

## BIOL 363, GSCI 263/363 (3 credit hours) – Dinosaurs - SPRING 2021

1:00–2:15 TR ISC 146

### Instructors:

Jeff Over - Office: 249 Integrated Science Center  
Sara Burch - Office: 358 Integrated Science Center

### Course Objective and Learning Outcomes:

This course is designed to provide an introduction to the principles, processes, techniques, and interpretations in the study of dinosaurs, other Mesozoic faunas and floras, as well as the geology of the Mesozoic world. Upon completion students will be able to describe, classify, and interpret dinosaur and other fossil remains, as well as have an understanding of the significant changes in earth history. A required eight day field trip will result in the observation and description of dinosaur fossils and trackways in museums and the field.

### Course Prerequisites:

Two or more 100-level courses in Biology and/or Geology, as well as permission of the instructors.

### Course Text (optional):

Fastovsky, D.E. and Weishampel, D.B., 2016, Dinosaurs: A Concise Natural History 3<sup>rd</sup> Edition. Cambridge University Press, 477 p.

### Supplementary Texts

Readings for each topic from the primary literature will be posted.

### On-line Resources

There are numerous sites and articles about dinosaurs, here are a few:

<http://www.ucmp.berkeley.edu/diapsids/dinosaur.html>

<http://www.amnh.org/apps/dinosaurs>

<http://www.tyrrellmuseum.com/>

<http://dinosaurpictures.org/> - see the interactive globe on this site

<http://vertpaleo.org/Home.aspx>

<http://vertpaleo.org/Publications/Journal-of-Vertebrate-Paleontology.aspx>

Course Requirements:	263	363
Assignments	15 %	15 %
2 Hour Examinations	50 %	40 %
Virtual Field Trip Journal	35 %	25 %
Project		20 %
<b>Total</b>	<b>100%</b>	<b>100%</b>

### Grading Policy:

- 1) Examinations will cover lecture material, exercises, text assignments, and outside readings.
- 2) Journal will be a description and log of museum and field trip fossil materials observed and measured.
- 3) Final grades will be calculated based on a percentage of the point system outlined above: 100/93 = A, 92.989.5 = A, 89.486.5 = B+, 86.483.0 = B, 82.979.5 = B, 79.476.6 = C+, 76.573 = C, 72.969.5 = C, 69.464.5 = D, <64.5 = E. There will be no additional assignments; late reports or assignments will not be accepted without written prior arrangement.

### Materials/equipment:

College-ruled composition notebook - 6'x9' or 8.5'x11', 100 to 120 pages



## Tentative Schedule

Class will be hybrid for discussion and assignments. The student limit in ISC 146 is 10, so we will split the class where 10 students come into ISC 146 on Tuesday and 10 come in on Thursday. Lectures will be recorded and posted on CANVAS. You are responsible for 16 virtual field trips and museum visits to see dinosaur sites and materials. A preliminary list will be provided.

02 Feb	Introduction and Scope of Paleontology (Burch and Over)	Ch. 1, 3, 4
04 Feb	Geology and the Mesozoic World (Over)	Ch. 2, 5
09 Feb	History of dinosaur studies (Over)	Ch. 14, 15
	<i>Strata recognition and environments - (Assignment 1)</i>	
11 Feb	Bones and anatomy (Burch)	Ch. 4, 5
16 Feb	Taphonomy (Burch)	
	<i>Phylogenetics exercise - (Assignment 2)</i>	
18 Feb	Of eggs and nests (Over)	Ch. 4, 6
23 Feb	Tracks and track ways (Over)	Ch. 8
	<i>Trackways exercise - (Assignment 3)</i>	
25 Feb	Evolution and origin of dinosaurs (Burch)	Ch. 4, 5, 13, 14
04 March	<i>Exam I</i>	
09 March	Mesozoic flora and fauna - not dinosaurs (Over)	Ch. 14
	<i>Plants and dinosaur food - (Assignment 4)</i>	
11 March	Ornithopods (Burch)	Ch. 12
16 March	Ceratopsians and Thyreomorpha (Burch)	Ch. 10, 11
	<i>Combat in dinosaurs - (Assignment 5)</i>	
18 March	Sauropods (Over)	Ch. 9
23 March	Theropods (Burch)	Ch. 6, 7
	<i>(Assignment 6)</i>	
25 March	Birds and Cretaceous extinction (Burch and Over)	Ch. 8, 16
30 March	<i>Exam II</i>	

Virtual journal is due 06 April

Project topic and bibliography (ten relevant references) are due 23 March

Project is due 20 April