GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE AND TECHNOLOGY

WINTER SEMESTER 2001-2002

COURSE OUTLINE

EARTH SCIENCE 1030
EARTH AND LIFE THROUGH TIME

Lecture	Section A3	M 13:00-14: 20	Room J203
Lab	AL1 (W)	14:30-17:20	Room J107

INSTRUCTOR: **Dr. Rob Young** - Office #J215, Phone 539-2048, email RYoung@gprc.ab.ca

TRANSFER CREDIT: U. of Alberta EAS 103 3 Credits

COURSE OUTLINE

Lecture: Origin of solar system and development of Earth's surface. Geologic and biological processes relevant for historical geology, structural geology, and plate tectonics. Relative and absolute dating, facies analysis and correlations, fossils, origin and evolution of life. Index fossils, mass extinction, and adaptive radiations.

Lab: Minerals and rocks. Structural geology and plate tectonics; Relative and Numerical Dating. Fossils and evolution. The fossil record from the Precambrian to the Cenozoic

Optional seminar: Wednesday at lunch in the lab room (J107). The seminars will consist of a video relating to recent or upcoming lecture material. Bring your lunch to the seminar!

TEXTBOOKS

The Earth Through Time by Levin (6th ed.)

LAB BOOK

Earth and Life Through Time from the Lab Technician
Simon and Schuster's Guide to Fossils (recommended - from bookstore)

OTHER ITEMS

Simon and Schuster's Guide to Rocks and Minerals or equivalent
Dictionary of Geological Terms
Readings to enhance course content will be placed on reserve in the library

OPTIONAL FIELDTRIP

There may be an optional fieldtrip to visit paleontology museums in Edmonton and Drumheller over the first weekend of Reading Week. The trip will likely only accommodate 12 students, so interested students should make their wish to participate in this trip known as soon as possible. Potential costs will be discussed in class.

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

Week of:	Topics
January 7	Minerals (Ch. 2)
January 14	Rocks (Ch. 2)
January 21	The sedimentary archives (Ch 3).
January 28	Relative and numerical dating (Ch. 1)
February 4	Earth structure and plate tectonics (Ch. 5)
February 11	Development of historical geology (Ch 1). The fossil record and evolution (Ch. 4)
February 18	**Midterm on Friday, Feb. 22**
February 25	Reading week (no classes)
March 4	The Archean (Ch. 6)
March 11	The Proterozoic. (Ch. 7)
March 18	Early and Late Paleozoic Events (Ch. 8 & 9) Life of the Paleozoic (Ch. 10)
March 25	The Mesozoic (Ch. 11) Life of the Mesozoic (Ch. 12)
April 1	The Cenozoic (Ch. 13). Life of the Cenozoic (Ch. 14)
April 8	Human origins (Ch. 14)

Last day of classes – April 12, 2001. Final exam date TBA.

ASSIGNMENTS: You will be given weekly assignments consisting of multiple choice, true/false, fill in the blank type questions, or short answer. These assignments are open book, and some midterm and final exam questions will be based on these assignments. They are due one week from the day they are handed out. Late = 0.

MARKS DISTRIBUTION: As much as is possible, midterm and final exams (both in lab and lecture) will not be cumulative.

Assignments	10%
Lab midterm	15%
Midterm exam	30%
Lab final	15%
Final exam	30%
Total	100%

Laboratory exercises: Labs will be undertaken as teaching exercises that will aid learning of material. The material will be tested twice during the term in (as much as possible) non-cumulative exams (see dates below in the lab schedule. A key for each lab will be posted outside the lab room. Students are expected to check their work against the key. Weekly quizzes that test content from the previous week will be given. Quizzes are meant to assist and evaluate learning for the benefit of the student, and marks will not be recorded.

Week of:	Lab Topics
January 7	No lab
January 14	Lab 1: Minerals
January 21	Lab 2: Rocks
January 28	Lab 3: Structural geology and plate tectonics; Relative and numerical dating
February 4	Lab 4: Fossils and evolution
February 11	Lab 5: Midterm Lab Exam
February 18	No Lab
February 25	No Lab (Reading week)
March 4	Lab 6: Precambrian and Cambrian rocks and fossils
March 11	Lab 7: Ordivician, Silurian, and Devonian rocks and fossils
March 18	Lab 8: Mississippian, Pennsylvanian and Permian rocks and fossils
March 25	Lab 9: Cenozoic rocks and fossils
April 1	Lab Final Exam
April 8	