

## COURSE INFORMATION

DEPARTMENT SOCIAL SCIENCES, SCIENCE AND MATHEMATICS DATE February 1982

GEOG 120/GEOL 120 INTRODUCTION TO EARTH SCIENCES 3  
 NAME & NUMBER OF COURSE DESCRIPTIVE TITLE SEMESTER HOURS  
 CREDIT

CATALOGUE DESCRIPTION: An interdisciplinary course combining geology and physical geography. Topics include the origins and development of the Earth's landscape by such processes as weathering, mass wasting, running water, glaciers, wind and waves and geological phenomena such as rocks and minerals, the interior of the Earth and geologic time.

COURSE PREREQUISITES: NilCOURSE COREQUISITES: Nil

|                                    |            |       |      |                           |                |
|------------------------------------|------------|-------|------|---------------------------|----------------|
| HOURS PER WEEK<br>FOR EACH STUDENT | LECTURE    | 2     | HRS. | FIELD EXPERIENCE          | _____          |
|                                    | LABORATORY | 2     | HRS. | STUDENT DIRECTED LEARNING | _____          |
|                                    | SEMINAR    | _____ | HRS. | OTHER (SPECIFY)           | _____          |
|                                    |            |       |      |                           | TOTAL <u>4</u> |

COLLEGE CREDIT TRANSFER  COLLEGE CREDIT NON-TRANSFER  NON-CREDIT

## TRANSFER INFORMATION

EQUIVALENT COURSES  
 with GEOG 110 = UBC GEOG 101  
 UBC with GEOL 210 = UBC GEOL 105 or 107  
 SFU with GEOG 110 = SFU 111 + 3 unassigned  
 OTHER GEOG 112 credits  
 U.VIC with GEOG 110 = U.VIC GEOG 203  
 with GEOL 210 = U.VIC GEOL 200

## UNASSIGNED CREDIT

(Specify if unassigned within a discipline of a faculty)

UBC 1 1/2 units in Geography

U.VIC 1 1/2 units in Geography

E. Peerless / Desmond Wilson  
 COURSE DESIGNER

S.M. Wilson  
 DEAN OF CURRICULUM AND INSTRUCTION

E. Peerless / Desmond Wilson  
 DEPARTMENT HEAD

Whitney  
 PRINCIPAL

COURSES FOR WHICH THIS  
IS A PREREQUISITE:

GEOL 210, 321, 421 / GEOG 310, 320

RELATED COURSES:

GEOG 110

TEXTBOOKS, REFERENCES, MATERIALS (LIST READING RESOURCES ELSEWHERE)

Flint, R.F., Skinner, B.J. Physical Geology, Wiley and Sons, Toronto 1977  
(second edition)

COURSE OBJECTIVES, CONTENT, METHOD, EVALUATION:

OBJECTIVES AND CONTENT:

The student will study the inter-relationships among processes, form and materials involved in the evolution of the earth. The perspective focusses on the dynamic equilibrium between surface and interior forces shaping the earth.

Specifically, the student will be able to:

1. Identify and classify, using diagnostic properties (colour, hardness, cleavage, chemical reaction, habit) the common rock forming materials. Identify and classify the common igneous (granitic rocks, gabbro, felsite, basalt), sedimentary (conglomerate, sandstone, mudstone, limestone) and metamorphic (quartzite, marble, schist, gneiss, slate) rocks.
2. Interpret landscape features from topographic maps; draw and construct contour maps and topographic profiles.
3. Interpret earth history using sedimentary characteristics and stratigraphic principles (superposition and cross cutting relationships) to describe the sequence of events that have produced a particular landscape.
4. Describe the effects of chemical and physical weathering processes in common rock forming minerals and their combined influence on common rocks and landscapes.
5. Describe how varied environmental conditions (climate, parent material, vegetation, topography, time) found on the surface of the earth, combine to form different soils (pedalfer, pedocal, gley).
6. Describe the processes involved in the hydrologic cycle (infiltration, evapo-transpiration, ground water, run-off, stream flow, storage).
7. Describe the geomorphic processes, sedimentary characteristics and landforms developed in the following landscapes: mass wasting, fluvial, glacial, coastal, aeolian.

Objectives and Content, continued

8. Explain how earthquakes are transmitted (P. and S. waves) recorded (seismogram) and measured (Richter scale). Discuss the characteristics (composition and structure) revealed by earthquake analysis pertaining to the crust and the interior of the earth.
9. Describe the tectonic processes (deformation, igneous activity, mountain building isostasy, sea floor spreading).
10. Describe the processes involved in the rock cycle and discuss their importance in forming the variety of rocks found in the earth's crust (Bowen's Reaction Series) contact and regional metamorphism, lithification.

METHOD:

Readings will be assigned to supplement lectures.  
Detailed objectives will be given prior to the introduction of each topic.  
Audio visual aids will be used when appropriate.  
Lectures, workshops and lab exercises will constitute the main methods of presentation.  
Field work will be used when time permits.

EVALUATION:

|               |     |     |
|---------------|-----|-----|
| Lab exercises | ... | 40% |
| Class work    |     |     |
| - tests       |     |     |
| - essays      |     |     |
| - projects    | ... | 30% |
| Final Exam    | ... | 30% |

This final exam will be common to all the sections, set by all instructors involved in teaching that course in that semester.