

UNIVERSITY COLLEGE OF THE FRASER VALLEY

COURSE INFORMATION

DISCIPLINE/DEPARTMENT: Geography

IMPLEMENTATION DATE: Fall 1992

Revised: _____

Geography 251
SUBJECT/NUMBER OF COURSE

Cartography I
DESCRIPTIVE TITLE

4
UCFV CREDITS

CALENDAR DESCRIPTION: An introduction to major topics in the field of cartography, with emphasis placed on map and air photo interpretation, on the collection and graphic portrayal of spatial data, and on elementary surveying methods. The course explores a variety of tools and techniques used by geographers in the analysis of physical and human landscapes. Some consideration of computer applications and Geographic Information Systems is also included.

RATIONALE:

COURSE PREREQUISITES: Any other Geography course

COURSE COREQUISITES: None

HOURS PER TERM FOR EACH STUDENT	Lecture	20	hrs	Student Directed	
	Laboratory	40	hrs	Learning	hrs
	Seminar	15	hrs	Other - specify:	
	Field Experience		hrs	_____	hrs
				TOTAL	60 HRS

MAXIMUM ENROLMENT: 35

Is transfer credit requested? **:** Yes **9** No

AUTHORIZATION SIGNATURES:

Course Designer(s): D.J. Nicol

Chairperson: _____
Curriculum Committee

Department Head: David J. Gibson

Dean: J. D. Tunstall Ph.D

PAC: Approval in Principle
_____ (Date)

PAC: Final Approval: 1992
_____ (Date)

OUT

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NAME & NUMBER OF COURSE

SYNONYMOUS COURSES:

(a) replaces _____
(course #)

(b) cannot take _____ for further credit
(course #)

SUPPLIES/MATERIALS:

A small selection of drawing/drafting materials will be required. (Approx. \$20)

TEXTBOOKS, REFERENCES, MATERIALS (List reading resources elsewhere)

References: A supplementary reading list will be distributed in class.

OBJECTIVES:

General: Geography 251 is designed to introduce students to a range of interpretive tools and techniques essential for many kinds of geographic study.

Instructional: Students will acquire the following skills:

- a. ability to read and interpret different types of maps and aerial photographs
- b. an ability to use various maps and remotely sensed data in geographic and related fields of research
- c. an ability to select appropriate methods for the analysis and presentation of geographic data

METHODS:

The format of the course includes lectures, laboratory exercises, workshops and, when possible, field trips and guest speakers. A number of audio-visual techniques and materials (e.g., slides, films, video-tapes) will be used throughout the course.

Laboratory exercises occupy a major portion of total class time. They are designed to emphasize the practical component of the course and to maximize student involvement in the interpretive process.

STUDENT EVALUATION PROCEDURE:

Laboratory Exercises	40%
Midterm Lecture Examination	25%
Quizzes	15%
Short Essay/Field Problem Report	20%

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COURSE CONTENT

A detailed lecture, lab, workshop, and reading outline will be distributed early in the semester. The following lists of topics is a general guideline to lecture sessions only.

Week

- 1 Introduction to course
Cartography and Remote Sensing: A brief history and survey of the fields
Topography Mapping and Air Photo Interpretation in Geography
Map Projections
- 2 Planimetric Mapping
Basic Survey Techniques: Pacing; Compass Traverse; Plane Tabling
- 3 Topographic Maps: Marginal Information
Scale; Scale Conversion; Reliability; Declination; Indexes; Controls
- 4 Topographic Maps: Relief; Contours; Profiles; Gradients
- 5 Topographic Maps: Interpretation of Physical Landscapes
Profiles (cont'd); Projected Profiles; Overlays; Symbolization
- 6 Topographic Maps: Interpretation of Cultural Landscapes
Associative Interpretation; Interpretive overlays; Symbolization
- 7 Topographic Maps: Interpretation of Total Regions
Thematic Analysis of Regional Data
Midterm Examination
- 8 Introduction to Remote Sensing
Remote Sensing in Geography and Related Fields
Aerial and Space Technology: History, Hardware and Imagery
- 9 Aerial Photography
Flight lines; Exposures; Coverage
Stereoscopy. Parallax. Scale. Measurement.
- 10 Black and White Air Photo Interpretation
Use of tone and texture. Importance of shadow
Interpretive overlay techniques
- 11 Comprehensive Workshop on Black and White Air Photograph Interpretation
- 12 True Colour and False Colour Imagery
Interpretive Keys
Urban Landscapes. Forest damage analysis. Hydrologic/geologic analysis

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COURSE CONTENT: (contd.)

- 13 Multi-level analysis in the study of geographic areas
Thematic presentation of interpreted regional data
- 14 Open Lecture Session. Review of Labs/workshop exercises
- 15 Final Examination

LABORATORY AND WORKSHOP EXERCISES:

Week:

- 1 Map Projections
- 2 Planimetric Mapping. Basic Surveying. Legal Surveys.
- 3 Topographical Maps: Marginal Information.
- 4 Topographical Maps:
 - a) Portrayals of Relief: Contours.
 - b) Landform Analysis; Cross-sectional Profiles; Longitudinal Profiles; Gradient
- 5 Topographical Maps:
 - a) Interpretation of Physical Landscapes
 - b) Presentation Techniques
- 6 Topographical Maps:
 - a) Interpretation of Cultural Landscapes
 - b) Presentation Techniques
- 7 Topographical Maps: Geographic Analysis of Selected World Regions
- 8 Introduction to Remote Sensing:
 - a) The Electromagnetic Spectrum
 - b) Sensors and Imagery
- 9 Air Photography:
 - a) Flight Lines; Exposures; Coverage
 - b) Stereoscopy
 - c) Scale; Measurement
- 10 Black and White Air Photo Interpretation:
 - a) Tone, Texture
 - b) Reflectivity and Shadow
 - c) Interpretive Overlays
- 11 Black and White Air Photo Interpretation Workshop

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LABORATORY AND WORKSHOP EXERCISES (contd.)

- 12 True and False Colour Imagery: Interpretation Workshop
- 13 The Convergence of Evidence: Regional Geographic Analysis
 - a) Ground Truth
 - b) Topographic Maps
 - c) Aerial Photography
 - d) Space Imagery