Biol 339 # Dinosaur Biology Spring 2020

Instructor: Jaap Hillenius RITA 213 Tel: 3-2297 email: hilleniusw@cofc.edu

Text: Fastovsky & Weishampel 2016. Dinosaurs: A Concise Natural History.
Additional readings will be assigned in class.

Course Objectives

Today, dinosaurs are cultural icons, but in their own time, they were also one of the most successful groups of land vertebrates. This course examines the biology behind that success. We will explore the evolutionary origins of the dinosaurs, their diversity and adaptations, their environment, and their ultimate disappearance and extinction. Current views and controversies from the primary literature will be discussed. In this course, students will:

- demonstrate an understanding of the principal anatomical features that characterize the dinosaurs, of the diversity among dinosaurs, and of the main contemporary tetrapods.
- demonstrate a basic understanding of the principles of paleontology and earth history, and their implications for understanding past life conditions during the Mesozoic Era.
- demonstrate an understanding of the principles of paleobiological reconstruction, and employ these to reconstruct various aspects of dinosaurs as biological organisms.
- demonstrate an ability to interpret primary scientific literature and communicate findings with peers.

Course Outline

Date	Lecture Topic	Reading
01/08	Introduction	Chapter 1, 2
10	Osteology 1: Vertebrates-R-Us	Chapter 3
15	When Bones become Rock: Taphonomy & Fossilization	
17	Osteology 2: The Cool Gang: Amniotes, Archosaurs & Dinosaurs	Chapter 4
22	Life Isn't What It Used to Be	
24	Mace Brown Museum	
29	**Exam 1**	
31	Dinosaurs in the Media I	
02/05	Dinosaur Beginnings	Chapter 5, 13
07	Literature Discussion	TBA
12	Ornithischia: The Most Spectacular Herbivores	Chapter 10-12
14	Literature Discussion	TBA
19	Saurischia: Fangs, Claws & Giants	Chapter 6-9
21	Literature Discussion	TBA
26	Dinosaur Contemporaries: The Good, the Bad, & the Ugly	TBA
28	Literature Discussion	
03/04	**Exam 2**	
06	Dinosaurs in the Media II	

11	Dinosaur Biology I: Biomechanics of Gigantism	TBA
13	Literature Discussion	
18	**Spring Break**	
20	**Spring Break**	
25	Dinosaur Biology II: Thermal Biology & Metabolism	Chapter 13
27	Literature Discussion	TBA
04/01	Dinosaur Biology III: Reproduction, Growth & Parental Care	TBA
03	Literature Discussion	
08	Flying Feathers: the Paternity Suit of the Century	Chapter 8
10	Literature Discussion	TBA
15	And Then There Were None: The Great Extinction	Chapter 16
17	Literature Discussion	TBA

Final Exam:
Wednesday April 29, 8:00 - 11:00

Point Distribution

Exam 1	100 pts
Exam 2	100 pts
Presentation	100 pts
Final	200 pts