Douglas College

# EFFECTIVE: SEPTEMBER 2003
# CURRICULUM GUIDELINES

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **A.** | Division: | Science and Technology | Effective Date: | | September 2003 | | |
| **B.** | Department / Program Area: | Geology | Revision | X | New Course | | |

Earth Sciences **E:** 3

| Subject & Course No. | Descriptive Title | Semester Credits |
|---|---|---|

**F:** Calendar Description: An introductory course focusing on physical geology. Topics include minerals, rocks (igneous, sedimentary, metamorphic), plate tectonics, earthquakes and volcanic activity, Earth resources, geologic time, and the many processes that have shaped the Earth. The course includes practical hands-on labs and some sections may have a field trip scheduled outside class time.

**G:** Allocation of Contact Hours to Type of Instruction / Learning Settings

Primary Methods of Instructional Delivery and/or Learning Settings:

Lecture/Lab

Number of Contact Hours: (per week / semester for each descriptor10.02 127.0477 391.9204 Tm(act Hou)Tj 1 Tm(r10.02 127.0477 39 Tm(actHour)Tj Tj10.02 0 0 10.02 147.601

hour lab

Number of Weeks per Semester:

14

**H:** Course Prerequisites:

None

**I:** Course Corequisites:

None

**J:** Course for which this Course is a Prerequisite

Geol 201, 300, 320, 420

**K:** Maximum Class Size:

35

**L:** PLEASE INDICATE:

| | |
|---|---|
| | Non-Credit |
| | College Credit Non-Transfer |
| X | College Credit Transfer: Granted X |

SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bccat.bc.ca)

**M:** Course Objectives / Learning Outcomes

**Geology as a Science**

1. Understanding of the nature of science and its strategies
2. Understanding of the difference between experimental and historical (interpretive) sciences
3. Development of critical thinking skills in assessing evidence and interpretations (observation/inference/opinion)
4. Understanding of the role of time perspective in geological investigations:time as the fourth dimension
5. Understanding of the place of geology vis-à-vis other disciplines

**B. Earth Materials**

1. Understanding of the nature and relationships of rocks and minerals, and the reasons for their classification
2. Knowledge of the basic groups of minerals based on composition and structure
3. Understanding of the structural basis of silicate mineral classification
4. Knowing how to identify a basic suite of minerals by application of specific (diagnostic) observational criteria
5. Knowledge of the basic rock groups and their relationships in the rock cycle
6. Understanding of the basic roles of texture and composition in rock classification
7. Knowing how to identify a basic suite of rocks by application of specific (diagnostic/continuum-based) observational criteria
8. Understanding of the chemical and structural basis for mineral and rock behavior in natural environments (P/T responses) as a basis for process studies
9. Understanding of the place of rocks and minerals in the global system (lithosphere-biosphere-hydrosphere-atmosphere)

**C. Earth Processes**

1. Understanding of the relationships between materials and processes and the range of interactions
2. Understanding of the role of observation and time perspective in inference of earth processes
3. Earth surface processes as linked to subsurface processes by unifying theory of plate tectonics
    a) Understanding of basis of plate tectonic theory
    b) Knowing a wide range of earth surface processes (both constructional and denudational) as illustrations of the great variety possible

**O:** Methods of Instruction

2 hours per week lectures
2 hours per week lab
Lecture and labs may be supplemented by videos, slide or film presentations, and by field trips. Textbook and other readings will be assigned to supplement the lectures

**P:** Textbooks and Materials to be Purchased by Students

1. Monroe, J.S. and Wicander, R.; Physical Geology, Exploring the Earth; Brooks/Cole/Thompson Learning; latest edition.

**Q:** Means of Assessment

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|---|---|
| Lab Assignments: | 5 – 15% |
| Lab Exams: | 20 – 40% |
| Term Paper/Project: | 0 – 15% |
| Midterm Exams: | 20 – 30% |
| Final Exam: | 30% |

**R:** Prior Learning Assessment and Recognition: specify whether course is open for PLAR

Course Designer(s)

Education Council / Curriculum Committee Representative

Dean / Director

Registrar