Instructor
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Course Description
The course introduces students to the fundamentals of geographic information systems (GIS).

Learning Outcomes
On completion of the course students should be able to:
- demonstrate an understanding of basic concepts in Geographic Information Systems (GIS) including spatial data, spatial data models, attribute data management and data analysis
- demonstrate an ability to handle spatial data through the application of GIS software including the preparation of digital maps
- demonstrate an understanding of the application of GIS to solve environmental problems

Text
The following texts are available in the college bookstore
Ian Heywood et al., 2002, An Introduction to Geographical Information Systems. Prentice Hall.

ENVR 112 Course Manual

Text Support
The Heywood text provides a set of multiple choice questions for each chapter at the website www.booksites.net/heywood. Click *An Introduction to Geographical Information Systems second edition,* click *Student Resources.* Students are strongly encouraged to use these questions to test their understanding of the concepts introduced in each chapter. Many of these questions will form part of the two tests in the course.

Evaluation
Evaluation is based on a series of tests, lab and class exercises, and a project, with percentage marks indicated below.
Tests. The format of the two tests will be discussed in class.
Lab and class assignments. All lab and class assignments are due the following week at Tuesday's class. These assignments are outlined in the Course Manual.

Project. Students use GIS software in problem solving. The project is due the last class of the semester.

Assignments handed in late will have a **10% penalty** and assignments over one week late will not be accepted.

Evaluation summary
Tests I and II   45%
Lab and class exercises   45%
Project   10%

Topic Outline
Week of
Sept 7   Introduction to the course

Lab 1: A quick guide to viewing data with ArcView GIS

Sept 13   What is GIS?
Heywood, Ch. 1
Notes: GIS and geography

Lab 2: Investigating World Demography using GIS

Assignment 1: Introduction

Sept 20   Geographic inquiry and GIS
Spatial data
Heywood, Ch. 2
Notes: Representing the earth in a GIS

Lab 3: Exploring World Earthquakes with GIS

Assignment 2: Spatial Data

Sept 27   Collecting spatial data: GPS data, census data, Internet data
Heywood, Ch. 2
Notes: Coordinate systems

Lab 4: Spatial data

Oct 4   Spatial data modeling
Heywood, Ch. 3
Notes: Data quality

Lab 5: Mapping Ecoregions with ArcView GIS
*   The Raster Data Model*

Assignment 3: Spatial data modeling

Oct 11   Spatial data modeling
     Heywood, Ch. 3

     Lab 6: Analyzing tornadoes with GIS

     Introduction to project
     Analyzing temperature patterns in BC

Oct 18   **Thanksgiving Day**

     Lab 7: *Locating Study Sites for Stipa Comata using GIS*

Oct 25   **Test**

Nov 1   Guest Speaker

     Attribute data management
     Heywood, Ch. 4

     Lab 8: Mapping a Parking Lot

Nov 8   Data input and editing
     Heywood, Ch. 5
     Notes: Data Input and Output

     Lab 9: Downloading Imagery; Digitizing

     Assignment 4: Data input

     Introduction to project
     Analyzing neighbourhood demographics in Victoria

Nov 15   Data analysis
     Heywood, Ch. 6
     Notes: GIS Analysis

     Lab 10: Analyzing Watersheds with GIS
       Mount St. Helens – Before and After

     Assignment 5: Data analysis

| Nov 22 | Data analysis |
| | Heywood, Ch. 6 |

Lab 11: Locating a Fire Tower Using GIS

| Nov 29 | Output: from new maps to enhanced decisions |
| | Heywood, Ch. 8 |

Lab 12: Spatial analysis

Assignment 6: Output

| Dec 6 | Review and Project |

GRADING SYSTEM

95 -100% A+
90 - 94% A   Superior levels of achievement
85 - 89% A-

80 - 84% B+
75 - 79% B   High levels of achievement
70 - 74% B-

65 - 69% C+   Satisfactory level of achievement
60 - 64% C   Sufficient level of achievement
50 - 59% D   Minimum level of achievement
 0 - 49% F   Minimum level is not achieved

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Registrar's Office or the College web site at http://www.camosun.bc.ca

ACADEMIC CONDUCT POLICY

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.

www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html