BZ 330 – Mammalogy Laboratory
Fall 2014

Instructors: Jeremy Colborn, David Eads, Ashley Heim, Dhaval Vyas
Office Hours: AZ E202 (lab room), Mondays 12:00pm-2:00pm

Assignments:

One third of your points in BZ330 will come from lab. There are a total of 300 points in lab. Two closed-book exams (partly cumulative; Mid-term and Final) will test your knowledge of the subjects covered in lab. All other assignments will be due in lab (see below).

Required: (200 pts)
- **Mid-term:** 70 points, week of October 13th — know BLUE sheets
- **Final exam:** 70 points, week of December 8th — know BLUE sheets
- **Pop quizzes:** 20 points (5 pts each), can be whenever, and will focus on the natural history of several species from your assigned readings in Armstrong
- **Identification quizzes:** 40 points (20 pts each), choose 2 of 4 from the list below (note, however, that you can complete 1 or 2 of the remaining identification quizzes to partly meet the requirement for the 100 “Additional Points”)

Options for Additional Points: (100 pts)
You will choose a mix of the assignments described below, such that the total adds up to 100 pts. Your decisions will be outlined in your contract (due week of September 22nd).

For the field journals and museum specimens, see Chapters 29 and 30 in the “Martin et al.” lab manual.

1. **Identification Quizzes:** 20-40 points, 2 are required, but you may do 1 or 2 more if you wish for quizzes to contribute to the additional 100 points that are required in lab.

   **For these quizzes, know GREEN specimen checklist**

   | QUIZ DATES (week of): | | | |
   |-----------------------|---|---|
   | Sept. 22nd            | Quiz 1 Didelphis virginiana – Geomys bursarius |
   | Oct. 6th              | Quiz 2 Dipodomys ordii – Zapus sp. |
   | Nov. 10th             | Quiz 3 Ochotona princeps – Ursus arctos |
   | Dec. 1st              | Quiz 4 Urocyon cinereoargenteus – Sus Scrofa |

2. **Field journals:** 10-40 points, each entry worth 10 points, max of 4 entries

   **DUE week of December 1st**

3. **Literature review:** Literature review, 20-40 points, max of 1 paper

   **DUE week of November 17th**

4. **Research project:** 20-60 points (can do as individual or in group of 3-4 from same lab)

   **DUE week of November 17th**

5. **Museum specimens:** 20 points each, max of 2 for total of 40 points

   **DUE week of December 1st**
Office Hours/Open Lab:

The lab will be opened during office hours (Mondays, 12:00pm-2:00pm) for you to ask questions. Coming to office hours will give you additional time to study for exams and quizzes, or work on museum specimens.

Expectations/Rules:

1. Any form of plagiarism or cheating is strictly prohibited and will result in failure for the assignment and/or the class.
2. If you become seriously ill, or miss a practical/quiz for a CSU-sponsored event, documentation will be required. For CSU-sponsored events, the paperwork should be submitted 2 weeks in advance. If you know you will need to miss class beforehand, it is best to Email me to find out if you can attend another lab.
3. Please handle all specimens with care, touching them as little as possible. Always hold specimens with tag in hand and lay them on their ventrum.
4. No food or drinks are allowed in lab. You can leave drinks outside the lab and take breaks when needed. Many of the specimens are very old and were preserved with arsenic... please wash your hands after handling specimens.
5. For consistency among students, the museum specimens will be created using lab mice available in this laboratory. Thus, students cannot kill animals or acquire carcasses – we must use the lab mice available in the BZ330 lab.

Strategies for Success:

Much of this lab will involve learning Systematics and Identification (denoted in the schedule as S&I). Your goal is to learn and spell the names correctly, learn the order of classification, know what traits and characteristics that apply to each taxon at each level of classification, and identify taxa based on skulls, skins, pictures, or descriptions.

Some useful strategies for learning the material:

1. Make flash cards. Spelling counts in most cases.
2. Use PowerPoint to generate a slide show.
3. Compare/contrast the specimens in lab. Quiz each other by asking things like “What Order is this?” “How do you know?” Ask yourself, “How do the specimens differ and how are they the same?” “What might confuse you about the two?”
4. Use the keys in the Lab Text and your Armstrong book to find important characteristics.
5. Use the time in lab. It might be hard to stick around, but use the time and ask questions. In the past, course performance has positively correlated with the amount of time students spend in lab (i.e., more time usually = better grades).
Initial Files on RamCT (Course Content):

RamCT contains several files that are important for this course. The files are under “Course Content,” within the "Mammalogy Lab Materials" folder. Some of the files relate to the “Options for Additional Points,” mentioned above. Other files will serve as informational/study guides. Descriptions of the current documents are provided below. One additional folder, which is not listed below, is the “Lab Slides” folder, which will contain the PowerPoints from lab.

Identification/Taxonomy Materials:

Age of Mammals Handout: A timeline depiction of the Cenozoic Era, or “The Age of Mammals.”

General Mammal Classification Sheets (also known as the BLUE sheets): This document outlines general taxonomic relationships that are required material in lab (e.g., Orders and Suborders). This information will prove crucial in completing the Mid-term and Final Exam. Please note that we also need to know the taxonomic Families for the mammals that occur in Colorado (e.g., weasels are in the family Mustelidae).

Colorado Mammals Sheets (also known as the GREEN sheets): This document lists the mammals that might be included in the “Identification Quizzes” mentioned in the outline of lab points above. This document denotes if you will need to know both the genus and species for an organism, or simply the genus. Further, it denotes if you will be tested on skulls, skins, or both skulls and skins. Lastly, the document lists new terms within taxonomy (e.g., Spermophilus variegatus is now Otospermophilus variegatus). You can use any of the taxonomic terms on the Green sheet (e.g., if you write Spermophilus variegatus, you will earn full credit even though some taxonomists prefer Otospermophilus variegatus).

Options for Additional Points:

Lab Contract (Additional Points Breakdown): This is the contract in which you will breakdown of how you will try to accumulate the 100 "Additional Points” described above.

Literature Review Guidelines: Guidelines for the Literature Reviews.


Field Journals: Guidelines for field journals and some examples.

Museum Specimens: Instructions for preparing museum specimens.

Submitting to SafeAssign: This document describes how you will submit your Literature Review(s) and Research Project(s).
Field Trips (not listed in schedule below):

Currently, there are plans for 4 types of field trips, the first of which is mandatory. We will provide details about dates/times/etc. in the near future.

1. Mandatory field trip: We will tour specimen collections at the Natural History Museum in Denver. This mandatory trip is planned for November 1st.
2. Optional field trip: We will visit the Division of Wildlife (DOW) and tour their research facilities, which include exclosures for mountain lions and bighorn sheep. We will travel to the DOW in CSU trucks and personal vehicles (you are welcome to drive, if you like). The tours last for about 2 hours.
3. Optional field trip: After touring the DOW, Dr. Florant will take interested students on a spotlighting trip through Pawnee National Grassland.
4. Optional field trip: Dr. Florant is considering the option of traversing the mountains on an early morning drive, during which we hope to view many of the ungulates that are native to Colorado.
# Laboratory Schedule

**BZ 330**  
Fall 2014

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<th>Week</th>
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<td>Introduction to Mammals</td>
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<td>September 1</td>
<td>Field Techniques/Notebook</td>
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<td>September 8</td>
<td>Systematics and Identification (S&amp;I) (Prototherians-Cingulata)</td>
<td>5-6</td>
<td>11,14-15, 19</td>
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<td>September 15</td>
<td>S&amp;I (Primates-Rodentia I)</td>
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<td>13, 16, 23</td>
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<tr>
<td>September 22</td>
<td>Museum Specimen Practice</td>
<td>4</td>
<td>n/a</td>
<td>31</td>
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<tr>
<td>September 29</td>
<td>S&amp;I (Rodentia II)</td>
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<td>18</td>
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<td>October 6</td>
<td>R E V I E W, ID Quiz 2 (Rodents II)</td>
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<td>October 13</td>
<td>LAB MIDTERM</td>
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<td>October 20</td>
<td>Prehistoric Mammals/Paleontology</td>
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<td>November 10</td>
<td>S&amp;I (Carnivora II)</td>
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<td>November 17</td>
<td>S&amp;I (Cetacea – Perissodactyla)</td>
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<td>November 24</td>
<td>FALL BREAK</td>
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<td>December 1</td>
<td>R E V I E W, ID Quiz 4 (Carnivora II – Perissodactyla) (Field Journals &amp; Museum Specimens Due)</td>
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<td>December 8</td>
<td>LAB FINAL</td>
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