

The Evolution and Paleobiology of

Dinosaurs

Geology 12

Winter Quarter, 2021

Tuesday and Thursday, 12:10 - 1:00 PM

Virtual, by Zoom: asynchronous, recorded

Credit: 2 units

Prerequisites: none

Grading: letter grade

Instructor: Sandy Carlson (Telephone: 752-2834) **E-mail:** sjcarlson@ucdavis.edu

Office Hours: Tuesday & Thursday 10:30-11:30 am or by appt. Will send Zoom link to connect.

Teaching Assistant: Ben Faulkner **E-mail:** bifaulkner@ucdavis.edu

Recommended Text: *Dinosaurs: a Concise Natural History* by D.E. Fastovsky and D.B. Weishampel, 3rd Edition, 2016, Cambridge University Press, Cambridge. 432 pp.

Requirements: Two take-home essay exams (35% each) and a 400-word essay on a current event (30%)

Date	Lecture	Reading: Chapters
January 5	Introduction to Dinosaurs: History of study	15
January 7	Dinosaurs in Temporal Perspective: Geological time	2
January 12	Geology and Climate in the Mesozoic Era	2
January 14	Collecting Dinosaurs: How is it done?	1
January 19	Dinosaur Ancestors: Who are they?	3, 4, and 5
January 21	Dinosaur Relationships I: Saurischia	6, 7, and 9
January 26	Dinosaur Relationships II: Ornithischia	10, 11, and 12
January 28	Dinosaur Biomechanics I: Postcranial	Review 6-12
February 2	Dinosaur Biomechanics II: Dental and cranial	Review 6-12
February 4	TAKE-HOME EXAM 1 DUE BY 5:00 PM ON FEBRUARY 8	----
February 9	Pterosaurs	-----
February 11	The Origin of Birds	8
February 16	Dinosaur Physiology I: Endothermy Hypothesis	13
February 18	Dinosaur Physiology II: Testing the Hypothesis	13
February 23	Dinosaur Behavior I: Functional Morphology; Trackways	Review 6-12
February 25	Dinosaurs Behavior II: Reproductive Behavior	Review 6-12
	ESSAY DUE BY 5:00 PM ON MARCH 2	
March 2	Life in Mesozoic Seas: Marine Reptiles	----
March 4	Hot New Topics in Dinosaur Paleobiology	-----
March 9	Dinosaur Extinction I: Hypotheses	14 and 16
March 11	Dinosaur Extinction II: Testing the Hypotheses	16
March 18	TAKE-HOME EXAM 2 DUE BY 9:00 PM ON MARCH 18	

Continuing pandemic notes:

Because we are still in the throes of COVID-19, I have made some adjustments to the delivery of course information for this quarter.

Rather than requiring you all to be present on Zoom during the regular class time (T Th 12:10 to 1:00 pm PST), I will record my lectures and make them available to you all on Canvas no later than class time. I think this is only fair for those of you in other time zones and makes it possible for you to view them anytime, including during class time, over and over and over again 😊 (only if you want to!!). I will include a link to access the recordings at the end of the notes that I post for each lecture in **Files**, on Canvas.

Because lectures will be asynchronous, I do really encourage you to make note of any questions or comments that you may have about lecture material and then please attend office hours, at least once in a while, where we can discuss them. Office hours will be held synchronously on Tuesday and Thursday from 10:30 to 11:30 am PST. I will also try to post a discussion question or two to entice you to attend – but attendance is not required and will not be recorded.

If you want to contact me at any other time, Email or via Canvas (Inbox icon on the left side, and then click on the little pencil and paper icon at the top) are the best ways to contact me – I will not be checking my office phone. If you have any questions or issues you want to discuss, please send them to me and we can set up a time to talk about them by Zoom.

The textbook for the course is recommended, not required, and will be available in digital form from campus, or you can order it from any of a number of other sources, if you want to buy it. It is a great book, but purchase is not required.

Your final grade will be based on three components: two take-home essay exams -- you will have a 24-hour period to complete each exam after I post the questions on Canvas (anyone needing an adjusted or extended time period can contact me and we will talk). Also, I want each of you to write a short, roughly 400-word mini-research essay on a current topic of your choosing related in some way to the study of dinosaurs. I will give you more information on each of these three assignments as the quarter proceeds.

Finally, I just want to say “Bravo!!” to all of you for continuing to put in the extra effort to move your education forward. Our persistence, determination, and flexibility are all being tested daily over these many months now, and I am proud of you all for keeping at it! I love teaching this course – I want you to learn something about dinosaurs and I also want us to have some fun! I would love to be able to see your faces in class at each and every lecture, but since that won’t be possible, I am hoping to get to meet at least some of you during office hours.

