

Dr. Joshua Cohen, Biology
**Bringing Paleontology into the Classroom: Identification and
Paleoecological Analysis from Brackish to Fluvial Terrestrial Faunas
During the Middle Cretaceous**

Very little work has been done in understanding terrestrial faunal dynamics in varying depositional environments, including shoreline, lagoonal, floodplain, and riverbank facies from a single formation. The Masuk Formation preserves a transgressive-regressive sequence tract of the Western Interior Seaway during the middle Cretaceous of North America, representing depositional environments ranging from terrestrial floodplains to brackish-influenced lagoons and provides an opportunity to address changes in community composition between different environments through time. This project will provide an opportunity for students taking BIO 398A Vertebrate Paleontology to conduct novel research investigating faunal dynamics, diversity, and abundance among different depositional environments. Each group of students will be given vertebrate fossils from a single locality and be tasked in identifying and describing their fauna. Using the class data, students will calculate relative abundances and diversity among different localities and environments, with the eventual goal for presentation and publication. This project will provide real-world experiences in organismal biology, ecology, and evolution. The biology department at Pace University has been working on improving student success in these topics, and this course will serve as an important opportunity, especially for students interested in future careers in veterinary, dental, and biology graduate programs.