

New Course:  
Revision of Course: February 1982  
Information form:

Department: SOCIAL SCIENCES  
Program:

D: **Weather and Climate** E: **2** C: **GEOGRAPHY 110**  
Semester Credit Subject & Course No. Descriptive Title

Annual Description: This course introduces the student to meteorology. The atmosphere, and oceanic circulation. Weather elements and patterns severe weather, climate patterns and classification, as well as past and future climate change are studied. Plant and animal distribution patterns and their causes are examined along with some human impacts on the atmosphere and biosphere.

Summary of Revisions: Concepts and radiation laws are used to explain atmospheric circulation. F, G, J, M, O, P

G: Type of instruction: Hrs per week / per semester | H: Course Prerequisites:  
Lecture: 2 Hrs. NIL  
Laboratory: 2 Hrs.

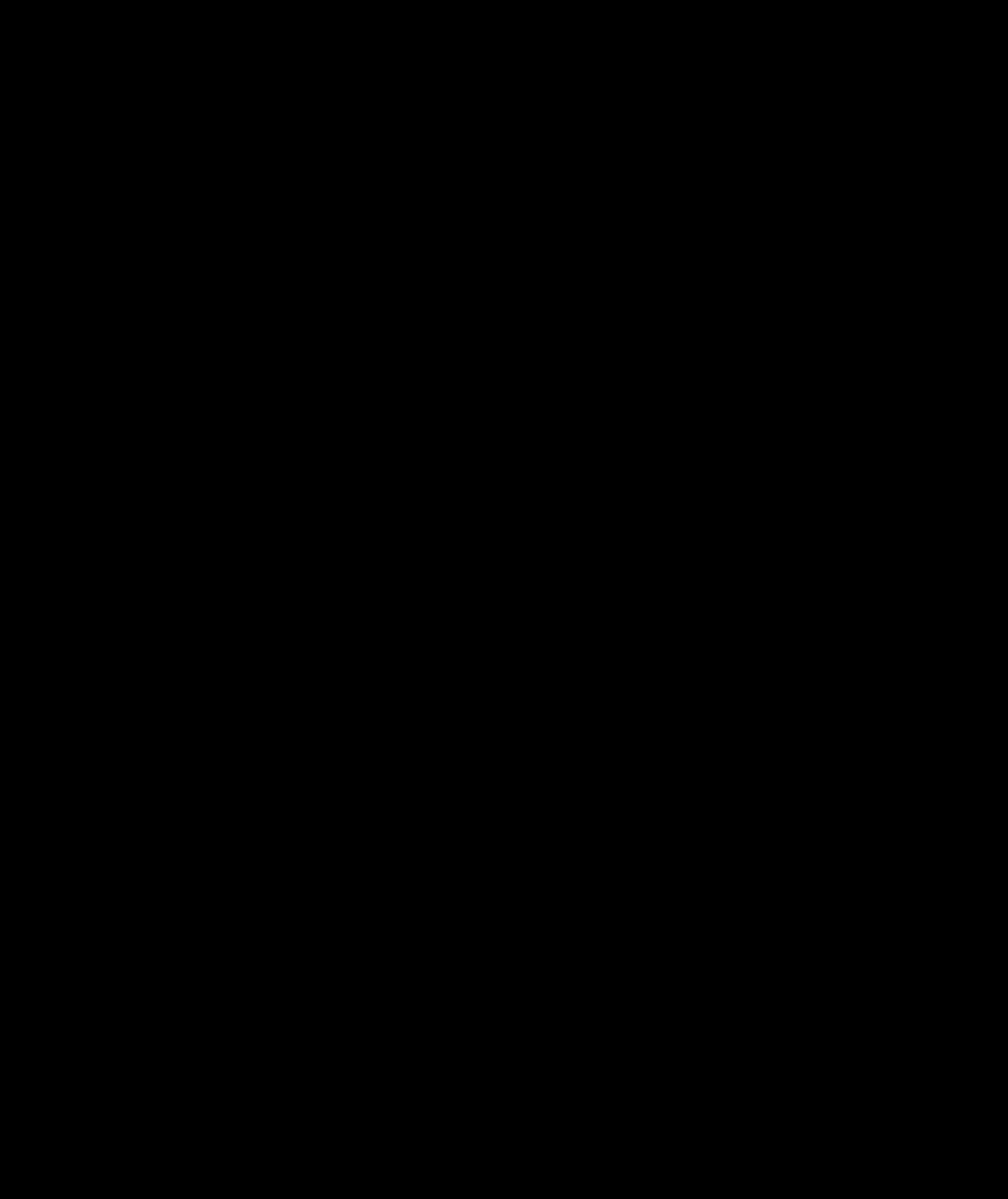
Seminar: Hrs. Course Corequisites:  
Clinical Experience: Hrs. NIL  
Field Experience: Hrs.  
Practicum: Hrs.

Studio: Hrs. Geog 210, Geog 230, Geog 321  
Student Directed Learning: Hrs.  
Other (Specify): Hrs.  
Total: 4 Hrs. K: Maximum Class Size: 35

Transfer: Granted X College Credit No. 17  
Non-Credit appropriate  
With Geog 120 = SFU 1113 & EASO 1013

With Geog 120 = UBC 1016  
UVIC 203B  
OTHER

Course Designer(s): [Signature]  
Divisional Dean: [Signature]  
Director/Chairperson



possible implications of, present and future anthropogenic-induced climate

ments, structure and energy flows of an ecosystem

the concepts of ecological stability and succession.

O. Course Objectives - cont'd

18. List, give evidence for, and change.

19. List and describe the common

vegetation types

B. COURSE CONTENT

1. Introduction to Physical Geography

the discipline of geography

Climatology, Meteorology and Biogeography within Physical Geography  
History and Development of Climatology, Meteorology and Biogeography

2. Energy Concepts

Kinetic, Potential, Nuclear, Radiant and Heat Energy  
First and Second Law of Thermodynamics  
Latent Heat and Sensible Heat

P. Course Content -- cont'd

S. Earth/Sun Relationships  
Earth's Orbit About the Sun  
Seasons

P. Course Content - cont'd

Air Masses

Fronts

- Stationary
- Warm
- Cold
- Occluded
- Convergent Lifting Mechanisms

Air-Mass-Weather  
Air-Mass-Modification

Ingredients for Formation

Cyclogenesis and Essential  
Structure  
Dissipation

Maps

Interpretation of Surface Weather Maps

Surface Charts

Weather Forecasting Using Surface Charts

12. Severe Weather

- Thunderstorms
- Tornadoes
- Hurricanes

13. Global Climate  
Controls of Climate

Controls of Climate  
Global Patterns  
Classification Systems  
- Köppen

Thornthwaite

17. Climate Change

- Past Climate Change
  - Evidence
  - Possible Causes
- Current and Future Climate Change
  - Evidence
  - Air Quality
  - Urban Heat Island
  - Atmospheric Greenhouse Effect and Global Warming

Impacts

Potential

P. Course Content - cont'd

- 15. Ecosystems  
Components  
Structure

Energy Flows

16. Plant Growth  
Growth Requirements

Biomes  
Major Divisions

Relationships between climatic gradients and vegetation types

Q. METHOD OF INSTRUCTION

This course will employ a number of instructional methods to accomplish its objectives, including some of the following:

- Lectures
- Labs
- Field Work
- Seminar Presentations
- Slides, Videos
- Small Group Discussions

R. COURSE EVALUATION

the following:

- 1. Laboratory assignments with a combined value of up to 50%
- 2. Multiple choice and/or short answer tests with a combined value of up to 50%
- 3. Field work with a value of up to 20%
- 4. A term project with a value of up to 25%