GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE

ES 2070
MASS EXTINCTIONS: DINOSAURS, MAMMOTHS, AND MAN?

COURSE OUTLINE

WINTER SEMESTER 2003 - 2004

Lecture Section A3 W 6:00 - 8:50 pm Room J204

INSTRUCTOR: **Dr. Desh Mittra**
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TRANSFER CREDIT:

U. of Alberta	EAS 207	3 credits
U. Of Calgary	GLGY 307	3 credits
U. Of Lethbridge	GEOL 2XXX	3 credits
Athabasca Univ.	Scie XX	3 credits

COURSE OBJECTIVES: The course has been designed to discuss and describe the progression of life through time, with emphasis on important radiations and mass extinctions of life, and the theories on why they occur. Evolution, radiation, morphology and life habits of dinosaurs are considered in detail. The evidence for asteroid impacts in the geologic record, their frequency and effect on history of organisms through time. Origin and evolution of humans and their impact on the biosphere.

TEXTBOOK *Introduction to the Study of Dinosaurs*, by Anthony J. Martin, Blackwell Science.

ES 2070 - Lecture Schedule (tentative).

1) **Jan 07**: Introduction to course. Geological Column. Principles of Stratigraphy. History of Geology. Precambrian - origin of life and early atmosphere. First 3 billion years of life on Earth

2) **Jan 14**: Late Precambrian and Paleozoic life. "Explosion" of life near Cambrian-Precambrian boundary (600 -400 Ma). Paleozoic crises. Life, major mass extinctions and evolutionary radiations (faunal turnovers). (543-248 Ma)

3) **Jan 21**: Origin of vertebrates - evolution of early fish, amphibians and reptiles. The "mother of all mass extinctions"; end of Paleozoic (end Permian) extinctions

4) **Jan 28**: Mesozoic life and events (248-65 Ma). History of Dinosaur Discovery.

5) **Feb 04:** Introduction to dinosaurs and dinosaur morphology (shape/form). Theropoda (mainly carnivorous dinosaurs)

6) **Feb 11**: **Mid-Term Exam.1** Sauropoda. Giant quadrupedal earth-shakers

7) **Feb 18**: **Reading Week (no lecture)**

8) **Feb 25**: Ornithopoda (Bird Foot) dinosaurs. Thyreophora (shield bearing dinosaurs)

9) **March 03**: Marginocephalia - Ceratopsians and pachycephalosaurs. Dinosaur life cycles, and dinosaurs from Alberta.

10) **March 10**: Largest and smallest dinosaurs, and dinosaur physiology

11) **March 17: Mid-Term Exam. 2** Dinosaur traces: trackways coprolites, etc.

12) **March 24**: Origin of flight and birds. Cretaceous/Tertiary Boundary and mass extinction that wiped out dinosaurs 65 Ma

13) **March 31**: Cenozoic life and events (65-1.8 Ma). Evolution of Homo sapiens (persons) (7-0 Ma)

14) **April 07**: Quaternary/Holocene Mass extinction (0.5 Ma -0 Ma).

15) **April 14**: The future, and summary of term.

MARKS DISTRIBUTION

Mid-Term 1	30%
Mid-Term 2	30%
FINAL	40%