

BIO 9653 – TOPICS IN ANIMAL PHYSIOLOGY I

Animal Metabolism

Summer 2024

1. Course Information

Class Composition and Size: Maximum 12 students, minimum 5.

We welcome students from all Biology streams, but those in Physiology and Biochemistry will have enrollment priority. The course will emphasize mechanistic, functional and evolutionary aspects of metabolism, so students should have a solid undergraduate footing in physiology and/or biochemistry, or a commitment to independently expand basic knowledge where necessary.

Meeting Time/Place:

Eight 3-hour sessions, usually held weekly in person. The exact times and location to be determined.

2. Instructor Information (individual meetings by appointment only)

Dr. Jim Staples, Professor, Biology, jfstaple@uwo.ca (include “Bio 9653” in subject).

3. Course Description

Energy metabolism is a key selective pressure that impacts animal biology at levels of organization from the subcellular to the ecosystem. For most animals, metabolism is also profoundly affected by changing environmental conditions. This course will focus on how animals may (or may not) be able to adjust metabolism on acute, acclimatory, or adaptive time scales to mitigate environmental challenges. Accurate measures of metabolism are necessary to assess how animals make such adjustments, so this course will also emphasize historical and emerging measurement techniques, and how to best analyze and report the resulting data. Instructors will assign readings and lead initial discussions. Students will then choose (either individually or in pairs, depending on enrollment) the topic they wish to explore in depth. Students will then prepare materials related to that topic (see “Methods of Evaluation,” below).

4. Course Materials

Relevant materials and assignments will be posted to OWL in due course. This is the primary method by which information will be disseminated. Students are responsible for checking OWL regularly.

5. Methods of Evaluation

Assignments:

Journal Club presentation: 10%

“Outside JEB” article (based on Journal Club paper): 15%

Lecture and lecture notes/materials: 15%

Peer Evaluation of lecture: 10%

Annotated bibliography of Review Paper topic: 10%

Review Paper proposal: 25%

Engagement, contribution and participation: 15%

According to SGPS regulations, “Students must maintain a cumulative average of at least 70% calculated each term over all courses taken for credit, with no grade less than 60%.”

6. Course and University Policies

Student Absences:

Notify the instructor as soon as possible if you are unable to attend a class. Regardless of the reason for the absence, the student remains responsible for the material covered.

Late assignments:

If you are unable to complete an assignment by the due date, please notify the instructor as soon as is possible. A penalty of 5% of the assignment total/day will be assessed for late assignments without accommodation.

Accommodation Policies:

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf.

Scholastic offences:

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following [web site](#).

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Support Services:

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca. Learning-skills counsellors at the Student Development Centre (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

9. Land Acknowledgment

We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron peoples, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. This land continues to be home to diverse Indigenous peoples (e.g. First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society.