



# BIOL 474L

# Evolution of

# Vertebrate Life Laboratory

**Lab Director:**

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**Instructor:**

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**Sections:**

402: Tues 1:15-4:15pm  
403: Tues 4:45-7:45pm

**Lab Schedule**

Labs will meet via Zoom asynchronously with some required synchronous sessions.

**Fall 2020 Course Goals & Expectations**

An online study of the anatomy and evolution of select vertebrates. A fish, amphibian, and mammal will be the primary foci of this lab, representing 3 disparate grades of vertebrate evolution as well as being excellent examples of aquatic, transitional, and terrestrial forms. Other organisms will be examined as well. This lab course requires BIOL 474 as a pre- or co-requisite.

**Class resources**

3D Anatomy software will be provided to the students. A laptop or desktop computer (Windows or Mac) will be required to run the software.

**By the end of this course, you should be able to...**

1. Understand the big picture of morphological evolution in vertebrates by comparative examination of structures
2. Identify homologous anatomical structures across a wide variety of vertebrates
3. Appreciate the unique functional adaptations of representative vertebrates, and
4. Although we won't study humans specifically, you will gain a better understanding of the complex origins of human anatomy

## Grading policy and other information

The course will be graded on the basis of...

1. Weekly lab activities/quizzes 15%
2. Quizzes (3): 45%
3. Presentation (2): 40%

### Quizzes:

Three quizzes will be given over the course of the semester. Each quiz consists of identification questions and practical questions that assess your understanding of concepts related to homologous structures, functional adaptations, and anatomical relationships.

|        |    |       |    |
|--------|----|-------|----|
| 93-100 | A  | 77-80 | C+ |
| 90-92  | A- | 73-76 | C  |
| 87-90  | B+ | 70-72 | C- |
| 83-86  | B  | 67-70 | D+ |
| 80-82  | B- | 60-66 | D  |
|        |    | <60   | F  |

## Grades and grading

Your grade for this course will be determined according to your accumulation of points for worksheets, quizzes, and presentation. Your final score will be measured against the grade scale provided here. Students within rounding error (0.5%) will be rounded up. No curves or dropped scores... just math.

## Diversity and Inclusion

The Department of Biology values the perspectives of individuals from all backgrounds reflecting the diversity of our students. We broadly define diversity to include race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. We strive to make this classroom and this department an inclusive space for all students.

## Honor code

Students are expected to abide by the UNC honor code at all times. Course resources of any kind are not to be made publicly available. Make sure that anything you upload to websites (for example, Quizlet) is not publicly viewable. This policy is to protect copyright of images, and to limit the distribution of information that might provide another student unfair advantage. This policy applies to all files, screenshots, quizzes/exams, or summaries of the aforementioned items.

## BIOL 474L Lab Schedule

| <b>Dates</b> | <b>Lab Topic</b>                             |
|--------------|--|
| Aug 11       | Phylogeny & Course Overview                  |
| Aug 18       | Postcranial Skeleton                         |
| Aug 25       | Cranial Skeleton                             |
| Sep 1        | Student Presentations - skeletal system      |
| Sep 8        | Student Presentations - skeletal system      |
| Sep 15       | Quiz 1                                       |
| Sep 22       | Muscular system                              |
| Sep 29       | Respiratory & Circulatory Systems            |
| Oct 6        | Quiz 2                                       |
| Oct 13       | Urogenital & Digestive Systems               |
| Oct 20       | Nervous System                               |
| Oct 27       | Student Presentations - anatomical novelties |
| Nov 3        | Student Presentations - anatomical novelties |
| Nov 10       | Quiz 3                                       |
| Nov 17       | <b>LDoC - no class</b>                       |