University of Toronto Scarborough – Department of Biological Sciences
BIOD34 – Conservation Physiology – Winter 2021

Course Instructor: Dr. Cosima Porteus
Email: cosima.porteus@utoronto.ca
Office: SW525a
Office Hours:
By Appointment only:
https://outlook.office365.com/owa/calendar/UTSC3@utoronto.onmicrosoft.com/bookings/
Note: you must book your appointment at least 6 hours in advance; appointments are 15 minutes long.

Course coordinator: Jennifer Campbell
jac.campbell@utoronto.ca

Teaching Assistant: Natalia Sandoval Herrera
Email: natalia.sandovalherrera@mail.utoronto.ca

Course Description: This is a combined lecture and seminar course that will discuss topics such as climate change and plastics/microplastics effects on the physiology of animals, and physiological tools and techniques used in conservation efforts. The course will focus on how physiological approaches have led to beneficial changes in human behaviour, management or policy.

Prerequisites: BIOB34H3, and (BIOC58H3 or BIOC60H3 or BIOC61H3)

Exclusions: BIOD33H3

Lectures: Tuesdays 12:00-2pm, Blackboard (Bb) Collaborate. This is an online synchronous course. The lectures will be recorded and made available after on Quercus.

Notice of video recording and sharing (Download permissible; re-use prohibited)
This course, including your participation, will be recorded on video and will be available to students in the course for viewing remotely and after each session. Course videos and materials belong to your instructor, the University, and/or other source depending on the specific facts of each situation, and are protected by copyright. In this course, you are permitted to download session videos and materials for your own academic use, but you should not copy, share, or use them for any other purpose without the explicit permission of the instructor. For questions about recording and use of videos in which you appear please contact your instructor.

Tentative Lecture Topics

1) Conservation physiology's roots, purpose and tools
2) Ocean acidification and sensory physiology
3) Respiratory physiology
4) Thermal ecophysiology – Guest speaker
5) Transcriptome profiling in conservation physiology and ecotoxicology
6) Plastics and Microplastics
7) Ammonia excretion and conservation physiology – Guest speaker
8) Conservation physiology and disease – Guest Speaker
9) Nutritional physiology
10) Ecotoxicology and reproductive physiology
11) Using conservation physiology to address human-wildlife conflicts

Lecture notes will be posted (in PDF format only) on Quercus at least 24 hours before each lecture. **NOTE: I reserve the right to make changes to the lecture notes after they are posted.**

Tutorials: Thursdays 12:00-1pm

Tutorial Schedule for BIOD34

Week 2 –	How to assess scientific literature
Week 3 –	Demonstration of a current debate in conservation physiology
Week 4 –	Critically assessment of a paper from the primary literature
Weeks 5 – 9	Tutorial debates
Week 10 –	Review session

Textbooks: There is no required textbook for this course; however, I would recommend the following textbooks:

Animal Physiology, 4th edition, 2016, by R.W. Hill et al.

➔ Ebook version https://uoftbookstore.vitalsource.com/textbooks?term=9781605355993

Conservation Physiology, 1st edition, by Christine Madliger et al.

➔ Ebook version https://uoftbookstore.vitalsource.com/textbooks?term=9780192581778

Evaluation:

Tutorial debates	25% (5% participation in tutorials, 15% presentation, 5% response)
Review paper	35% (10% first draft, 5% feedback on first draft, 20% final paper)
Final Exam	40%

Important notes regarding evaluation

Tutorial debates 25% (5% participation in tutorial discussions, 15% presentation, 5% response) These are presentations on a controversial topic in conservation physiology to be presented during the tutorial sessions. You will be assigned to a topic and a stance (pro or con). You are expected to search the scientific literature on the topic and prepare an 8-10 minute presentation giving some background to the topic and providing your arguments. Then the other point of view will be presented. You will then have 5 minutes to organize your arguments and respond. Then the others will then respond to your arguments. This will be followed by a 10 minute class discussion on the topic.

Review paper 35% (10% first draft, 5% feedback on first draft, 20% final paper)
Due dates: topic approved by Feb 8th, 2020; first draft Feb 22nd, 2020; feedback due March 5th, 2020; final draft due March 19th, 2020.
Submission method: Send a PDF via e-mail to instructor.
In this assignment you will write a relatively-short review paper (approximately 3000 words) that examines some aspect of conservation physiology. Your paper should be based on at least four (4) original research articles (more than 4 is okay and is likely to be needed) and should contain at least three (3) figures that come from these articles or elsewhere.
Step 1: Select a topic. You have a wide range of subjects to write about some aspect of conservation physiology. You can consult the journal Conservation Physiology (https://academic.oup.com/conphys) for papers and ideas. The subject chosen should include some aspect of conservation (climate change/global warming/habitat destruction/population decline) and at least one aspect in which physiology is being used to address this.
Step 2: Once you have selected a topic, gather some research articles on that topic (you need to use a minimum of four) and formulate a plan for your paper. The paper should include an introduction that discusses the conservation problem you are discussing and an introduction to the physiology used to address it. The paper should have a concluding section in which you summarize your ideas/findings. The middles section of the paper will depend on how you organize your paper and your topic, and should have a logical progression of the areas you wish to discuss.
Step 3: Meet with the instructor to discuss the assignment. The reasons for this meeting are: 1) to make sure you understand the assignment is and what is expected; 2) To check that you have selected and appropriate topic to summarize; 3) to prevent you from leaving everything until the last minute. These meetings will ideally occur before February 8th, 2020. Please book a time for the meeting (15 minutes) using this link
https://outlook.office365.com/owa/calendar/UTSC3@utoronto.onmicrosoft.com/bookings/
Step 4: Write your paper. Make sure to include at least 4 primary research articles. The first draft is due February 22nd, 2020. This is 10% of your final mark. It should be close to the work limit (at least 2000 words), include at least 4 primary journal articles and 2-3 figures. Formatting is not critical at this stage, but the more complete your draft, the more feedback you can get.

Step 5: You will be given someone's paper anonymously and you will give them feedback on their work. You have a week to do this. The feedback is due on March 5th, 2020 and it makes up 5% of your mark. This serves three (3) purposes: 1) you give constructive feedback to someone else and learn how to do this in the process; 2) you see someone else's paper and maybe get ideas of things you might want to include or omit in your own paper; 3) you get feedback from someone else on your writing/clarity/topic. This will be done using peerScholar (student peer review tool) in Quercus.

Step 6: Submit final paper. The paper is due by March 19th, 2020 at 5:00pm.

Normally, students will be required to submit their review paper to Turnitin.com for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays 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 Turnitin.com web site.

LATE PENALTY: 5% per day

Final Exam 40%

The Final Exam will be scheduled by the Registrar's office (April 13-23) and will be worth 40% of the final grade (unless, for reasons stated above, it has a higher weight). It will be 3 hours and will cover all course material including tutorials, though it will place emphasis on the material discussed in class.

Missed Term Work Policy

If you know in advance that you cannot complete term work at the scheduled time because it conflicts with some other valid activity, please notify the course instructor as soon as possible so that arrangements can be made for you.

If you miss term work due to medical illness, then you must submit a Self-Declaration of Student Illness Form, which is available at the following link: https://www.utsc.utoronto.ca/biosci/sites/utsc.utoronto.ca.biosci/files/u26/Self%20Declaration%20of%20Student%20Illness%20Biological%20Sciences%20fillable.pdf

This form must be submitted to the course instructor and the course coordinator, Jennifer Campbell (jac.campbell@utoronto.ca), within 48 hours of the missed course work.

If you miss term work for any other valid reason, please consult with the course coordinator as soon as possible. The course coordinator will determine whether the reason given for the missed work is in accordance with the university policies. Also, the course coordinator might may ask for any documentation required to verify the reason given.

AccessAbility statement

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.

AccessAbility Services staff (located in Rm AA142, Arts and Administration Building) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations 416-287-7560 or email *ability@utsc.utoronto.ca*. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Academic Integrity

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 in papers and assignments include 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 cheating includes using or possessing unauthorized aids, looking at someone else's answers during an exam or test, misrepresenting your identity, or falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.