

EARTH HISTORY OPTION FOR EARTH SCIENCE (GYA/GYS) MAJORS

A paleontologist studies the origin, evolution and diversification of life on this planet, as recorded in rocks and fossils. Vertebrate paleontologists focus these studies on animals with a backbone. Here at NCSU, vertebrate paleontology is represented by a broad spectrum of investigations. Current projects being conducted by faculty and students include the study of new species that shed light on evolution the major bird lineages (such as penguins and puffins) as well as the relationships of birds to their other dinosaurian cousins. Another major area of research includes chemical investigations of diagenesis and the process of fossilization itself, and investigation of the role microbes may play in the preservation of vertebrate remains. Other projects focus on the evolutionary relationships and paleoecology of dicynodonts, enigmatic creatures related to mammals, the description of new species of ornithischian dinosaurs and evolutionary relationships of the large, carnivorous allosauroid dinosaurs.

Undergraduate students pursuing a GYS or GYA degree have the opportunity to gain research experience in labs here at NCSU or in various field sites, prospecting for and collecting fossil remains of dinosaurs and other extinct vertebrates. These research experiences give them the preparation they need for graduate studies in paleontology. They may also choose to use their training to inspire the next generation of scientists in high school classrooms or as science journalists by informing the public about how the evolution of life is tied to major changes in climate and through earth history. Other students may find work in forensics or other analytical labs as they hone the skills needed to study the biology of extinct organisms.

Paleontological research takes students and advanced researchers around the globe as they conduct research in collections or on expeditions in the field to document evolutionary patterns in their favorite animals. Graduate students in Paleontology at NCSU and from other national programs find careers as faculty members in universities or as curators or collection managers working hands-on with new fossil remains in museums. Some graduates also find careers in medical schools where it is often vertebrate paleontologists that teach human anatomy and/or histology. Some work with archaeologists to study the animals that lived along side humans in ancient cultures or work for geologic surveys to protect fossils on public land.

The broad, interdisciplinary nature of paleontology provides students with multiple directions for future careers, and gives a perspective of life on this planet that few others enjoy. Come check it out!

Undergraduate Courses in Paleontology and Related Courses:

MEA 120/121: Dinosaurian World and Dinosaurian World Laboratory

MEA 202/211: Historical Geology and Historical Geology Laboratory

MEA 411: Marine Sediment Transport

MEA 450: Introduction to Sedimentary Petrology and Stratigraphy

MEA 472: Paleontology Methods

MEA 492: (Special Topics)

Macroevolution

Dinosaur Anatomy, Physiology and Evolution