

The Physiology of Animal Migration (Bio 4611G)

2010-2011

Location: Biological & Geological Sciences (BGS) -1056

Time: TU TH 09:00-10:30 AM

Prerequisites: Either Biology 2601A/B or Physiology 3120, or the former Biology 2672A/B, or permission of the Department; and either completion of at least 1.5 Biology courses from the 3000-level or above, or registration in Year 4 of an Honors Specialization in Animal Behaviour.

Instructor: Dr. Silke Nebel (<http://www.uwo.ca/biology/Faculty/nebel/index.htm>)

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Office: Advanced Facility for Avian Research (AFAR), room 205

Office hours: by appointment

Course Content

Migration is an amazing natural phenomenon and an important component of the life history of many species. The goal of this course is to examine the physiological basis of migratory movements across invertebrate and vertebrate animals. We explore why migration evolves and its particular physiological challenges. Topics covered include (1) the evolution of migratory life histories, (2) biological rhythms and migration timing, (3) the sensory basis of navigation and orientation, (4) biomechanical and energetic constraints on movement, (5) metabolic fuel storage and utilization, (6) stable isotope, radar, radio-telemetry and other tracking methods, and (7) physiological approaches to the study of migration ecology.

Assignments

There will be one mid-term and one final exam. Students will also write a review article on any topic of animal physiology of their choice. It will follow the format of the publicly accessible undergraduate library of the Nature Knowledge Initiative

(<http://www.nature.com/scitable/knowledge/ecology-102>).

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Attendance

Attendance is mandatory. You may miss 1 class without penalty, for every additional class missed you lose 10% of the attendance mark (i.e. 1% of the final grade), unless you provide academic accommodation from the Dean's Office.

Course Materials

This course will use a combination of lectures and readings from the primary literature to develop a knowledge base on migration physiology. There is no text book that covers all of the material in the course, but inspiration is taken from Migration, The Biology of Life on the Move, 1996 by Hugh Dingle. Required readings from the primary literature will be posted on the course WebCT OWL website.

Evaluation

Midterm Exam (25%): Thursday Feb 17, in class (covers lectures Jan 6 – Feb 10 inclusive)

Final Exam (35%): Time and Location TBA (cumulative)

Review paper: 30%

Attendance: 10%

WebCT

4611G has a WebCT course webpage (<https://owl.uwo.ca/webct/>) on which material and announcements about the course will be posted. The student is responsible for keeping up to date with material posted on this site.

Handing in the assignment

To hand in your assignment you must do the following by the deadline:

1. Hand in an electronic copy to turnitin.com.
2. Print out the submission receipt from turnitin.com and attach it to the front of your lab.
3. Download, print out, sign and attach a cover sheet to your hard copy. This attests that the copy you have submitted to turnitin is identical to the hard copy submitted for marking.

Late submission will result in a penalty of 50% of your mark per 24 h. Please note that computer problems are not considered a valid excuse for failing to hand an assignment in on time. You are expected to keep adequate backups of your data, you are responsible for ensuring your files are saved in a format suitable for uploading to turnitin.com, and you are responsible for managing your time in such a way that you can absorb minor problems.

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

Missing a class because of illness or other circumstances

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Dean's office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. For further information please see

<http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here:

https://studentservices.uwo.ca/secure/medical_document.pdf

Academic Integrity

As you know, we take academic integrity seriously at Western. Plagiarism is a major academic offence and will be dealt with as such. Students must write their assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Penalties range from severe mark penalties to failure of the course or expulsion from the University. If you have any doubts regarding what constitutes plagiarism, you are encouraged to clarify matters with your instructors prior to turning in your assignments. For more information please go to http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf.

Electronic devices:

Use of iPods, Blackberries, cellphones or other electronic devices is not allowed at any time during class. You are, however, allowed to use a laptop to take notes during the course.