RENR 201/GEOG 250

INTRODUCTION TO GEOMATIC TECHNIQUES/INTRODUCTION TO

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

In Winter 2014, GEOG 250, *Introduction to Geographic Information Systems (GIS)*, is being offered at Yukon College concurrent with the University of Alberta's RENR 201, *Introduction to Geomatic Techniques*, as part of the Northern Environmental and Conservation Sciences, B.Sc. Program. All students registered in GEOG 250 or RENR 201 must adhere to requirements outlined in this course syllabus. University of Alberta students must also be aware of, and adhere to, the University's Code of Student Behaviour, referenced in the outline; Yukon College students must be aware of, and adhere to, Yukon College's Academic Regulations, also referenced in the outline.

INSTRUCTOR:	SAMANTHA DARLING
OFFICE HOURS & LOCATION:	by appointment
E-MAIL:	sdarling@yukoncollege.yk.ca
FAX:	668-8828

DAYS & TIMES:

LECTURE: Mondays and Wednesdays, 6:30-8:00 pm (room A2714)

TUTORIAL: Mondays, 5:30-6:30 pm (room A2408)

LAB: Mondays and Wednesdays, 8:00-9:30 pm (room A2408)

COURSE DESCRIPTION

This course provides an introduction to the fundamental theories and concepts behind Geographic Information Systems (GIS). The course content will include geographic concepts including basic cartography, projections, data creation, input, and editing, spatial data structures, basic spatial analysis, and practical applications of GIS. Laboratory exercises will complement the theory presented in the lectures. Participants will use a commercial GIS software package (ArcGIS) and gain a reasonable proficiency with that package.

STUDENT LEARNING OUTCOMES AND COMPETENCIES:

After successfully completing this course the student will:
- understand how spatial data is input, organized, and analyzed in the GIS environment
- have an understanding of the nature of spatial data
- gain proficiency with a commercial GIS software package
- be familiar with issues related to implementing and managing GIS technology

COURSE FORMAT (3-1-3):

The course will consist of one (1) weekly lecture (3 hours) and one (1) weekly lab (3 hours). Where appropriate, lectures will be supplemented by videos, class discussions, and technical demonstrations.

COURSE PREREQUISITES AND/OR CO-REQUISITES:

- Working knowledge of the Windows operating environment on PCs
- Basic understanding of mapped data
- Basic understanding of simple statistics

Note: students are encouraged to discuss their preparedness for this course with either instructor, but they can select themselves into the course if this is the only course they will take.

REQUIRED TEXTBOOKS/MATERIALS:

- Shellito, Bradley (2012) *Introduction to Geospatial Technologies.* W.H. Freeman and Company.
- Ormsby et al. (2004) *Getting to Know ArcGIS*
- Lab materials will be made available during the associated lab period.

Additional readings may be made available and assigned throughout the term

Computer account: each student is required to have a computer account for the duration of the winter term.

COURSE REQUIREMENTS/EVALUATION:

Attendance and Participation

Attendance of lectures and labs is mandatory. Unauthorized absence for a lab period will normally result in a zero mark for that lab.

Required Lab

There is a weekly scheduled lab period (3 hours) that is a requirement. Laboratory exercises will require work outside of scheduled lab hours. Software used in this class is provided in certain computer labs at Yukon College.

Tutorial/Optional Lab

Optional lab time is also available on a weekly basis. An instructor will be on hand during this time to assist students with lab assignments outside of the required lab time.

Assignments and Exams

Participants must pass BOTH THE LAB AND LECTURE PORTIONS in order to receive a passing grade for the course. In the lecture portion of the course there will be two assignments and a final examination. The laboratory mark will be based on participation and on weekly assignments (more details to be provided at the first lab session).

Students taking the course as RENR 201 must ensure that they are familiar with the University of Alberta's Academic Regulations governing missed and deferred final exams:

a. A student who has missed a final exam because of incapacitating illness, severe domestic affliction or other compelling reason (including religious conviction) may apply for a deferred exam.

b. To apply for a deferred exam, the student must complete a Faculty of ALES *Deferred Final Examination Request* Form, available for download from http://www.ales.ualberta.ca/CurrentStudents/FormsPrograms.aspx, as well as supporting documentation pertaining to the absence to their Faculty office. The request form and supporting documentation must be presented within two working days following the scheduled date of the exam missed, or as soon as the student is able, having regard to the circumstances underlying the absence.

   i.   Where the cause is incapacitating illness, the student must provide a University of Alberta *Medical Statement* Form, available for download from the Online Services section of www.registrarsoffice.ualberta.ca OR a *Statutory Declaration* form, available from a Commissioner of Oaths at the U of A Office of the Registrar.
   ii. In other cases, including domestic affliction or religious conviction, adequate documentation must be provided to substantiate the reason for an absence. In the case of the death of a family member, the student should provide, if possible, a copy of the death certificate, or supplementary documentation such as an obituary or funeral program.

c. A deferred exam will not be approved if a student
   i.   has not been in regular attendance where attendance and/or participation are required, and/or,

     ii.   excluding the final exam, has completed less than half of the assigned work.

  d. Students with two or more deferred exams outstanding from a previous term may be required to reduce the number of courses in which they are registered.

  e. The student must seek the approval of the dean or designate of the student's Faculty on the application for a deferred final exam. If approved, students should refer to [Academic Regulations Section 23.5.6](#) for details on writing deferred exams.

  f. In the case of an approved application for deferred final exam, the student's Faculty will inform the Department responsible for the course of the approved deferred exam. The Department will then notify the instructor.

Evaluation

The course grade will be determined as follows:

	Percent
Midterm (Feb 18)	25%
Assignments	10%
Labs	35%
Final Exam (during college exam period)	30%

Assignment of grades

Grades will NOT be adjusted to fit a predetermined distribution. The total numerical score will be converted to a grade on the University of Alberta's letter grading system (for students enrolled in RENR 201) or on Yukon College's letter grading system (for students enrolled in GEOG 250).

UNIVERSITY OF ALBERTA ACADEMIC INTEGRITY AND CODE OF STUDENT BEHAVIOUR

Plagiarism and Cheating

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students must be familiar with standards regarding academic honesty and uphold policies of the University. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students at the University of Alberta are subject to the Code of Student Behaviour, as outlined in the 2013/2014 University Calendar. Students should familiarize themselves with the current version of the code and ensure they do not participate in any inappropriate behaviour as defined by it. Key components of the code specific to this course include the following statements:

- Plagiarism: no student shall submit the words, ideas, images or data of another person as the student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.

- Cheating: no student shall represent another's substantial editorial or compositional assistance on an assignment as the student's own work.

The most recent version of the Code of Student Behaviour can be found on line on the University of Alberta web site.

Students should speak with the course instructor about any questions or concerns about the code. Students should be particularly aware of the code as it pertains to internet and library research, use of previous class notes, reclamation plans of former students and interviews or discussions with others.

YUKON COLLEGE ACADEMIC STANDARDS AND REGULATIONS

Yukon College students are expected to be familiar with academic standards and regulations as outlined in Yukon College's Academic Regulations, at http://www.yukoncollege.yk.ca/downloads/Academic_Regulations_2004.pdf.

Plagiarism

Plagiarism involves representing the words of someone else as your own, without citing the source from which the material is taken. If the words of others are directly quoted or paraphrased, they must be documented according to standard procedures. The resubmission of a paper for which you have previously received credit is considered a form of plagiarism. Plagiarism is academic dishonesty, a serious academic offence, and will result in you receiving a mark of zero (F) on the assignment or the course. In certain cases, it can also result in dismissal from the College. Do not underestimate the impact such a situation will have on your reputation.

STUDENTS WITH DISABILITIES OR CHRONIC CONDITIONS:

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

EQUIVALENCY/TRANSFERABILITY:

GEOG 250 transfers as:

SFU GEOG 3XX (3)	UBC GEOG 200 level (3)
UNBC GEOG 300 (3)	UVIC GEOG 200 level (3)
TRU GEOG 275 (3)	TWU GEOG 390 (3)

For current information on course transferability see http://www.bctransferguide.ca

SCHEDULE (*Note: Syllabus is subject to change*):

	Topic	Chapter
Week 1	Academic housekeeping Introduction	1, 2
Week 2	Geospatial Relationships	4
Week 3	Geographic Data Models	5
Week 4	Cartography	7
Week 5	Georeferencing	3
Week 6	Projections	6
Week 7	**MIDTERM**	
Week 8	Uncertainty Data Creation	4 9
Week 9	Statistical Mapping	12
Week 10	GIS Analysis (1)	5, 6
Week 11	GIS Analysis (2)	8
Week 12	**READING WEEK: NO CLASS**	
Week 13	Spatial Modeling	13
Week 14	Database Management Metadata	6, 5
FINAL EXAM DATE, TIME, and LOCATION TBD		