GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE
COURSE OUTLINE 1995-96

SEP 1995

GEOLOGY 1020

GEOLOGY 1020: Physical Geology

INSTRUCTOR: Dr. Desh Mittra

TRANSFER CREDIT:

U. of Alberta	GEOL 102	3 credits
U. of Calgary	Jr. GLGY	3 credits
U. of Lethbridge	GEOL 2060	3 credits
Athabasca Univ.	1/2 GEOL 231	6 credits

COURSE OBJECTIVES: The course has been designed to generate competence in the fundamental concepts of earth sciences through the media of lectures, visual aids and integrated practical laboratory and field experiences. Geology 1020 serves both as the introductory course for specialists in Geological Sciences and as a course for non-specialists desirous of obtaining knowledge of the Earth Sciences.

COURSE OUTLINE:

Lecture Component - M, W, F at 12:00 - 12:50 or T, R at 9:30 - 11:00

Internal structure and composition of earth; continents and oceans; minerals and rocks; ground water and water supply; erosion, transposition and deposition of sediments; igneous activity and metamorphism; mountain building; plate tectonics.

Laboratory Component - T, W & R at 3:00 - 5:50 Room J107

Identification of minerals and common rocks, relative ages, topographic maps, aerial photographs; geological interpretation of topographic maps, aerial photographs and earth satellite images; the occurrence of igneous rocks, sedimentary rock structures, faults, earthquakes and plate tectonics.

TEXTBOOKS

Books

1. Physical Geology - Dynamic Earth by Skinnerd Porter, John Wiley Publication.
2. Lab Manual for GL-1020

OPTIONAL

3. Simon and Schester's Guide to Rock`s and Minerals or The Audubon Society Field Guide to North American Rocks and Minerals
4. Dictionary of Geological Terms

Materials

1. Steel Knife
2. Set of colored pencils
3. Pencils, eraser, paper

Note - All books and materials are available at the College Bookstore

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

Week of Sept. 4	Introduction & Course Outline/Field Trip and Slide show - An Introduction to Geology and The Planet Earth	(Ch. 1)
Week of Sept. 11	Atoms, Elements & Minerals Different types of rocks & their identification	(Ch. 2 & 3)
Week of Sept. 18	Sediments and sedimentary rocks	(Ch. 4)
Week of Sept. 25	Geologic structures; Folds, Faults and unconformities	(Ch. 14)
Week of Oct. 2	Metamorphic rocks and Geologic time	(Chps. 5 & 6)
Week of Oct. 9	Volcanism and Intrusive rocks; weathering & soil	(Ch. 3 & 7)
Week of Oct. 16	Mass wasting streams and landscapes	(Ch. 8 & 9)
Week of Oct. 23	Ground water, glaciers	(Ch. 10 & 11)
Week of Oct. 30	Glaciation, deserts & wind action	(Ch. 11 & 12)
Week of Nov. 6	Waves, beaches and coasts	(Ch. 13)
Week of Nov. 13	Earth quakes & Earth's interior	(Ch. 15)
Week of Nov. 20	Global Tectonics	(Ch. 16)
Week of Nov. 27	Our Changing Planet	(Ch. 19)
Week of Dec. 4	Our Geologic Resources	(Ch. 17)

Assignments

Eleven assignments will be given during the term. Late submissions will not be marked unless prior permission. Tentative dates are:

Assignment #	Date Given	Due Date
1	Sept. 15	Sept. 22
2	Sept. 22	Sept. 29
3	Sept. 29	Oct. 6
4	Oct. 6	Oct. 13
5	Oct. 13	Oct. 20
6	Oct. 20	Oct. 27
7	Oct. 27	Nov. 3
8	Nov. 3	Nov. 13
9	Nov. 13	Nov. 17
10	Nov. 17	Nov. 24
11	Nov. 24	Dec. 1

EXAMINATION & EVALUATION	i	Mid Term Exam (Oct. 18 and 19 during Labtime)	15%
	ii	Assignments	15%
	iii	Weekly Lab	15%
	iv	Lab Quiz	10%
	v	Lab Final Exam (Nov. 29 & 30)	10%
	vi	Final Written Exam (T.B.A.)	35%
		TOTAL	100%

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LAB SCHEDULE FALL - 1995

Sept 12, 13, 14	Lab	Introduction to mineral identification and slide show.
Sept 19, 20, 21	Lab 1	Identification of minerals.
Sept 26, 27, 28	Lab 2, 3	Igneous rocks & sed. rocks.
Oct 3, 4, 5	Lab 3, 4	Sedimentary rocks & metamorphic rocks.
Oct 10, 11, 12	Lab 7	Structural geology.
Oct 17, 18, 19	**NO LABS**	
Oct 24, 25, 26	Lab 5	Relative Geologic Time.
Oct 31, Nov 1, 2	Lab 6	Topographic Maps.
Nov 7, 8, 9	Lab 8A	Geologic Features produced by running water.
Nov 14, 15, 16	Lab 8B	Ground water and karst Topography.
Nov 21, 22, 23	Lab 9	Land Forms produced by Glaciers.
Nov 28, 29, 30	**FINAL**	**LAB EXAM**

NOTE: If needed labs may be moved around.