

Lab Studies in Mammalogy (ZOO*4950)

Winter 2014 Course Outline

Instructors:

Dr. Amy Newman (newman01@uoguelph.ca, ext. 56595, SCIE 1467)

Dr. Leslie Rye (lrye@uoguelph.ca, ext. 56129, SCIE 2505)

Office hours: TBD

Teaching Assistant: TBD

Meeting Schedule:

SEC 01 W 2:30 – 5:20 SCIE 2304

SEC 02 Th 2:30 – 5:20 SCIE 2304

NOTE: Students enrolled in this course must be available to complete two nights of small mammal trapping (setting traps between 6 and 8pm and checking traps the next morning between 6 and 8 am) during the weeks of March 17 and March 24.

Calendar Description: This course provides a practical experience in the study of Mammalogy. Using University collections of prepared and preserved specimens and field observations where possible, students will develop and apply skills in identification and sampling, explore relations between species diversity and habitat, and investigate through guided study, the extent of anatomical, skeletal, reproductive and morphological variation and its functional and evolutionary causes.

Prerequisite: 15.00 credits including [ZOO*2090](#)

Restriction(s): This is a Priority Access course. Enrolment may be restricted to particular programs, specializations or semester levels during certain periods. Please see the departmental website for more information.

Course Objective: The goal of this course is to provide students with an opportunity to learn and practice the laboratory and field skills used by practicing mammalogists. These include the identification and collection of data from preserved specimens, as well as the tracking, trapping, handling and marking of wild mammals. Roughly half of the semester will be spent in the laboratory and half will be spent in the field. Given that inclement weather is likely in the field in the spring, students are required to dress appropriately. This course will also involve modern computational techniques for analyzing data collected from specimens and wild mammals. As a result, some of the laboratory periods will be spent in the computer lab practicing these techniques. The course will be structured around four modules that will each end with the completion of an assignment that will demonstrate your ability to implement these new techniques as well as your ability to think creatively about what you have learned.

Required Materials

Ryan, J. 2011. *Mammalogy Techniques Manual*, 2nd Edition. Lulu Press. This manual can be ordered at: <http://www.lulu.com/product/paperback/mammalogy-techniques-manual-2nd-edition/16042556>

Evaluation

Assignments 80% (4 modules = 20% per module)

Snow Tracking Project 20%

Tentative Course Schedule

Class schedule is subject to change -- this is just a tentative outline as outdoor labs are weather dependent.

Date	Topic
Jan 8, 9	Introduction Snow tracking project: theory and protocols
Jan 15, 16	Module 1: Tracking mammals using radio-telemetry and estimating their home range; practice snow tracking protocols. Data Collection: We will meet in the field this week.
Jan 22, 23	Module 1: Tracking mammals using radio-telemetry and estimating their home range; practice snow tracking protocols. Data Collection: We will meet in the field this week
Jan 29, 30 Submit snow tracking project proposal online by 5pm Jan 31	Module 1: Tracking mammals using radio-telemetry and estimating their home range. Analysis: Home range analysis in the lab
Feb 5, 6	Module 2: The evolution of body size in mammals (e.g., Bergman's Rule, Allen's Rule, Climate change, mega-mammals, mating system and dimorphism) Data Collection: Collect morphometrics data (submit assignment for module 1)
Feb 12, 13	Module 2: The evolution of body size in mammals Analysis: Morphometrics analysis
Feb 19, 20	Winter Break – No lab
Feb 26, 27	Module 3. Inferring the evolutionary history of mammals Part A: morphological characters. Read Chapters 1 & 2 in your lab manual and the Instructions for Module 3 before coming to lab. (submit assignment for module 2)

Mar 5, 6	<p>Module 3. Inferring the evolutionary history of mammals</p> <p>Data Collection: Compile a class dataset on the characters that we have decided upon</p>
<p>Mar 12, 13</p> <p>Online submission of Snow tracking virtual presentation by 5pm Mar 14</p>	<p>Module 3. Inferring the evolutionary history of mammals Part B: Molecular characters</p> <p>Analysis: Phylogeny reconstruction (Read Chapter 3 in your lab manual)</p> <p>Analysis: Compare morph phylogeny to COI phylogeny from IBOL</p>
Mar 19, 20	<p>Module 4. Assessing the abundance of small mammals – a comparison of techniques</p> <p>Data collection: small mammal live-trapping in the field; checking camera traps and hair traps</p> <p>(submit assignment for module 3)</p>
Mar 26, 27	<p>Module 4. Assessing the abundance of small mammals – a comparison of techniques</p> <p>Data collection: small mammal live-trapping in the field; checking camera traps and hair traps</p>
Apr 2, 3	<p>Module 4. Assessing the abundance of small mammals – a comparison of techniques</p> <p>Analysis: Data analysis in the lab</p> <p>(submit assignment for module 4)</p>

Important Policies and Procedures

When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Drop Date

The last date to drop one-semester courses, without academic penalty, is March 7th. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Copies of out-of-class assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible. For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: <http://www.csd.uoguelph.ca/csd/>

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor. The Academic Misconduct Policy is detailed in the Undergraduate Calendar: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Academic Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs: <http://www.uoguelph.ca/registrar/calendars/index.cfm?index>