

Syllabus for Mammalogy

EEOB 625

Instructor:

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Mammalogy is an advanced course focused on the study of mammals in the classroom, laboratory, and field. Equal emphasis is placed on learning in lecture and the laboratory.

Course Objectives:

1. Enable students to know the nature of mammals, including the origin, evolution, zoogeography, and adaptive radiation of mammalian taxa.
2. Enable students to learn the mammals of the world to family (approximately 83 of 133 extant families) including zoogeography and key features of their natural history.
3. Provide students with an understanding of current knowledge concerning key features of mammalian biology including reproductive biology, lactation, nutrition, energetics, nutritional physiology, flight and echolocation in bats, and cursorial locomotion.
4. Assist students in gaining skills required to identify Midwestern mammals to species by sight (or skin or skull) or through use of a dichotomous key.
5. Provide students with the opportunity and guidance to conduct an independent study (data collection, data analysis, and preparation of an oral presentation and a written report) of a mammalian species. Students typically work in groups of 4-6 to design their projects and collect data but prepare their own oral and written research reports.

Schedule of Lecture Topics, Assigned Reading, and Laboratory Work: (attached)

Required Reading:

Feldhamer et al. 2004. Mammalogy: Adaptation, diversity, and ecology. (2nd Ed.) McGraw-Hill, New York, 550 pp
Harder, J.D. 2007. Laboratory Manual for Mammalogy. Zip Publishing, Columbus, 101 pp.
Burt, W.H. and R.P. Grossenheider. 1976. Mammals. Houghton Mifflin, New York, 289 pp

Grading:

The grade in lecture determines 50% of the student's grade in the course. The lecture grade is determined by the average percentage score on two Midterm Examinations (100 points each) and the Final Examination, which is worth **200 points**. An average of 93% or more earns a letter grade of A, 90% an A-, 87% a B+, 83% a B, 80% a B-, 77% a C+, 73% a C, 70% a C-, 67% a D+, 63% at D, 60% a D-, and < 60% an E. The same criteria will be used to determine the student's grade in laboratory.

Points for the laboratory grade will be allocated as follows:

Laboratory Exam I	40 points
Laboratory Exam II	30
Laboratory Exam III	60
Laboratory Exam IV	70
Research Plan & Notebook	20
First Draft of Research Report	50
Oral Research Report	50
Final Research Report	<u>80</u>

Total Points for Laboratory: 400

Total Points for the Course: 800

Accessibility: Anyone who has special needs because of a disability should make an appointment with the instructor as soon as possible in order to make arrangements for assistance. We rely on the Office for Disability Services to verify the need for special accommodations.

Statement on Diversity: The instructors of this course are committed to promoting a welcoming climate for all students. For more information on diversity, see www.biosci.ohio-state.edu/~eeob/diversity. Instructors welcome questions and comments. Any exchange of ideas will be conducted with confidentiality, safety, and respect as guiding principles.

LECTURE SCHEDULE

11:30 am, M-W-F
247 Townshend
Phone: 292-8636

MAMMALOLOGY – EEOB 625
Winter Quarter 2007

John D. Harder
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DATE	TOPIC	READING
3 January	Introduction and Mammalian Orders	2-19, 163-167*
5 January	Evolution and Zoogeography	399-403, 416-431
8 January	Systematics and Taxonomy	26-28, 31-39, & Hall (1981)** Wilson & Reeder (1993)**
10 January	Mammalian Origins	40-57, 59-67
12 January	Mammalian Phylogeny & Prototheria	160-172
15 January	NO CLASSES: Martin Luther King Day	
17 January	Marsupial Origins and Biology	151-54, 159, 172-178
19 January	Marsupial Diversity	179-187
22 January	Insectivora, Macroscelidea, & Scandentia	188-197, 79-80
24 January	Xenarthra, Pholidota, and Tubulidentata	238-246 -----
26 January	Dermoptera and Chiroptera	197-201, 207-218
29 January	Chiropteran Biology	201-207, 74-75
31 January	Midterm Examination I	
2 February	Reproduction and Life history Strategies	344-356
5 February	Reproductive Cycles and Lactation	105-107, 146-163, 68
7 February	Olfactory Communication	59-64, 102-105, 330-343,
9 February	Primates	119-237
12 February	Rodentia & Lagomorpha	93, 296-299, 280-287
14 February	What about Muridae with 1326 species?	288-295, 266-267 -----
16 February	Nutritional Strategies & Energetics	79-101, 113-116, 135-137
19 February	Midterm Examination II	
21 February	Carnivora: the flesh eaters	247-260, 65
23 February	Cetacea – quintessential mammals?	261-279
26 February	Cetacean Biology	334-335, 466-467, 471-472
28 February	Perissodactyla & ungulate locomotion	67-72, 312-317
2 March	Artiodactyla: Paraxonic & Advanced	317-329
5 March	Proboscidea & the Subungulate Radiation	300-307
7 March	Hyracoidea, Sirenia	307-311
9 March	Review of Mammalian Radiations	
15 March	Final Examination: 11:30 am -1:18 pm	

* Unless otherwise noted, numbers refer to pages in the textbook: Feldhamer et al. (2004) Mammalogy

** On closed reserve in the PBL Library – sections must be consulted for taxonomy take-home exercise

LABORATORY SCHEDULE: EEOB 625
Winter Quarter 2007 – 4097 Smith Laboratory

Lab Instructor _____
 Office (Bldg & Rm. No.) _____ Phone Number _____ e-mail _____

Date	Topic	Preparation
3/4 January	Introduction to Research Projects & Museum Study	<u>Pages in Lab Manual:</u> 1-7, 73-74, 95-107
8/9 Jan.	Museum Study: Class meets at Museum of Biodiversity (Research Topics & Literature Assignments in lecture, 11 January)	74-79, <u>Choose Project</u>
10/11 Jan.	<u>Field Trip: Squirrel Study</u> or Data Analysis 1 & Literature	94-97 or 77-83
15/16 Jan.	Martin Luther King Day	
17/18 Jan.	<u>Data Analysis 1</u> & Literature or Squirrel Study	77-83 or 94-97
22/23 Jan.	Introduction to Skull Key & Insectivora, <u>Notebooks due</u>	9-25, 61-63
24/25 Jan.	<u>Field trip - Vole runways</u> , <u>Research Proposal due</u>	95, 97-98
29/30 Jan.	Introduction to Chiroptera & <u>Olfactory Communication</u>	Taxon Quiz I , 34-37, 63-64, 98-99
31 Jan/ 1 Feb	Review of Insectivora & Chiroptera,	3-5, 29-38, 61-64,
5/ 6 Feb.	<u>Lab Exam I:</u> (Skull, Skull Key & Insectivora)	Virtual Lab Exam*
7/ 8 Feb.	Introduction to Lagomorpha & Rodentia, Review bats	38-49, 67-71
12/13 Feb.	<u>Lab Exam II</u> (Chiroptera) <u>Data Analysis 2: Tables & Figures</u>	Virtual Lab Exam 83-84
14/15 Feb.	Review of Lagomorpha & Rodentia Draft Tables & Figures <u>due in lecture on 16 February</u>	Taxon Quiz II 83-84
19/20 Feb.	Introduction to Carnivora and Artiodactyla	50-58, 65-67, 71
21/22 Feb.	<u>Lab Exam III</u> (Lagomorpha & Rodentia)	<u>Research Report due</u> 23 February
26/27 Feb.	Final Review of Study Skins and skulls.	
28 Feb/1 Mar	<u>Laboratory Exam IV</u> (Carnivora & Artiodactyla +)	Virtual Lab Exam
1-2 March	Review of marked first draft with project advisor	
5/ 6 March	Mammalogy Research Colloquium	
7/ 8 March	Mammalogy Research Colloquium	Notebooks due
9 March	Final Draft of Research Reports due	

A significant part of your effort in laboratory will be devoted to conducting an independent study, complete with an oral presentation and a written report suitable in style and format, for submission as a manuscript to the Journal of Mammalogy. The report must be based on data collected during the current Winter Quarter. Many of the greatest long-term benefits of this course will stem from your laboratory work. Thus, regular attendance and full participation are very important.

* A feature of the Virtual Mammalogy Laboratory, see link on EEOB 625 Carmen