**Instructor:**
Ann Petersen, Ph.D.
Biology Instructor, Integrative Biology, Cascades Campus
Ann.petersen@osucascades.edu

Office Hours: Mondays from 11:00 am until 12:00pm.

**General Course Information:**
- *Note: Materials for this course, including this syllabus, have been adapted from the work and materials of Leslie Blakemore and Bob Mason, Integrative Biology, OSU*
- Frequent posts on Canvas, so check it often
- We will be taking weekly field trips, and visiting the High Desert Museum frequently for animal identification. You must be able to attend lab on a weekly basis. Be sure that your schedule permits this.

**Course Prerequisites:**
(BI 211 [C-] or BI 211H [C-]) and (BI 212 [C-] or BI 212H [C-]) and (BI 213 [C-] or BI 213H [C-]) or (BI 204 [C-] and BI 205 [C-] and BI 206 [C-] ) and Z 371* [D-]

**Required texts:**
- Peterson Field Guide to Birds of Western North America 4th Edition
- A Field Guide to Western Reptiles and Amphibians (Peterson Field Guide) 3rd Edition

**Learning objectives:**
Through this course you will:
1. Learn to use personal observations to identify vertebrates by recognizing key characteristics that distinguish different groups of vertebrates
2. Describe how differences (derived characters or adaptations) between the various groups of vertebrates influence their daily lives
3. Gain an appreciation for the diversity of vertebrate life by understanding how their relationships (shared evolutionary history) and environments have influenced appearances and behaviors
4. Be able to explain evolutionary concepts using examples from vertebrate groups

**Expectations:**

*Your participation in your education is essential*
In this class, you will learn how to see vertebrates in ways you might never have considered before. This can be frustrating, but if you are persistent you will gain a great deal of understanding about the animals and the environments they are adapted to live in. The 4-hour lab is intended to give you plenty of time for practice (exams are timed so you must be proficient at identification to score well).

**Learning Strategies for Vertebrate Biology:** As you practice identifying critters in lab and at the Desert Museum do not just look at them blindly, use field guides to help you strategically determine which features you need to pay attention to in order to differentiate between organisms. The features that work for you may be different than the features that work for your classmates. That is perfectly fine as long as they work reliably for you. As you identify these features it will be useful to organize them in a hierarchical key, which you can use to go from a large group of animals to a single species *(you will be able to use your key on most exams)*.

The more you practice identifying species, the better and faster you will become at picking out the important features. Use all of your class time and take advantage of open lab hours.
Studies show that one of the best ways to learn new material is to discuss it with your classmates (Handelsman et al 2007). In this class, we will work in groups. It is essential for your education to create a space where everyone is learning and sharing ideas. To do this you will need to respect the opinion of each of your group members and be sure that no one is left out or behind. If someone cannot identify an organism or field mark successfully, help them. Teaching something to a peer can also help you retain it (McKeachie and Svinicki 2006).
Grading:

Grading Breakdown:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Assignment 1) Lissamphibia dichotomous key</td>
<td>15</td>
</tr>
<tr>
<td>Assignment 2) Aves ID exercise</td>
<td>35</td>
</tr>
<tr>
<td>Quiz</td>
<td>50</td>
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<tr>
<td>Exam 1</td>
<td>100</td>
</tr>
<tr>
<td>Assignment 3) Poster Presentation (80 pts total)</td>
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<tr>
<td>3a) Primary Literature (individual topic search)</td>
<td>10</td>
</tr>
<tr>
<td>3b) Topic idea selected as a group</td>
<td>5</td>
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<tr>
<td>3c) Primary Literature (group topic search)</td>
<td>10</td>
</tr>
<tr>
<td>3d) Poster and Presentation</td>
<td>55</td>
</tr>
<tr>
<td>EXAM 2</td>
<td>120</td>
</tr>
<tr>
<td>TOTAL</td>
<td>400</td>
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**Grading Scale:**

The total points you earn will be rounded to the nearest whole number to determine your final grade. With the total number of points you’ve earned, you will receive no lower than the following grades:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>372 – 400 pts</td>
</tr>
<tr>
<td>A-</td>
<td>360 – 371 pts</td>
</tr>
<tr>
<td>B</td>
<td>332 – 347 pts</td>
</tr>
<tr>
<td>B-</td>
<td>320 – 331 pts</td>
</tr>
<tr>
<td>C</td>
<td>292 – 311 pts</td>
</tr>
<tr>
<td>C-</td>
<td>280 – 291 pts</td>
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<tr>
<td>D</td>
<td>252 – 271 pts</td>
</tr>
<tr>
<td>D-</td>
<td>240 – 251 pts</td>
</tr>
<tr>
<td>F</td>
<td>≤ 239 pts</td>
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</tbody>
</table>

**Late Work Policy:** The assignments are intended to reinforce topics we are covering in lab, so you will get the most out of the course if you turn your work in on time. **Late work will be docked 10% of your final assignment grade for each day the assignment is past due and work more than a week late will not be graded.**

**Grade Concerns:** If you want to express concerns you have regarding how an assignment or exam was graded, e-mail me with the following information: the specific question you have a concern about, your answer, and evidence that indicates that your answer deserves more points. Acceptable evidence includes citations from books (with page numbers) or peer reviewed journals that support your answer. I will evaluate your evidence to determine whether you have supported your claim that your answer deserves more points. **I will not address grade concerns during class time.**
Assignment descriptions

Assignment 1) Lissamphibia dichotomous key

*Learning Objectives:*
- Recognize characters that are useful to distinguish both closely related (e.g., within a genus or family) and distantly related Lissamphibians (between families and orders)
- Create a USEFUL and CONCISE dichotomous key

Assignment 2) Aves identification (2 parts)

*Assigned: Week 3*
*Due: Week 7*

*Learning Objectives:*
- Recognize characters that are useful to distinguish both closely related (e.g., within a genus or family) and distantly related birds (between families and orders)
- Learn proficient use of the field guide

Assignment 3) Poster Presentation: Cool Adaptations

Assignment 3a and 3c) Exploring Primary Literature

*Learning Objectives:*
- Explore your interests in the ecology and evolution of vertebrates
- Become familiar with search engines
- Critically review a peer reviewed journal article

*Assignment:* For the individual topic search (assignment 3a), each person in a group chooses a potential poster topic of interest and researches a primary literature article pertinent to the topic. Groups come back together and discuss what topic they want to do. Once your group has decided on a topic, one member of the group must post their group’s topic on the Canvas Discussion board to claim it! Make sure you are all clear about who will post). **Note you must also check to make sure another group has not chosen your preferred topic; it is first- come first-served and only one group may do a single topic. Be prepared with a ranked list of topics.**

Assignment 3d) Scientific Posters

*Due: Week 9*

*Example Topics:*
- Sexual conflict in Vertebrates
- Parent/Offspring Conflict in Birds
- Brood Parasitism in Birds
- Communication in Amphibians
- Same sex attraction in vertebrates

*Assignment:* You will research an interesting adaptation(s) and present it in poster format to the class. You will work in assigned groups of 2 or 3.

In your poster you must:
- Concisely describe the animal and its ecology—especially as it relates to the adaptation
- How does it function? — describe the relevant physiology or functional morphology of the character
- What is the advantage of this adaptation for individuals?
- Are there other closely related species that do not have the adaptation? Why?
- Adaptations are often a compromise solution (i.e. trade-off)...is that the case with this adaptation?
- Are there historical constraints on the structure?
- Is this adaptation an example of convergence? How do you know?
• Sources of information—you must have at least six peer-reviewed primary literature articles (i.e., two unique articles per group member. Note that you will already have at least four articles from your required literature search assignments). You may cite more than six sources if necessary. Citations can be listed on the poster or turned in to me separately.

We will go over the assignment of topics in lab, and if you have any questions at any point about your topic or about what you should include in your presentation please talk to me!

Look under the Canvas Week 9 module (Poster presentation) for Poster-related documents.

Exams and Quiz:

You may use keys that you make; these must be turned in with the Exam. Keys must be:
- typed (minimum 10-pt font)
- 0.5” margins
- No more than 1 single-sided page for the Exam 1 (Midterm) and 3 single-sided pages for Exam 2 (Final)
- Only descriptions of the characters and names of the animals may be included on your key; drawings and natural history information is NOT allowed on the keys – having this information is cheating and will result in a ZERO grade

The Exams will include practical-type questions (i.e. identify and name specimens) and short answer questions (from NHE&E stations and Lab PowerPoints).

You may discuss how your Exams are graded only in terms of the correctness of your answers. In addition, Exam grade discussions will only be done via appointment by email outside of the regular lab period. It is distracting from the task of learning and teaching to have those sorts of discussions in lab. If you attempt to challenge an exam question in lab, you will be told to make an appointment.
UNIVERSITY AND DEPARTMENTAL POLICIES:

Students with disabilities: Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Classroom etiquette: For the sake of all the other students taking this class, talking during my lectures should be kept to a minimum. Cell phones and pagers should be turned off before entering the classroom. Students should be respectful of others at all times.

Note: This course follows the University rules on civility and honesty. These can be found at: http://studentlife.oregonstate.edu/studentconduct/offenses-0. Behaviors disruptive to the learning environment will not be tolerated and will be referred to the Office of Student Conduct for disciplinary action. “The goal of Oregon State University is to provide students with the knowledge, skill and wisdom they need to contribute to society. Our rules are formulated to guarantee each student's freedom to learn and to protect the fundamental rights of others. People must treat each other with dignity and respect in order for scholarship to thrive. Behaviors that are disruptive to teaching and learning will not be tolerated, and will be referred to the Student Conduct Program for disciplinary action. Behaviors that create a hostile, offensive or intimidating environment based on gender, race, ethnicity, color, religion, age, disability, marital status or sexual orientation will be referred to the Affirmative Action Office.”

Cheating: Have respect for yourself and your fellow students and do not cheat. Cheating or plagiarism by students will not be tolerated and will be subject to the disciplinary process outlined in the Student Conduct Regulations. Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:

- cheating- use or attempted use of unauthorized materials, information or study aids
- fabrication- falsification or invention of any information
- assisting- helping another commit an act of academic dishonesty
- tampering- altering or interfering with evaluation instruments and documents
- plagiarism- representing the words or ideas of another person as one's own

- See: http://studentlife.oregonstate.edu/studentconduct/offenses-0

Link to Statement of Expectations for Student Conduct:
http://oregonstate.edu/studentconduct/http://%252Forregonstate.edu/studentconduct/code/index.php

- Exams:
  1. If you have a question, raise your hand. I will come to you. Please do not leave your seat unless you are done with your exam.
  2. Bags and backpacks must be left at the front of the room during exams.
  3. You are required to turn off electronic devices and place them in your backpack or bag. If it goes off during the exam it would be disruptive to others.
  4. You will not be able to leave during an exam for any reason. So please use the restroom before the exam.
  5. Also if I see you looking at an electronic device, I will have to assume you are cheating and remove you from the room.
  6. Keep your eyes on your own exam. If I catch you cheating from another student’s exam, I have to assume both parties were involved. Cover your own exam to prevent others from seeing it.