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 5 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:

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 schedule will be used to determine the student’s grade in laboratory.

Points for your 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 80

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

**LECTURE SCHEDULE**

**MAMMALOGY – EEOB 625**

**Winter Quarter 2004**

**John D. Harder**

**Office: 392 Aronoff**

**harder.2@osu.edu**

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**DATE** | **TOPIC** | **READING**
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5 January | Introduction and Mammalian Orders | 8-35, 58-63* 
7 January | Evolution and Zoogeography | 528-547 
12 January | Mammalian Origins | 36-57 
14 January | Mammalian Phylogeny & Prototheria | 64-71 
16 January | Marsupial Origins and Biology | 72-82 
19 January | NO CLASSES: Martin Luther King Day |
21 January | Marsupial Diversity | 83-101 
23 January | Insectivora | 102-123 
26 January | Xenarthra, Pholidota, and Tubulidentata | 124-135, 256-259, 547-555 
28 January | Dermoptera and Chiroptera | 136-175 
30 January | Midterm Examination I |
22 February | Chiropteran Biology | 404-422 
4 February | Reproduction and Life history Strategies | 354-359, 450-455 
6 February | Reproductive Cycles and Lactation | 334-354, 359-363 
9 February | Olfactory Communication | 440-446 
11 February | Primates and Scandentia | 176-199 
13 February | Rodentia, Lagomorpha, & Macroscelidea | 326-333, 292-308, 473-474 
6 February | What about Muridae with 1325 species? | 308-325, 438-440 
18 February | Nutritional Strategies in Mammals | Feldhammer ('03) Chapter 6 
20 February | Midterm Examination II |
23 February | Carnivora: the flesh eaters | 200-225 
25 February | Energetics and thermoregulation | 364-390 
27 February | Cetacea – quintessential mammals? | 226-245 
1 March | Cetacean Biology | 423-427, 432, 378-380 
3 March | Perissodactyla & ungulate locomotion | 260-271 
5 March | Artiodactyla: Paraxonic & Advanced | 272-291 
8 March | Proboscidea & the Subungulate Radiation | 246-251 
10 March | Hyracoidea, Sirenia | 251-255 
12 March | Review of Mammalian Radiations |
15 March | Final Examination |

* Unless otherwise noted, numbers refer to pages in the textbook: Vaughan, et al. (2000). Mammalogy

** On closed reserve in the PBL Library – sections must be consulted for taxonomy take-home exercise
# LABORATORY SCHEDULE: EEOB 625,
Winter Quarter 2004 – 234 Jennings Hall

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<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>PREPARATION</th>
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<tbody>
<tr>
<td>5/6 January</td>
<td>Introduction to Research Projects &amp; Museum Study</td>
<td>Lab Manual Sections: 1, 4-5, 5-1, &amp; 8</td>
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<tr>
<td>7/8 January</td>
<td>Museum Study: Class meets at Museum of Biodiversity</td>
<td>Lab Manual 4 2 (2-1 Choose Project)</td>
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<td>12/13 Jan.</td>
<td>Field Trip: Squirrel Study or Data Analysis 1</td>
<td>Manual 8 or 4-5</td>
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<tr>
<td>14/15 Jan.</td>
<td>Data Analysis 1 &amp; Lit. Review or Squirrel Study</td>
<td>Manual 4-5 or 8</td>
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<td>19/20 Jan.</td>
<td>Martin Luther King Day</td>
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<td>21/22 Jan.</td>
<td>Introduction to Skull Key &amp; Insectivora, (notebooks due)</td>
<td>Manual 2, 3</td>
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<td>26/27 Jan.</td>
<td>Introduction to Chiroptera &amp; Olfactory Communication</td>
<td>Manual 2, 3, 8</td>
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<td>28/29 Jan.</td>
<td>Field trip - Vole runways (Research Proposal due &amp; Taxon Quiz I)</td>
<td>Manual 7, 8</td>
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<td>2/3 February</td>
<td>Review of Insectivora &amp; Chiroptera, Lab Exam I: (Skull, Skull Key &amp; Insectivora)</td>
<td>Manual 2, 3</td>
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<td>9/10 Feb.</td>
<td>Introduction to Lagomorpha &amp; Rodentia</td>
<td>Manual 2, 3</td>
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<td>11/12 Feb.</td>
<td>Lab Exam II (Chiroptera) Data Analysis 2: Tables &amp; Figures</td>
<td>Manual 5-1 to 5-4</td>
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<td>16/17 Feb.</td>
<td>Review of Lagomorpha &amp; Rodentia</td>
<td>Manual 2, 3</td>
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<td>18/19 Feb.</td>
<td>Introduction to Carnivora and Artiodactyla (Taxon Quiz II)</td>
<td>Manual 2, 3</td>
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<td>25/26 Feb.</td>
<td>Open for project consultation on tables and figures</td>
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<td>1/2 March</td>
<td>Final Review of Study Skins and skulls.</td>
<td>Research Report due</td>
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<td>3/4 March</td>
<td>Laboratory Exam IV (Carnivora &amp; Artiodactyla +) Review of marked first draft with project advisor</td>
<td>(Monday in lecture)</td>
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<td>8/9 March</td>
<td>Mammalogy Research Colloquium</td>
<td>Notebooks due</td>
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<td>10/11 March</td>
<td>Mammalogy Research Colloquium</td>
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A significant part of your effort in laboratory will be devoted to planning, conducting, and reporting on an independent research project. The report will consist of both a 5-10 minute oral presentation a 3-4 page, double-spaced, printed report, suitable, in style and format, for submission as a brief manuscript to the Journal of Mammalogy. The report must be based on data collected and analyzed by you and your group during the current Winter Quarter. Many of the greatest long-term benefits of this course will stem from your laboratory work. Therefore, regular attendance and full participation are very important.