EEB 4839: FIELD STUDIES IN MAMMALOGY
Itasca Biology Program
Summer 2005
T/F + 2 Additional Days (TBA)

Instructor: Joe C. Whittaker, Ph.D. **email:** jwhittak@pc.edu

Teaching Assistant: Jennifer R. O'Neill **email:** onei0080@umn.edu

GENERAL ORGANIZATION AND REQUIREMENTS

Prerequisite: Course in beginning biology

Required Textbook: Feldhamer, G. A., L. C. Drickamer, S. H. Vessey, and J. F. Merritt. 1999. Mammalogy: Adaptation, Diversity, and Ecology. WCB/McGraw-Hill, Dubuque. 563 pp.

Hazard, E. B. 1982. The Mammals of Minnesota. University of Minnesota Press, Minneapolis. 285 pp.

Additional readings from scientific literature, as assigned.

Goals and Objectives: The primary goal of this course is to introduce you to the study of mammals, including aspects of their evolution, natural history, identification, and techniques used for scientific study. This course will enable you to integrate concepts of ecology, morphology, physiology, as well as other aspects of natural history using mammals as model organisms. This course will supplement your knowledge of taxonomy, phylogeny, and ecology while providing practical experience with current methodology. Writing assignments will expose you to current literature and aid you in the process of critical thinking.

Specifically you will:

A. gain an understanding of the functional and structural characteristics of mammals and of selected aspects of the biology of mammals, with emphasis on whole-organism and ecological levels of organization;

B. recognize, by external and/or skull characteristics, the mammals of Minnesota, and to understand their distribution, natural history, interspecific interactions and relationships to vegetation;

C. through field and laboratory studies, gain familiarity with some of the approaches and methods used in the scientific study of mammals;

D. gain experience with data analysis and scientific writing, through preparation of group-written papers describing results of class projects.

Course Activities: I plan to begin most classes in the field checking live traps. The majority of the rest of the day will be preparing and conducting research projects in the field, or to a lesser extent, in the laboratory. On most days I will be presenting approximately one hour of lecture on topics relating to mammalian biology. Lecture topics will not necessarily be coordinated with research projects but are meant to provide general background to provide a broader context for our field examinations. I will also provide brief lectures on particular taxonomic groups found in Minnesota, and the remainder of most days will provide open lab time in order for you to study specimens and learn characteristics for identification. While some class time will be made available for analyzing data, discussing projects, and writing, you should anticipate spending time out of class on these activities. We will work as a class on research projects, and data will typically be pooled. I expect all students to participate actively on all projects and write-ups. Depending on final class size, projects will be written up by groups of 3 to 4 students. I will provide a handout with specific guidelines for written reports.

During the class meeting we engage in nocturnal activities (observations of nocturnal mammals and mist netting bats) we will be meeting at approximately 7:00 PM and continuing until approximately midnight. As compensatory time, we will spend little time in the field during that day.

Live trapping and handling of animals will conform to the guidelines of the University of Minnesota's Institutional Animal Care and Use Committee and to the American Society of Mammalogists' Animal Care and Use Committee. This will include teaching students safe and humane procedures for trapping, handling, and marking captured small mammals, and instruction regarding euthanasia (if necessary) of seriously injured animals. Details of these guidelines may be requested from the instructor or found at the following websites:

University of Minnesota's Institutional Animal Care and Use Committee:

http://www.iacuc.umn.edu/

American Society of Mammalogists' Animal Care and Use Committee:

http://www.mammalsociety.org/committees/commanimalcareuse/98acucguidelines.pdf

Attendance Policy: Attendance, as in accordance with University of Minnesota policies, is required at all class meetings. However, I do recognize that some absences may not be avoidable and may represent valid, university-recognized excuses. If you miss a class meeting, you are responsible for getting the material you missed. If you know ahead of time that you will be missing an assignment, you must contact the instructor at least **24 hours** in advance concerning your absence in order to make arrangements to make up any missed assignments. You must make up any missed assignments either before your absence or before the next class meeting. Any work missed because of a valid emergency absence (must be accompanied by a written excuse, (e.g., physicians note, etc.)) must be made up as soon as possible after your return.

In the event you must miss a lecture/lab exam you must contact me <u>BEFORE</u> the exam. If you miss a test, or other assignment, due to an emergency (illness, etc.), you must have a valid written excuse (physician's note, etc.). Any student missing an exam without notifying me or without a valid excuse **will be assigned a grade of "0" on the exam**. A word of warning: make-up exams will not be identical in content or format to original exams.

Grading Policy and Scale:

Grades will be based on the following:

1. Laboratory Reports (30%)
2. Field Notebook/Data Management (10%)
3. Participation (10%)
3. Written Exam (25%)
4. Practical Exams (25%)

Your grade will be based on your percentage* of the total points as follows:

Percentage	Grade
≥ 94	A
90-93.9	A-
87-89.9	B+
83-86.9	B
80-82.9	B-
77-79.9	C+
73-76.9	C
70-72.9	C-
67-69.9	D+
60-66.9	D
< 60	F

* Your percentage = Your total points / Total number of points possible

The written exam will be of variable format. This may include a combination of, but is not limited to, multiple choice, true/false, matching, short answer, and brief essays. The written exam will be cumulative. The practical exam will cover specimen identification and specific techniques we use and discuss. I will provide separate instructions for preparation of your lab notes and lab reports.

Assignments are due at the beginning of the class period unless otherwise specified. Late assignments will be penalized 10% per day (starting with – 10% after the assignments are collected in class).

Academic Dishonesty: The University of Minnesota views academic dishonesty as cheating, plagiarism, fabricating, or facilitating academic dishonesty. **I will not tolerate any instance of academic dishonesty**. Science depends on the integrity of those contributing to it. As such, instances of plagiarism or academic dishonesty will result in either: the student receiving a failing grade for the activity or receiving a failing grade for the course, according to the perceived intent and extent of the instance(s) of academic dishonesty. This policy will be **rigidly** enforced. This policy will be rigidly enforced. Please see the University of Minnesota's Conduct Code (http://www.sja.umn.edu/conduct.html) or ask me if you have questions about academic dishonesty. It is your responsibility to understand what constitutes academic dishonesty.
Vandalism, intentional destruction and theft of University of Minnesota property (including specimens, models, slides, or facilities) and/or endangering other people through negligent or irresponsible behavior will result in your immediate dismissal with a grade of "F" for this course and may result in legal action by the University of Minnesota.

Tentative Lecture/Lab Schedule:

F = Feldhamer et al. (chapter)
H = Hazard (pages)

Date	Lecture Topics	Chapters
25 May	Orientation Day	
27 May	Introduction; Mammalian Characteristics; Mammals of MN	F (1, 2); H (3-16)
31 May	Mammalian Evolution; Dentition	F (4)
3 June	Feeding Adaptations	F (6)
7 June	Locomotion	F (5)
10 June	Reproduction	F (9)
14 June	Population Ecology	F (24)
17 June	Home Range/Space Use	F (20)
21 June	Zoogeography; Ecosystem Relationships	F (26, 23)
24 June	Community Ecology (meeting date TBA)	F (25)
? June	Behavior (meeting date TBA)	F (20, 21)
? June	Parasites and Disease	F (27)
28 June	Written Exam	

Date	Field and Laboratory Topics	Chapters
27 May	Population/Live trapping study; Techniques in Mammalogy (Traps, Study Skins, etc.); Mammals of Minnesota I: rodents I	F (3, 17); H (20-31) & (51-112)
31 May	Population/Live trapping study; live trap line survey; trap comparisons; Mammals of Minnesota II: rodents II, opossum, insectivores; Gopher impacts on Vegetation	F (10, 11, 12, 17); H (17-31)
3 June	Population/Live trapping study; Mammals of Minnesota III:	F (12, 17); H

	bats, lagomorphs; Salt Selection/Seed Selection;	(32-50)
7 June	Population/Live trapping study; Carnivore trail monitoring; **Practical Exam I**; Mammals of Minnesota IV: carnivores	F (15); H (113-154)
10 June	Population/Live trapping study; Mammals of Minnesota V: ungulates; Community Assessment	F (19); H (155-169)
14 June	Population/Live trapping study; Tracking methods; Mammals of Minnesota VI: Domestic and Feral Mammals	F (28) & H (170-171)
17 June	Population/Live trapping study; Microhabitat Selection	
21 June	Population/Live trapping study; Targeting specific species; **Practical Exam II (FINAL)**	
24 June	Population/Live trapping study; Prairie Trip and Sampling	
? June	Population/Live trapping study; Nocturnal mammal observation and mist netting/fluorescent powder	
? June	Population/Live trapping study; Bison field trip	
28 June	Analysis of population data; Wrap up and clean up…	

Disclaimer: The schedules and policies associated with this course may be subject to revision or change as a consequence of changing circumstances or events. Reasonable notification will be provided to students prior to any major changes in course policies or procedure.

Individuals who have any disability, either permanent or temporary, which might affect their ability to perform in this class are encouraged to inform me (the instructor) at the start of the semester. Methods, materials, or testing may be modified as required to provide for equitable participation.

Contact Information for. Dr. Joe C. Whittaker:

Assistant Professor of Biology
Pikeville College
147 Sycamore St.
Pikeville, KY 41501

(606) 218-5467 (office)
(606) 478-3999 (home)

jwhittak@pc.edu

http://campus.pc.edu/faculty/jwhittak/index.html

Course Requirement Sheet Acknowledgment Form

I _____ have received a copy of the Requirement Sheet for EEB
(Printed Name)
4839, Field Studies in Mammalogy, and understand all the policies and procedures outlined therein.

_____ _____
(Signature) (Date)

Please fill out the optional information requested below:

Major: _____

Cabin Number: _____

E-mail Address: _____

Medical information that the instructor should be aware of:

Hometown:

Career interests or goals:

Reasons for taking this course:

Other courses you are taking this summer at Itasca and their meeting times:

Previous biology background (high school and college):

How many scientific-style papers have you written in previous coursework?

How would you rank yourself – on a scale from 1 to 10 in terms of writing experience?

How would you rank yourself – on a scale from 1 to 10 in terms of statistical experience?

Are you interested in taking an overnight camping trip as part of the course (no promises but we'll see)?

Do you have access to a tent – and if so, how many people could comfortably fit in it (if you would be willing to share it)?