CAMOSUN COLLEGE	**School of Arts & Science** **SOCIAL SCIENCES DEPARTMENT** **GEOG 214** **Digital Geomatics** **Fall 2010**

COURSE OUTLINE

The course description is online @ http://camosun.ca/learn/calendar/current/web/geog.html

Ω *Please note: the College electronically stores this outline for five (5) years only.*
*It is **strongly recommended** you keep a copy of this outline with your academic records.*
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

(a)	Instructor:	Tim Elkin		
(b)	Office Hours:	Mon 10.30-11.30am, 1.30-2.30pm; Tues 9.30-10.30am, 1.30-2.30pm; Wed 10.30-11.30am		
(c)	Location:	E238		
(d)	Phone:	370-3115	Alternative Phone:	
(e)	Email:	elkint@camosun.bc.ca		
(f)	Website:			

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

Upon completion of this course the student will be able to:

1. Demonstrate an understanding of the basic concepts in digital geomatics, including concepts in GIS, digital mapping and database systems, and digital remote sensing.
2. Demonstrate an ability to handle spatial data through the application of GIS software and the use of remote sensing data.

3. Required Materials

Ian Heywood, An Introduction to Geographical Information Systems. 2006. Prentice Hall.

Canada Centre for Remote Sensing (CCRS) has an on-line tutorial, *Fundamentals of Remote Sensing* found on their website http://www.ccrs.nrcan.gc.ca/ccrs/learn/tutorials/fundam/fundam_e.html

Course Manual

4. Course Content and Schedule

(This section can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

Week of
Week 1 Sept 6
Introduction to the course

Assignment: Introduction: Geospatial technology

Lab: Introduction to ArcGIS

Week 2 Sept 13
Geomatics, GIS and geographic inquiry
Heywood, Ch. 1

Assignment: Mental mapping

Lab: Geographic inquiry

Week 3 Sept 20
Spatial data
Heywood, Ch. 2
Video: *Arno Peters: radical map, remarkable man*

Assignment: Spatial Data

Lab: Mapping spatial data

Week 4 Sept 27
Collecting spatial data
Heywood, Ch. 2
Assignment: Spatial Data

Lab: Collecting spatial data

Week 5 Oct 4
Attribute data and database management
Heywood, Ch. 4

Lab: Collecting and mapping attribute data

Week 6 Oct 11
Introduction to remote sensing

Canada Centre for Remote Sensing, *Fundamentals of Remote Sensing*
http://www.ccrs.nrcan.gc.ca/ccrs/learn/tutorials/fundam/fundam_e.html
Ch. 1 Introduction; Ch. 2 Sensors

Assignment: Remotely sensed data

Lab 5: Working with imagery

Week 7 Oct 18
Data input and editing
Heywood, Ch. 5

Assignment: Project databases

Lab 7: Data Input: Digitizing

Week 8 Oct 25
TEST 1

Project work

Week 9 Nov 1
Spatial data modeling: vector and raster data
Heywood, Ch. 3

Assignment: Spatial data modeling

Lab: Working with vector and raster data

Week 10 Nov 8
GIS analysis 1

Heywood, Ch. 6

Assignment: Data analysis

Lab: Data Analysis 1: Buffer, DEM and 3D Analysis

Week 11 Nov 15
GIS analysis 2
Heywood, Ch. 6

Lab: Data Analysis 2: Data Integration, Raster and Vector

Week 12 Nov 22
Output: Maps and decision making
Heywood, Ch. 8

Lab: Output

Week 13 Nov 29
TEST 2

Project work

Week 14 Dec 6
Project work

5. Basis of Student Assessment (Weighting)

(This section should be directly linked to the Intended Learning Outcomes.)

Evaluation is based on a series of tests, lab and class exercises, conceptual definitions on the wiki and a project.
Tests: Both tests are in-class. There is a mid-term and a final test. The format of the two tests will be discussed in class.
Lab and class exercises: Each week there will be in-class exercises and discussions; out-of-class assignments and lab exercises. Lab exercises are due the following week at Friday lab class. Assignments are due the following week at the Tuesday class.
Wiki: Students work together in small groups using a wiki to define important course concepts. Groups are assigned at the beginning of the semester. The concepts relate to 7 topic areas covered throughout the course. The purpose here is to provide students the opportunity to work cooperatively online, in a small group, to define concepts. Think *Wikipedia* as the process for creating the concept definitions**.** The work involves both the definition of the concept and its application to a defined GIS problem. The wiki is located on wikispaces: http://geog214-x.wikispaces.com (the x refers to the number of your group). Final wiki definitions must be posted online 2 weeks after the topic area has been completed in class.
Project: Students use Geomatics software in problem solving. The project is due last class of the semester.

Evaluation summary

Tests	40%
Lab/class exercises	30%
Project	20%
Wiki	10%

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7

77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
CW	*Compulsory Withdrawal:* A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

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, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**.
It is the student's responsibility to become familiar with the content of this policy.
The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED