Course Description: This course covers classification, life history, identification, and management of North American terrestrial mammals that have special significance as components of wildlife management systems. Species covered include those that are recreationally significant (e.g. harvestable and watchable species), as well as those for which abundance is a concern in contemporary wildlife management (threatened, endangered, non-endemic, and overabundant species). The course is intended for undergraduate and graduate students in Wildlife Ecology and Management. ENR 3300 or equivalent is the prerequisite for this course.

Course Objectives:
1. Gain proficiency with visual identification and determination of sex and age for selected North American mammal species.
2. Acquire general and specialized knowledge of life histories, food habits, and habitat requirements of selected North American mammal species.
3. Gain knowledge and understanding of contemporary population management systems for North American mammals.
4. Research and communicate technical information about mammalian species in a written report.
Evaluation:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (4 x 30 pts)</td>
<td>120 pts</td>
</tr>
<tr>
<td>Mid-term Exam</td>
<td>200 pts</td>
</tr>
<tr>
<td>Final Exam</td>
<td>200 pts</td>
</tr>
<tr>
<td>Mammal observation records and report</td>
<td>200 pts</td>
</tr>
<tr>
<td>Field trips (2 x 30 pts)</td>
<td>60 pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>780 pts</strong>.</td>
</tr>
</tbody>
</table>

Grading Scale:

- A: 93-100%
- A-: 89-92%
- B+: 86-88%
- B: 83-85%
- B-: 80-85%
- C+: 76-78%
- C: 73-75%
- C-: 70-72%
- D+: 66-68%
- D: 60-65%
- D-: 50-66%
- E: <60%

Academic misconduct (plagiarism, cheating, and other forms of misconduct as defined by the university) will not be tolerated in this course. According to Faculty Rule 3335-31-02 Academic Misconduct is defined as any activity that tends to compromise the academic integrity of the institution or subvert the educational process. Please see the Student Resource Guide or the instructor if you have questions about this policy.

Special Needs: If you need an accommodation based on the impact of a disability, you should contact us to arrange an appointment as soon as possible. At the appointment we can discuss the course format, anticipate your needs and explore potential accommodations. We rely on the Office for Disability Services for assistance in verifying the need for accommodations and developing accommodation strategies. If you have not previously contacted the Office for Disability Services, we encourage you to do so (E-mail: http://www.ods.ohio-state.edu, Phone: (614) 292-3307).

Required Texts:

**Reading Assignments**

Selected topical essays identified in lecture.

**Supplemental Texts**


## Lecture and Laboratory Schedule:

<table>
<thead>
<tr>
<th>week of:</th>
<th>Monday</th>
<th>Wednesday</th>
<th>Fri (Lab)</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-Aug</td>
<td>no class</td>
<td>Intro to class; study of mammals</td>
<td>Skull, dentition, opossum/shrews</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>evolution; biogeography</td>
<td>integument</td>
<td>No Lab</td>
<td></td>
</tr>
<tr>
<td>3-Sep</td>
<td>No class</td>
<td>Feeding/digestion</td>
<td>Survey techniques/ Rodentia</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>control systems</td>
<td>Energetics</td>
<td>Rodentia (quiz 1)</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>reproduction</td>
<td>reproduction</td>
<td>Rodentia</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>monotremes marsupials</td>
<td>Eutherians (1)</td>
<td>Carnivora (quiz 2)</td>
<td>Gwynne</td>
</tr>
<tr>
<td>1-Oct</td>
<td>Eutherians (2)</td>
<td>Cetaceans</td>
<td>Midterm</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>perriso &amp; artiodact</td>
<td>Chiroptera</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>communicatio n</td>
<td>spatial relations</td>
<td>Carnivora</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>mating systems; parental care</td>
<td>dispersal/ migration</td>
<td>Chiroptera/ necropsy</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>population dynamics</td>
<td>Predator-prey</td>
<td>Chiroptera/ necropsy</td>
<td></td>
</tr>
<tr>
<td>5-Nov</td>
<td>community ecology</td>
<td>disease</td>
<td>Lagomorpha (quiz 3)</td>
<td>Trap Museum</td>
</tr>
<tr>
<td>12</td>
<td>No class</td>
<td>furbearer mgmt</td>
<td>Artiodactyla</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>furbearer mgmt</td>
<td>No class</td>
<td>No class</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>big game mgmt</td>
<td>conservation</td>
<td>Aging techniques (quiz 4)</td>
<td>Chicago</td>
</tr>
<tr>
<td>3-Dec</td>
<td>conservation</td>
<td>domestics</td>
<td>FINAL EXAM</td>
<td></td>
</tr>
</tbody>
</table>
Mammal Observation Records and Mammal Survey Report:

There are 2 ‘out of class’ assignments, a collection of mammal observation records and a group project that involves conducting and reporting on mammal surveys for a study site.

Mammals Records/Reports: DUE December 5

Each student is required to individually collect species observations and associated natural history background with the goal of extending what we learn in class to the field.

Species Observation Record Requirements:

- Document ‘presence’ for any 10 species of wild mammals. You will need to go to the field on your own to complete the assignment.
- Presence can be determined through visual sighting or observation of sign (e.g., tracks, scat, den, body parts, etc.).
- Presence must be verified with photographic evidence, or temporary physical preservation of sign.
- Documentation of an observation (i.e. record) includes recording the time, date, location, weather, behavior (directly observed or inferred) and relevant habitat characteristics that accompany the evidence.
- Submit evidence accompanied by a completed “Species Observation Record” form for each exhibit (see below).
- An instructor or teaching associate must verify images or sign used to document presence. More than one type of evidence may be used to document presence. Evidence must be verified by an instructor prior to the final due date for the project.

Species observation records will be evaluated based on the required number of species, accuracy of the identification, quality of the evidence, and following directions given above.

Use the following page to record and submit required information for each observation.
Species Observation Record for ENR 5364.01

Student Name: ___________________ Exhibit No. ____________ Verified by: _____________

Common name: ________________________________________________________________

Scientific name: ______________________________________________________________

Date, time, and location of the observation:

Date: _______ Time: _______ Weather Conditions____________________________________

Location: _____________________________________________________________________

______________________________________________________________________________

Type and disposition of evidence: ________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Behavior Description (inferred or directly observed): ________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

Habitat description, other comments: _____________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
Mammal Survey Report:

- This is a group project, with typically 4-5 students per group.
- Each group will select a study site for surveys. This must be approved by the instructor. It may be private property (such as a family farm), on campus (such as Waterman farm), or certain public properties such as a wildlife area or park. It must be large enough to allow for a variety of survey techniques.
- During the semester, students will conduct a variety of surveys outside of class to inventory the mammal species on their study sites. The types of surveys and amount of effort will be determined by the group.
- At the end of the semester, each group will produce a final report on their survey project. The report should include a description of the study site, the methods used to detect mammals, the results of the surveys, and a discussion of the results.
- Each section of the report must be supported by literature citations, including no fewer than 6 citations of primary literature (these will be scientific journals in most cases) with publication year after 1999.

Report Style and Format:

Interpretive reports should be at least 6 pages long (double-spaced). Style, format, and citations must closely follow the Council of Biology Editors style manual and the publication guidelines for the Journal of Wildlife Management or the Journal of Mammalogy.

You may cite online information sources (web-sites), field guides, etc., but only when reporting information on habitat preferences, current classification, physical descriptions, and sex/age characteristics. However, these sources do not count as one of the 6 required citations or primary literature sources.

The required texts for this course will not count towards a required citation. Journal articles assigned during the course can be used as a citation.

You are expected to cite sources of information included in the survey report, for example:

Drought conditions have a negative effect on reproduction by muskrats (Perry 1982).

Clay and Clark (1985) reported that litters size averaged 7 muskrats near the Mississippi river in northeastern Iowa.

To cite a web-site, follow this example:

*** Use the following organizational outline for your survey reports ***

COVER PAGE

Title, list of authors, and date.

INTRODUCTION

Briefly describe the purpose, content, and objectives of the report.

STUDY AREA

Provide a description of the study area, including location, size, predominant vegetative communities, etc. Also include descriptions of climate for the area, or during the time the area was surveyed. Often a figure is provided consisting of a map of the study area. For this report, it might be worth noting what potential mammal species may potentially occur at the site.

METHODS

The types of survey techniques are described in this section. A rule of thumb for methods sections is that the methods should be described in such a way that a reader could replicate the procedures should they want to do so. This is always important, but particularly so for inventorying. A map outlining the survey design might be helpful.

RESULTS

Results of the surveys are provided. This should include the total number and type of species recorded, the method of survey that produced the observations, and the relative abundance or activity of each species. Common names and scientific names should be provided.

DISCUSSION

The results should be interpreted in the discussion. This means that the group should provide some assessment of what they found. Did you record the species you expected to? Were they relatively more or less abundant than expected? Are there reasons for deviations from your expectations, such as weather complicating the surveys, equipment issues, or changes in habitat during the semester? There should be some attempt to include some natural history of the more common, or rare species in this section, with citations.

LITERATURE CITED

For specific directions on style and format, consult Manuscript Guidelines for The Journal of Wildlife Management, a pdf file which can be downloaded at: