CAMOSUN COLLEGE	***School of Arts & Science*** ***SOCIAL SCIENCES DEPARTMENT*** **GEOG 214-001** **Digital Geomatics** **Semester 2006F**

COURSE OUTLINE

The Approved Course Description is available on the web @ _____

Ω *Please note: this outline will be electronically stored for five (5) years only. It is strongly recommended students keep this outline for your records.*

1. Instructor Information

(a)	Instructor:	Tim Elkin		
(b)	Office Hours:	Mon 10.30-12.30am; Tues-Thurs 10.30-1130am		
(c)	Location:	E238		
(d)	Phone:	370-3115	Alternative Phone:	
(e)	Email:	elkint@camosun.bc.ca		
(f)	Website:	www.elkin.disted.camosun.bc.ca		

2. Intended Learning Outcomes

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO for approval.)

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

(a)	Texts	Ian Heywood, An Introduction to Geographical Information Systems. 2006. Prentice Hall. Canada Centre for Remote Sensing (CCRS) *Fundamentals of Remote Sensing*
(b)	Other	Course Manual 2006F

4. Course Content and Schedule

Topic Outline

Week of

Sept 5 Week 1	Introduction to the course Geomatics and geographic inquiry Heywood, Ch. 1 *Manual Notes: Geomatics and geography* *Lab 1: A quick guide to viewing data with ArcView GIS*
Sept 11 Week 2	Spatial data Heywood, Ch. 2 *Manual Notes: Representing the earth in a GIS* *Lab 2: Exploring World Earthquakes with GIS* *Assignment 1: Spatial Data*
Sept 19 Week 3	Collecting spatial data Heywood, Ch. 2 *Manual Notes: Coordinate systems* *Lab 3: Spatial data*
Sept 25 Week 4	Spatial data modeling: vector and raster data Heywood, Ch. 3 *Manual Notes: Data quality* *Lab 4: Working with vector and raster data* *Analyzing Tornadoes across the US* *Analyzing temperature patterns in BC* *Assignment 2: Spatial data modeling*
Oct 2 Week 5	**Thanksgiving Holiday** Attribute data management Heywood, Ch. 4 *Lab 7: Mapping a parking lot*
Oct 9 Week 6	Working with remotely sensed data Introduction to remote sensing science, satellites and sensors Canada Centre for Remote Sensing, Ch. 1 Introduction; Ch. 2 Sensors *Lab 5: Working with Image Data* *Working with remotely sensed data (Exercise 2): Image is everything* *Registering and Using Imagery within a GIS* *Assignment 3: Working with remotely sensed data*
Oct 16 Week 7	Data input and editing Heywood, Ch. 5 *Manual Notes: Data Input and Output* *Lab 6: Digitizing: Camosun Lansdowne Campus*
Oct 23 *Week 8*	**TEST**

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

Lab 8: Canadian Demographics

Oct 30
Week 9

Data analysis
Heywood, Ch. 6
Manual Notes: GIS Analysis

Lab 9: Raster Data Analysis
San Marcos DEM
Mount St. Helens – Before and After

Assignment 4: Data analysis

Nov 6
Week 10

Introduction to Projects:
Mapping and analyzing land use in the Ottawa region
Analyzing air quality in Greater Vancouver
Analyzing neighbourhood demographics in Victoria
Analyzing stress in a soybean crop

Assignment 5: Project data stream diagrams

Project work

Nov 13
Week 11

Remembrance Day Holiday

Lab 10: Vector Data Analysis
Locating a Fire Tower Using GIS

Nov 20
Week 12

Image analysis: Image classification, image transformation
CCRS, Ch. 4 Image Analysis

Lab 11: Analyzing Images: Image classification

- *(Exercise 6) Finding and collecting;*
- *Exercise 8) In a class of their own*

Assignment 6: Image analysis/Working with images

Nov 27
Week 13

Project work

Lab 12: Analyzing Images: Image transformation

- *(Exercise 7) The grass is greener*
- *(Exercise 9) Before and after*

Dec 4
Week 14

Review and Projects

5. Basis of Student Assessment (Weighting)

(a)	Assignments	40%
(b)	Project	15%
(c)	Exams	45%

6. Grading System

(No changes are to be made to this section, unless the Approved Course Description has been forwarded through EDCO 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 on the College web site in the Policy Section.