REN R 401

EVOLUTION AND ECOLOGY OF NORTHERN MAMMALS

In Winter 2018, REN R 401, *Evolution and Ecology of Northern Mammals*, is being offered at Yukon College as part of the University of Alberta Northern Environmental and Conservation Sciences, B.Sc. Program. All students registered in REN R 401 must adhere to requirements outlined in this course syllabus. Policy about course outlines can be found in Section 23.4(2) of the University Calendar.

INSTRUCTOR:	Thomas Jung
OFFICE HOURS:	By appointment
OFFICE LOCATION:	TBD
TEXT/E-MAIL:	336-2048 / ts_jung@hotmail.com
LECTURE/LAB TIMES:	Tuesdays 6:00-9:00 (A2805) & Wednesdays 1:30-2:30 (C1511)

COURSE DESCRIPTION AND OBJECTIVES

This course will provide a practical introduction to the subject of mammalogy, the biology of mammals. The course will place a strong emphasis on northern mammals, those occurring in northern (boreal and arctic) biomes. Students will learn about 1) the diversity of mammals, 2) the basic biology of Mammalia, 3) current research and issues in mammalian ecology and conservation, and 4) methods used by researchers in the field of mammalian biology. The course material will largely be presented within the context of adaptation to the unique challenges posed by mammals inhabiting northern biomes.

This course has two goals: first, to provide students with a broad overview of mammalian biology; second, to provide a detailed understanding of mammals in northern biomes, including diversity, anatomy, physiology, behaviour, and ecology. To the extent possible, these two goals will be addressed in lecture (Monday) and lecture/lab (Thursday) classes, respectively.

Upon successful completion of this course, students will be able to:

1) Describe the distinguishing characteristics of the primary mammalian orders and families, with an emphasis on mammals occurring in boreal and arctic ecozones.
2) Explain the diversity of behavioural, morphological, and physiological adaptations of northern mammals that allows them to exist in a northern environment.

3) Identify current methods to monitor and study mammals in northern environments.
4) Conduct original research (or prepare a species account) on northern mammals.

DELIVERY METHODS/FORMAT:

The course will be structured as a 1-hour lecture on Wednesdays plus a 3-hour combined lecture and lab on Tuesday evenings. Class sessions will include a lecture covering general topics in mammalian biology, and occassional lab and field sessions in which practical skills related to mammalian biology and research will be demonstrated.

Optional field trips to local sites (e.g., Yukon Wildlife Preserve, Beringia Centre, Yukon Department of Environment, and select natural areas) may be arranged outside of, and in lieu of, regularly scheduled classes, and will serve to illustrate material covered in the lectures and labs to deepen students knowledge of the material.

Guest lectures will be invited from time-to-time.

This format may vary, depending on the material to be covered.

Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor.

PREREQUISITES:

Registration in University of Alberta/Yukon College B.Sc. in Environmental and Conservation Sciences degree program, and successful completion of a second-year biology course.

REQUIRED TEXTBOOKS/MATERIALS:

There is no required textbook for the course; however course material will be drawn from the recommended text and it would be beneficial for students to have a copy. Additional readings will be distributed by the instructor (via email).

Recommended Text:

- Feldhamer, G.A., L.C. Drickamer, S.H. Vessey, J.F. Merritt, and C. Krajewski. 2007. *Mammalogy*. Third edition. Johns Hopkins University Press. ISBN-10: 0801886953

Others:

- Naughton, D. 2013. *The Natural History of Canadian Mammals*. University of Toronto Press. ISBN-10: 1442644834
- Ryan, J.M. 2011. *Mammalogy Techniques Manual*. Second edition. Lulu.com ISBN-10: 1257831941

COURSE REQUIREMENTS/EVALUATION:

Evaluation

The course grade will be determined as follows:

Assignment	Percent
Mid-Exam (28-February-2018)	30%
Final exam (19-April-2018)	30%
2 Quizzes (5% each)	10%
Research project (24-April-2018)	30%

Exams

There will be two midterm exams and one comprehensive final exam. The midterm exam will be scheduled during class time on **28 February 2018**. The final examination will be on **19 April 2018** and cover material and will not be cumulative; that is, it will cover material taught between the mid-term exam and the final exam.

Quizzes

Quizzes will occur during select Thursday combined lecture and lab sessions.

Research Project

Students will have an opportunity to conduct an original and independent research project to develop and deepen their skills and knowledge in the collection, management, analysis, and interpretation of data typically collected in the field of mammalogy. They will be required to discuss their topic with the instructor by 31-January-2018. The research project may take the form of original research presented in the format of a paper in the *Journal of Mammalogy*. Alternatively, it may be the development of a species account, written in the format of *Mammalian Species*. Further information on the research project will be provided in class.

Unless otherwise specified, assignments must be emailed to the course instructor by 11:59 pm on **24 April 2018**. Late assignments will lose 5% of their mark per day that they are late.

Assignment of grades

Grades will NOT be adjusted to fit a predetermined distribution. The total numerical score will be converted to a grade on the University of Alberta's letter grading system.

TENATIVE COURSE SCHEDULE:**

Week	**Lab (Tuesdays 18:00-21:00)**	**Lecture (Wednesdays 13:30-14:30)**
8-12 January	No lab	Introduction to Mammalogy
15-19 January	Mammalian Diversity	Dentition and Skulls
22-24 January	No lab	No lecture
29-31 January	Order Soricomorpha	Skeleton & Locomotion
5-7 February	Carnivore Necropsy[1]	No lecture
12-14 February	Order Artiodactyla I	Environmental Adaptations I
19-21 February	Reading Week – No Classes	
26-28 February	Order Artiodactyla II	Environmental Adaptations II
5-7 March	Order Chiroptera **(Quiz)**	Biological Rythms
12-14 March	**Mid-Term Exam**	Movements & Migration
19-21 March	Order Rodentia & Lagomorpha II	Social & Spatial Ecology
26-28 March	Order Carnivora I	Community Ecology
2-4 April	Order Carnivora II	Parasites & Diseases
9-11 April	Order Ceteaca **(Quiz)**	Biogeography
16-19 April	Course Review (Optional)	**Final Exam**
23-25 April	**Project Due**	

**** subject to change

[1] at Environment Yukon office, 10 Burns Road

UNIVERSITY OF ALBERTA ACADEMIC INTEGRITY AND CODE OF STUDENT BEHAVIOUR

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at: http://www.governance.ualberta.ca/CodesofConductandResidenceCommunityStandards/CodeofStudentBehaviour.aspx) and avoid any behaviour which could result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

Key components include the following statements regarding Inappropriate Academic Behaviour:

30.3.2 Inappropriate Academic Behaviour

30.3.2(1) Plagiarism

No Student shall submit the words, ideas, images or data of another person as the Student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.

30.3.2(2) Cheating

30.3.2(2) a No Student shall in the course of an examination or other similar activity, obtain or attempt to obtain information from another Student or other unauthorized source, give or attempt to give information to another Student, or use, attempt to use or possess for the purposes of use any unauthorized material.

30.3.2(2) b No Student shall represent or attempt to represent him or herself as another or have or attempt to have himself or herself represented by another in the taking of an examination, preparation of a paper or other similar activity. See also misrepresentation in 30.3.6 (4).

30.3.2(2) c No student shall represent another's substantial editorial or compositional assistance on an assignment as the Student's own work.

30.3.2(2) d No Student shall submit in any course or program of study, without the written approval of the course Instructor, all or a substantial portion of any academic writing, essay, thesis, research report, project, assignment, presentation or poster for which credit has previously been obtained by the Student or which has been or is being submitted by the Student in another course or program of study in the University or elsewhere.

30.3.2(2) e No Student shall submit in any course or program of study any academic writing, essay, thesis, report, project, assignment, presentation or poster containing a statement of fact known by the Student to be false or a reference to a source the Student knows to contain fabricated claims (unless acknowledged by the Student), or a fabricated reference to a source.

30.3.2(3) Misuse of Confidential Materials

No Student shall procure, distribute, or receive any confidential academic material such as pending examinations, laboratory results or the contents thereof from any source without prior and express consent of the Instructor.

STUDENTS WITH DISABILITIES OR CHRONIC CONDITIONS:

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.