered in assessment.
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Total	100%	

Written Work and Late Submissions:

All written work will be marked on grammar, clarity of writing, and organization, as well as content and analysis. Information presented in the written assignments and oral presentations should be properly referenced. Any data shown in class presentations should include an appropriate reference directly on the slide. An annotated bibliography is required as an assignment covering both components. Students are free to choose their preferred referencing style but it should be consistent for one written report.

All written work must be submitted in class, on the due date. Do not submit through email or after class hours. Late assignments will be penalized 5% a day and this penalty will not be waived unless your Faculty/Program Office advises the instructor that you have submitted to that office the appropriate documentation to support your inability to submit the work by the due date.

Requests for Relief for Missed Academic Term Work

If you are absent from the university for a minor medical reason, lasting fewer than 5 days, you may report your absence, **once per term**, without documentation, using the McMaster Student Absence Form. Absences for a longer duration or for other reasons must be reported to your Faculty/Program office, with documentation, and relief from term work will not be granted but rescheduling of submission dates may be provided.

When using the MSAF, enter the course instructor for the appropriate term as the contact for the course. You must then contact the instructor immediately (normally within 2 working days) by email to learn what revised deadlines are expected. With an approved MSAF the following accommodations may be granted. If you miss a presentation, you must reschedule the presentation to take place the first Tuesday following your return. This presentation will take place during the second lecture slot. If you miss handing in a written assignment, you must hand in the assignment in the following class.

Please note that a portion of your grade is based on participation. Unexcused absences from class will result in lower grades for this portion of your mark. If students have an unexcused absence from class on the day of their assigned oral presentation, they will receive zero marks for that component.

Academic Integrity

You are expected to exhibit honesty and use ethical behavior in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behavior can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcripts (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at www.mcmaster.ca/academicintegrity.

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work
3. Copy or using unauthorized aids in tests and examinations

On-line Course Element

In this course we will be using Avenue to Learn. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any question or concerns about such disclosure please discuss this with the course instructor.

Academic Accommodation

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or email sas@mcmaster.ca. For further information, consult McMaster University's Policy for Academic Accommodation of Students with Disabilities.

Disclaimer in the event of strikes, pandemics or other unanticipated circumstances:

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.