GRANDE PRAIRIE REGIONAL COLLEGE

EARTH SCIENCE ~~GEOLOGY~~ 1030

COURSE OUTLINE

WINTER SEMESTER 1997-1998

ES 1030: **The Earth and Life Through Time**

INSTRUCTOR: Dr. Desh Mittra

TRANSFER CREDIT: (3-3) UT(3) WINTER

COURSE OUTLINE: Lecture Component
M, W, F, 9:00 - 9:50 J201

Geogical time, fossils, evolution of the principal groups and man, use of fossils in historical geology, Palogeography, historical geology.

Laboratory Component
M 3:00 - 5:50 Room J107

Geologic and biological processes relevant for historical geology; structural geology and plate tectonics, relative and numerical dating, facies analysis and correlations, fossils, origin and evolution of life. Historical geology from the origin of the solar system to the recent planetary beginnings, generation and development of continents, mountains, and sedimentary basins; main sedimentary and mineral deposits of economic value; main fossel groups, index fossils, mass extinctions, and adaptive radiations.

TEXTBOOK: The Earth Through Time - 5th Edition by
Harold L. Levin, Saunders College Publication

LAB BOOK: LABORATORY MANUAL FOR EARTH SCIENCE 1030 - Dr. D. Mittra
Simon and Schuster's Guide to Fossils (Recommended).

REFERENCE BOOKS:

1. EVOLUTION OF THE EARTH - Dott(Jr) and Batten (McGraw Hill Ryerson Ltd.)
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 EVOLUATION - 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).

Note: These reference books are kept in the Geology Lab. You can borrow them.

TOPICS

Week of Jan. 5	Chapter 1 - Time and Geology
Week of Jan. 12	Chapter 2 and 3- Earth Materials and Sedimentary Archives
Week of Jan.19	Chapter 4 and 5 - Fossil records and Plate Tectonics
Week of Jan. 26	Chapter 6 - First Two Billion Years & Life and Pate Tectonics
Week of Feb. 2	Chapter 7 and 8 - Proterozoic and Early Paleozoic
Week of Feb. 9	Chapter 9 and 10 - Late Paleozoic and Life of Paleozoic
Week of Feb. 16	Chapter 11 - The Mesozoic Era
Week of Mar. 2	Chapter 12 - Mesozoic Biosphere
Week of Mar. 4	Chapter 13 - Cenozoic Era
Week of Mar. 16	Chapter 14- Life of the Cenozoic
Week of Mar. 23	Chapter 15 - Human Origins
Week of Mar. 30	Chapter 16 - Our Solar System
Week of April 6	Revision
Week of April 13	Revision

LAB SCHEDULE

Jan. 12	Lab. 1	Topographic and Geologic maps
Jan. 19	Lab. 2	Protozoa, Porifera and Coelenterata
Jan. 26	Lab. 3	Brachipoda, Bryozoa and Graptolithian
Feb. 02	Lab. 4	Mollusca
Feb. 09	Lab. 5	Arthopoda and Echinodermata
Mar. 02		MID-TERM EXAM DURING LAB TIME
Mar. 09	Lab. 6	Monera and Metaphyta
Mar. 16	Lab. 7	Structure Geology and Plate Tectonics
Mar. 23	Lab. 8	Relative and Numerical Age Dating
Mar. 30	Lab. 9	Correlation and Facies
Apr. 06	Lab. 10	Quaternady Geology and Geomorphology
Apr. 12	Lab. Exam	

ASSIGNMENTS

# 1	January 15	due	January 22
# 2	January 22	due	January 29
# 3	January 29	due	February 5
# 4	February 4	due	February 11
# 5	February 11	due	February 18
# 6	February 18	due	March 4
# 7	March 4	due	March 11
# 8	March 11	due	March 18
#9	March 18	due	March 25
#10	March 25	due	April 1
#11	April 1	due	April 8

EXAMS

Mid-Term: Topics covered in the First 7 weeks.	March 2, 1998 (During Lab Hours)
Final Theory - All material covered in theory.	T.B.A.
Final Lab - All Material Covered in Lab	April 13, 1998.

EVALUATION

Mid-Term	20%
Assignments	15%
Weekly labs	10%
Lab Quiz	10%
Lab Final	10%
Written Final	35%
	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