

## **Geology 06/14F Midterm Exam Review Topics**

### **Key Concepts**

History of Dinosaur studies - Cuvier, Buckland, Mantell, Anning, Owen, Leidy, Cope, Marsh, Osborn, Andrews, Ostrom

Dinosaurs of the Gobi – Flaming Cliffs and Ukhaa Tolgod, major finds, circumstances of preservation – review essay questions

Geologic Time - relative time, absolute (numerical) time, Hadean, Archean, Proterozoic, Phanerozoic Eons; Paleozoic, Mesozoic, Cenozoic Eras; Triassic, Jurassic, Cretaceous Periods

Correlation of geologic systems using fossils- William Smith

Radiometric dating, half life, parent / daughter isotopes, uranium-lead, radiocarbon dating

Mesozoic Marine Life – oysters, ammonites, rudistid bivalves, ichthyosaurs, plesiosaurs, pliosaurs, mosasaurs – importance of shelly fossils for correlation and relative dating

Sedimentary rocks - detrital (sandstone, shale), carbonate (limestone), evaporite, coal, depositional (sedimentary) environments - fluvial, lacustrine, eolian, deltaic, marine, sedimentary structures (ripple marks, mudcracks), environments likely to preserve dinosaurs / environments not likely to preserve them. Tectonics and fossil preservation.

Fossils – fossilization – what is preserved and what is not; types of dinosaur fossils: body fossils, trace fossils, chemical fossils

Mesozoic plants: spore plants (ferns, tree ferns, horsetails, lycopsids), gymnosperms (ginkos, conifers, cycads), angiosperms (flowering plants) – Paleophytic, Mesophytic, Cenophytic