



**EFFECTIVE: JANUARY 2004**  
**CURRICULUM GUIDELINES**

**A:** Division: **INSTRUCTIONAL** Effective Date: **JANUARY 2004**

**B:** Department / Program Area: **GEOGRAPHY**  
**FACULTY OF HUMANITIES & SOCIAL SCIENCES**

Revision  New Course

If Revision, Section(s) Revised: **G, J, K, N, P**

Date of Previous Revision: January 2003  
 Date of Current Revision: October 2003

**C: GEOG 170 D: INTRODUCTORY CARTOGRAPHY E: 3**

Subject & Course No.	Descriptive Title	Semester Credits
<b>F:</b>	Calendar Description: Would you like to create a map using just a compass? Are you interested in learning how to interpret a topographic map or aerial photograph for geography or environmental studies classes? Do you need to know how to design effective maps to communicate spatial information? This course introduces a range of topics in the field of cartography, the art, science and technology of map making. Topics include map projections, elementary field surveying, interpretation of aerial photography and satellite imagery, cartographic methods and design, thematic mapping, and an introduction to computer mapping and Geographic Information Systems (GIS).	
<b>G:</b>	Allocation of Contact Hours to Type of Instruction / Learning Settings	<b>H:</b> Course Prerequisites: <b>NONE</b>
	Primary Methods of Instructional Delivery and/or Learning Settings:  <b>Lecture and Lab</b>	<b>I:</b> Course Corequisites: <b>NONE</b>
	Number of Contact Hours: (per week /semester for each descriptor)  <b>Lecture: 2 hrs. per week / semester</b> <b>Lab: 2 hrs. per week / semester</b>	<b>J:</b> Course for which this Course is a Prerequisite <b>GEOG 270</b>
	Number of Weeks per Semester: <b>15</b>	<b>K:</b> Maximum Class Size: <b>35</b>
<b>L:</b>	PLEASE INDICATE:	
<input type="checkbox"/>	Non-Credit	
<input type="checkbox"/>	College Credit Non-Transfer	
<input checked="" type="checkbox"/>	College Credit Transfer:	
SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS ( <a href="http://www.bccat.bc.ca">www.bccat.bc.ca</a> )		

**M: Course Objectives / Learning Outcomes**

At the conclusion of the course the successful student will be able to:

1. Describe the development of cartographic concepts and techniques over time.
2. Explain the responsibility of a cartographer to represent data that is accurate and consistent with the original purpose of a map, as well as cite examples of map misuses.
3. Analyze, interpret and make measurements from topographic and thematic maps, aerial photographs and satellite imagery.
4. Create a map from three-leg compass traverse.
5. Synthesize the concepts and techniques of cartography through the use of a formal cartographic design process to identify and collect relevant geographic data and design a thematic map to communicate these data effectively.

**N: Course Content**

1. Introduction
  - a) Development of Cartography
  - b) Basic geodesy
  - c) Map projections
  - d) Introduction to datum systems
2. Fundamental Map Elements
  - a) Concept of scale
  - b) Coordinate systems
  - c) Direction indicators
  - d) Data and legend
3. Analysis and Interpretation of Topographic Maps
  - a) Types of terrain representation
  - b) Contour interpretation
  - c) Landform measurement, identification and interpretation
  - d) Topographic profile construction
  - e) Vertical exaggeration and gradient calculations
  - f) Cultural features on topographic maps
4. Elementary Field Surveying
  - a) Use of the magnetic compass
  - b) Location by three measured sides, intersection and resection
  - c) Introductory triangulation and differential leveling
  - d) Compass traverse
  - e) Introduction to global positioning systems
5. Remote Sensing
  - a) Electromagnetic radiation and methods of capturing spectral reflectance
  - b) Types of air photos
  - c) Introductory air photo interpretation and photogrammetry
  - d) Polar orbiting and geostationary satellites
  - e) Basics of satellite image interpretation
6. Geographic Data
  - a) Nominal, ordinal, interval and ratio data
  - b) Qualitative and quantitative map symbols
  - c) Effective graphing of geographic data

<p><b>N: Course Content Cont'd.</b></p> <ul style="list-style-type: none"> <li>7. Cartographic Design             <ul style="list-style-type: none"> <li>a) Cartographic design process</li> <li>b) Generalization, selection and symbolization</li> <li>c) Potential impacts of the design</li> </ul> </li> <li>8. Thematic Maps             <ul style="list-style-type: none"> <li>a) Qualitative and quantitative thematic maps</li> <li>b) Types of quantitative thematic maps</li> <li>c) Construction and interpretation of thematic maps</li> </ul> </li> <li>9. Geographic Information Systems             <ul style="list-style-type: none"> <li>a) Concept of a GIS</li> <li>b) Applications</li> </ul> </li> </ul>										
<p><b>O: Methods of Instruction</b></p> <p>The course will employ a variety of instructional methods to accomplish its objectives, including some of the following:</p> <ul style="list-style-type: none"> <li>- Lecture</li> <li>- Labs</li> <li>- Field Work</li> <li>- Slides/Videos</li> <li>- Individual and/or Team Projects</li> <li>- Small Group Discussions</li> </ul>										
<p><b>P: Textbooks and Materials to be Purchased by Students</b></p> <p>Texts will be updated periodically. Typical examples are:</p> <p>Campbell, J. (2001). <i>Map Use and Analyses (4<sup>th</sup> ed.)</i> New York: McGraw Hill.</p>										
<p><b>Q: Means of Assessment</b></p> <p>Evaluation will be based on course objectives and will be carried out in accordance with Douglas College policy. The instructor will provide a written course outline with specific criteria during the first week of classes. An example of a possible evaluation scheme would be:</p> <table style="margin-left: 40px;"> <tr> <td>Labs</td> <td>40%</td> </tr> <tr> <td>Project</td> <td>20%</td> </tr> <tr> <td>Midterm Exam</td> <td>20%</td> </tr> <tr> <td>Final Exam</td> <td><u>20%</u></td> </tr> <tr> <td></td> <td>100%</td> </tr> </table>	Labs	40%	Project	20%	Midterm Exam	20%	Final Exam	<u>20%</u>		100%
Labs	40%									
Project	20%									
Midterm Exam	20%									
Final Exam	<u>20%</u>									
	100%									
<p><b>R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR</b></p> <p>Students may take a challenge exam to apply for recognition of prior learning.</p>										

Course Designer(s): Susan Smythe

Education Council / Curriculum Committee Representative

Dean / Director

Registrar