GEOS 216 Dinosaurs (Spring 2021) – UA Online

Course Description and Objectives:

In this course, we explore dinosaurs and their evolution based on the fossil record.

You will learn about what dinosaurs are and how to study them using scientific methods in three parts. First, we will discuss the history of dinosaur study, anatomy of dinosaurs, how to find and name dinosaurs and how dinosaurs are related to other organisms in time and space. Second, we will examine the major groups of dinosaurs and evolutionary relationship among them. Lastly, we will assess inferred dinosaurian behavior, physiology, functional morphology and extinction patterns from fossil evidence.

Expected Learning Outcomes:

By the end of the course, I would like each student in the course to be able to:

- Identify the major groups of dinosaurs and their primary attributes (anatomy, behavior, distribution, etc.)
- Understand evolutionary relationships among major groups of dinosaurs
- Evaluate inferred dinosaur behavior, biomechanics, physiology and extinction patterns from fossil evidence

Instructor Info

Derek Hoffman

CONTACT

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Office   Gould-Simpson building, Room 442
Tucson, AZ ([map](#))

OFFICE HOURS

Time   Tu 9:00-11:00 a.m. MST, and by appointment
Location 442 Gould-Simpson and Zoom

Course Components:

- **Textbook Readings & Quizzes** - When you read ahead of time, you are more likely to understand the lecture and figure out what is important and what is not. Dinosaur paleontology is filled with names and terms and covering all of them in lectures is often ineffective. Therefore I strongly encourage you to read the assigned textbook chapter or posted reading and take the quiz before watching each video lecture. The reading quizzes are designed to incentivize and guide the readings.
- **Video Lectures** - Each video lecture is less than 20 minutes in length focusing on explaining important concepts in each topic rather than going over definitions and terms. Animations and video clips are often more helpful in understanding dinosaurs than black and white drawings of skeletons.
- **Activities** - The evidence that active learning is more effective than lecturing is overwhelming. We all learn better by doing than listening. Activities are designed to help you understand how to apply your understanding of the concepts and principles discussed in the topic to answer questions in dinosaur paleontology. Most activities include problem solving questions based on data including charts and graphs. A few activities will be based on hands-on experiments.
- **Writing Assignments** - Writing is a very important part of science (and any discipline). Writing prompts and questions are related to topics covered in the course. The goal is for you to communicate your ideas, thoughts and findings to others clearly. Good scientific writing is simple, impartial (avoid making assumptions), logically structured, accurate and objective.
- **Exams** - There are three exams in this course, one per each major part of the course. The exams serve as important checkpoints in assessing your understanding of course material, rather than recall and memorization, to improve learning. The exams therefore are open book (essay format) and draw heavily from activities, lectures, quizzes, and writing assignments.

Assignments & Deadlines:

Please see the **Course Schedule**.

It is easy to lose track of time or to wait until the last minute to complete work in an online class. To avoid this, designate time (about 1-2 hours per

day or 2-3 hours per topic) during the duration of this course. You can work ahead.

Assessment, Feedback and Evaluation:

Participation, curiosity, collaboration, and critical thinking are what we aim for in this course.

A variety of methods are used to assess and give feedback, including: peer feedback, self-assessment, rubrics, quizzes, written assignments, and grades. The instructor will monitor activity daily and post grade for any assignment within a week the assignment is due.

Grading Scale:

Below is the grading scale in the course

Reading Quizzes	20% (drop 5 lowest scored items)
Activities	20% (drop 5 lowest scored items)
Writing Assignments	15% (drop 2 lowest scored items)
Exams	45% (3 exams total; 15% each)
Total possible	100%

Your final course grade is based on the following grand total scores:

≥ 90% = A   ≥ 80% = B   ≥ 70% = C   ≥ 60% = D   less than 60% = E

To get an A in the course you must earn at least 90%. No exceptions.