GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE

ES 2070
MASS EXTINCTIONS AND DINOSAURS

COURSE OUTLINE

WINTER SEMESTER- 2006

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

INSTRUCTOR: **Dr. Desh Mittra**
Office: # J215, Phone: 539 – 2981, e-mail:dmittra@gprc.ab.ca

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.

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

Dinosaurs, The textbook, by Spencer G. Lucas

Dinosaur, Systematic Approaches and perspectives, Edited by Ken Carpenter and Phil Currie

The Handy Dinosaur Answer Book by Thomas E. Svarney

Recommended **Lecture notes: ES 2070 by Dr. Desh Mittra**

MARKS DISTRIBUTION

Mid-Term 1	15%
Mid-Term 2	20%
Class Presentation	15%
Term paper	15%
FINAL	35%

ES 2070 - Lecture Schedule (tentative).

1) **Jan 10**: 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 17**: 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 24**: Origin of vertebrates - evolution of early fish, amphibians and reptiles. The "mother of all mass extinctions"; end of Paleozoic (end Permian) extinctions

4) **Jan 31**: Mesozoic life and events (248-65 Ma). History of Dinosaur Discovery.

5) **Feb 07:** Introduction to dinosaurs and dinosaur morphology (shape/form). Theropoda (mainly carnivorous dinosaurs)

6) **Feb 14**: **Mid-Term Exam.1** Sauropoda. Giant quadrupedal earth-shakers

7) **Feb 21**: **Reading Week (no classes)**

8) **Feb 28**: Ornithopoda (Bird Foot) dinosaurs. Thyreophora (shield bearing dinosaurs)

9) **March 07**: Marginocephalia - Ceratopsians and pachycephalosaurs. Dinosaur life cycles, and dinosaurs from Alberta.

10) **March 14**: **Mid-Term Exam. 2** Dinosaur traces: trackways coprolites, etc.

11) **March 21:** Largest and smallest dinosaurs, and dinosaur physiology.

12) **March 28**: Origin of flight and birds. Cretaceous/Tertiary Boundary and mass extinction that wiped out dinosaurs 65 Ma

13) **April 04**: Cenozoic life and events (65-1.8 Ma). Evolution of Homo sapiens (persons) (7-0 Ma)

14) **April 11**: Quaternary/Holocene Mass extinction (0.5 Ma -0 Ma). The future and summary of term.

15) **April 13**: Last day 0f classes.

Date for the FINAL exam will be announced in the class.

Note:
Individuals will pick a topic from the list provided to give a presentation in the class. Students along with the instructor will grade it. Presentations could be in Power Point, Slide-show, chalk-board, video etc.

Topic for the term paper will be given with consultation and should be submitted on the last day of our lecture class.