GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE and TECHNOLOGY
COURSE OUTLINE

EARTH SCIENCE ES 1030

WINTER SEMESTER 1999-2000

EARTH and LIFE THROUGH TIME

Lecture:	Section A3	T R 11:30 - 12:50	Room J203
Labs	AL1	W 14:30- 17:20	Room J107

INSTRUCTOR: Dr. Desh Mittra

COURSE OUTLINE: Geologic and biological processes relevant for historical geology; structural geology and plate tectonics, relative and absolute dating, facies and analysis and correlations, fossils, origin and evolution of life. Origin of our solar system. Generation of the development of continents, mountains, and sedimentary basins. Sedimentary and mineral deposits of economic value and main fossil groups. Index fossils; mass extinction and adaptive radiations.

Laboratory Component

Introduction to Maps, Palaeontology of Protozoa, Porifera, Coelenterata, Brachiopoda, Bryozoa, Graptolithina, Mollusca, Arthropoda, Echinodermata, Monera Metaphyta. Time, rocks and fossils. Sedimentary facies. Correlation. Lithofacies and Paleogeography.

TEXTBOOK: **The Earth Through Time**, Sixth Edition by Harold L. Levin. Saunders College Publication.

LAB BOOK: **LABORATORY MANUAL FOR ES 1030**
Simon and Schuster's Guide to Fossils (Recommended).

REFERENCE BOOKS:

1. EVOLUTION OF THE EARTH - Dott (Jr.) and Batten (McGraw Hill.)
2. ESSENTIALS OF EARTH HISTORY - Stokes (Prentice-Hall Inc.)
3. HISTORICAL GEOLOGY - Mintz (Charles E. Pub.)
4. HISTORY OF THE EARTH - Eicher and McAlester
5. THE FOSSIL RECORD AND EVOLUTION - Scientific American 1982.
6. THE ORIGIN - Stone, I. (The New American Library).
7. HISTORICAL GEOLOGY (Evolution of the Earth and Life through Time) by Reed, Wicander and James. Monroe. (West Publication).

The following approximate schedule of lecture topics is presented as an aid to your study outline:

Week of Jan. 3	Chapter 1 & 2	Historical Geology & Earth Materials
Week of Jan. 10	Chapter 3	The Sedimentary Archives &
Week of Jan. 17	Chapter 4	The Fossil records
Week of Jan. 24	Chapter 5 & 6	Pate Tectonics and Archean
Week of Jan. 31	Chapter 6 & 7	Archean and Proterozoic
Week of Feb. 7	Chapter 7 & 8	Proterozoic and Paleozoic
Week of Feb. 14	Chapter 8 & 9	Paleozoic **(Midterm Week)**
Week of Feb. 28	Chapter 10 & 11	Paleozoic and Mesozoic
Week of Mar. 6	Chapter 12	Mesozoic
Week of Mar. 13	Chapter 13	Cenozoic
Week of Mar. 20	Chapter 14	Cenozoic
Week of Mar. 27	Chapter 15	Humans
Week of Apr. 3	Chapter 15	Humans
Week of Apr. 10		Review

Last day of classes – April 12, 2000

ASSIGNMENTS

You will be given weekly assignments consisting of multiple choice, true/false-type questions. These assignments are open book and test and exam questions will be based on these assignments.

Minitest Every second week, you will be given a minitest at the start of class which will be approximately 20 minutes long. Labs will also have quizzes.

LAB SCHEDULE

Jan. 12	Lab. 1	Introduction to maps
Jan. 18	Lab. 2	Protozoa, Porifera and Coelenterata
Jan. 25	Lab. 3	Brachipoda, Bryozoa and Graptolithian
Feb. 02	Lab. 4	Mollusca
Feb. 09	Lab. 5	Arthopoda and Echinodermata
Feb. 16		--------EXAM WEEK---------
Mar. 01	Lab. 6	Monera and Metaphyta
Mar. 08	Lab. 7	Structure Geology and Plate Tectonics
Mar. 15	Lab. 8	Relative and Numerical Age Dating
Mar. 22	Lab. 9	Correlation and Facies
Mar. 29	Lab. 10	Quaternady Geology and Geomorphology
Apr. 5		**----------Lab Final Exam----------**

EXAMS

Mid-Term: Topics covered in the First 6 weeks.	February 16, 2000 (During Lab Hours)
Final Theory - All material covered in theory.	T.B.A.
Final Lab - All Material Covered in Lab	April 5, 2000.

EVALUATION

Mid-Term	15%
Assignments	10%
Weekly labs	10%
Lab Quiz	10%
Lab Final	15%
Class Test	10%
Written Final	30%
	100%

GRADING

Percent	Grade
90 - 100%	9
80 - 89	8
72 - 79	7
65 - 71	6
57 - 64	5
50 - 56	4
45 - 49	3
26 - 44	2
0 - 25	1