

**GRANDE PRAIRIE REGIONAL COLLEGE**  
**GEOLOGY 1030**  
**COURSE OUTLINE**  
**WINTER SEMESTER 1996-1997**

- GEOLOGY 1030:**           **Historical Geology**
- INSTRUCTOR:**           Dr. Desh Mittra
- TRANSFER CREDIT:**   (3-3) UT(3) WINTER
- COURSE OUTLINE:**     Lecture Component  
M, W, F,     12:00 - 12:50
- Geological time, fossils, evolution of the principal groups and man, use of fossils in historical geology, Paleogeography, historical geology.
- Laboratory Component  
W 3:00 - 5:50   Room J107
- Topographic and Geologic Maps, Paleontology of Protozoa, Porifera, Coelenterata, Brachopoda, Bryozoa, Graptolithina, Mollusca, Arthropoda, Echinodermata, Monera Metaphyta. Time, rocks and fossils. Sedimentary facies. Correlation. Lithofacies and Paleogeography.
- TEXTBOOK:**            **VANISHED WORLD - An Introduction to Historical Geology** by  
Roy R. Lemon, W.C. Brown Publication
- LAB BOOK:**            **LABORATORY MANUAL FOR GEOLOGY 1030 - William, Colts and Waters**  
(University of Alberta) - Provided in the lab.  
**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 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).

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

## TOPICS

|         |   |
|---------|---|
| Week 1  | Chapter 1, 2 (partly) - Historical Geology & Rocks              |
| Week 2  | Chapter 3 and 4 - Fossil Record & Fossil evolution              |
| Week 3  | Chapter 5 and 6 - Rocks & time and dating in Geology            |
| Week 4  | Chapter 7 and 8 - Origins, the earth & life and Plate Tectonics |
| Week 5  | Chapter 9 and 10 - Uniformitarianism & the Archean Life         |
| Week 6  | Chapter 11 - Proterozoic  |
| Week 7  | Chapter 12, 13 - The Cambrian and Ordovician World              |
| Week 8  | Chapter 14, 15 - The Devonian and Carboniferous                 |
| Week 9  | Chapter 16, 17 - Permian, Triassic & Jurassic                   |
| Week 10 | Chapter 18 - The Cretaceous                                     |
| Week 11 | Chapter 19 - Paleogene  |
| Week 12 | Chapter 20 - Neogene  |
| Week 13 | Revision  |

## LAB SCHEDULE

|         |                     |  |
|---------|---------------------|--|
| Jan. 8  | Lab. 1              | Topographic and Geologic maps          |
| Jan. 15 | Lab. 2              | Protozoa, Porifera and Coelenterata    |
| Jan. 22 | Lab. 3              | Brachiopoda, Bryozoa and Graptolithian |
| Jan. 29 | Lab. 4              | Mollusca                               |
| Feb. 05 | Lab. 5              | Arthropoda and Echinodermata           |
| Feb. 12 | Lab. 6              | Monera and Metaphyta                   |
| Feb. 19 | -----EXAM WEEK----- |  |
| Mar. 05 | Lab. 7              | Structure Geology and Plate Tectonics  |
| Mar. 12 | Lab. 8              | Relative and Numerical Age Dating      |
| Mar. 19 | Lab. 9              | Correlation and Facies                 |
| Mar. 26 | Lab. 10             | Quaternary Geology and Geomorphology   |
| Apr. 02 | Lab. Exam           |  |

### ASSIGNMENTS

|     |             |     |             |
|-----|-------------|-----|-------------|
| # 1 | January 8   | due | January 15  |
| # 2 | January 15  | due | January 22  |
| # 3 | January 22  | due | January 29  |
| # 4 | January 29  | due | February 5  |
| # 5 | February 5  | due | February 12 |
| # 6 | February 12 | due | February 19 |
| # 7 | February 19 | due | March 5     |
| # 8 | March 5     | due | March 12    |
| # 9 | March 12    | due | March 19    |
| #10 | March 19    | due | March 26    |
| #11 | March 26    | due | April 2     |

### EXAMS

|   |   |
|---|---|
| Mid-Term: Topics covered in the<br>First 6 weeks. | February 19, 1997<br>(During Lab Hours) |
| Final Theory - All material covered in theory.    | T.B.A.                                  |
| Final Lab - All Material Covered in Lab           | April 02, 1997.                         |

### EVALUATION

|               |            |
|---------------|------------|
| Mid-Term      | 20%        |
| Assignments   | 15%        |
| Weekly labs   | 10%        |
| Lab Quiz      | 10%        |
| Lab Final     | 10%        |
| Written Final | <u>35%</u> |
|               | 100%       |

### GRADING

| <u>Percent</u> | <u>Grade</u> |
|----------------|--------------|
| 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            |