



COURSE OUTLINE

RRMT 122

MAPS AND REMOTE SENSING

3 CREDITS

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DATE: November 3, 2017

APPROVED BY: Margaret Dumkee

DATE:

APPROVED BY ACADEMIC COUNCIL:

RENEWED BY ACADMIC COUNCIL:



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APPLIED SCIENCE & MANAGEMENT DIVISION
Maps and Remote Sensing
3 Credit Course
Winter, 2018

MAPS AND REMOTE SENSING

INSTRUCTOR: Cyrielle Laurent **OFFICE HOURS:** by appointment

OFFICE LOCATION: Yukon Research Centre building room NR32

E-MAIL: claurent@yukoncollege.yk.ca

TIME: Lectures: Tuesday and Thursday 8:30am – 10:00am (A2206)
Labs: Wednesday 9:00am-12pm (A2702)

TELEPHONE: 668-8849

COURSE DESCRIPTION

This course is an introduction to the use and interpretation of maps, air photos and other remotely sensed imagery. Students will learn to collect geographic data using a GPS and to create digital maps. Participants will examine techniques for collecting, displaying and interpreting spatially arranged data commonly used in renewable resources management and will perform tasks such as route finding and navigation.

PREREQUISITES

Registered in the Renewable Resources Management Program or with permission of instructor.

LEARNING OUTCOMES

On successful completion of this course students will:

- Be able to use paper maps and digital maps to plot coordinates, measure distances, areas, slopes, etc.
- Use appropriate topographic and thematic maps for tasks in renewable resources management
- Use a GPS (the e-trex Legend) to capture waypoints and tracks, to navigate, and to create maps using downloaded GPS data
- Know how to access various kinds of geographic information available on the Internet

- Access interactive maps on the Internet in order to assess land dispositions, etc.
- Know what kinds of remotely sensed data are available and their principle uses in renewable resources management
- Know how to locate and use stereoscopic aerial photography to map land features

COURSE FORMAT

Though the class is divided into lecture and lab components, there will be some hands-on practical activities during some ‘lecture’ periods and there will be some lecturing during ‘lab’ periods. Some lab activities may involve fieldwork or visits to work places. The course will focus on the acquisition of practical skills and on developing a fundamental understanding of the role of mapping and remote sensing in resource management. Sufficient theory will be included to provide an understanding of techniques.

ASSESSMENTS

Attendance

Attendance AND participation at all activities is mandatory.

Assignments

There will be weekly ‘quick-quizzes’ (5-10 minutes long) at 9:00 a.m., sharp, each Tuesday. Quizzes will test material that has been ‘covered’ in previous classes and labs. These quizzes are intended to confirm mastery of fundamental concepts, and to reward attendance and punctuality. The best ten test marks will be used. Students who arrive late will only get the time remaining to complete the quiz.

Lab material will be evaluated primarily with weekly assignments. Additionally, a portion of the lab marks will be based on a mandatory term project. Students are expected to spend **at least 3 hrs/wk** on lab assignments. In case of a large class size the lab time will be split into 1.5 hours sessions. Students will need to complete lab assignments on their own time using library reserve material and scheduled computer lab time.

Students will have one week to complete the assignments. Due dates will be clearly indicated on each assignment. Late assignments will have a penalty of 5%. Assignment are mandatory ALL assignment must be handed in.

All students will complete a term project by drawing on both laboratory and lecture material. There will be a midterm exam and a final written exam primarily evaluating lecture material, however, some lab material may be assessed during these exams. Students must achieve a weighted average of 50% or better to pass the course. However, given that this is, fundamentally a “skills” base course, students should strive for mastery of the skills. Mastery would imply an average of better than 70%.

EVALUATION

Lecture	60
Quick-quizzes	10
Attendance/participation	5
Assignments	10
Midterm exam	15
Final written exam	20
Lab	40
Lab exercises	15
Term project	25
Total	100

REQUIRED TEXTBOOKS OR MATERIALS

There is no textbook assigned to this course. Lecture material may be provided by the instructor on a weekly basis. Lecture content will be posted on Moodle.

Participants will require the following: pencils, HB and H, eraser, 30 cm ruler and calculator with basic trigonometric functions (sine, cos, tan).

ACADEMIC AND STUDENT CONDUCT

Information on academic standing and student rights and responsibilities can be found in the current Academic Regulations that are posted on the Student Services/ Admissions & Registration web page.

PLAGIARISM

Plagiarism is a serious academic offence. Plagiarism occurs when students present the words of someone else as their own. Plagiarism can be the deliberate use of a whole piece of another person's writing, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material. Whenever the words, research or ideas of others are directly quoted or paraphrased, they must be documented according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Resubmitting a paper which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the College.

ACADEMIC ACCOMMODATION

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon College Academic Regulations (available on the Yukon College website). It is the student's responsibility to seek these accommodations. If a student requires an academic accommodation, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

YUKON FIRST NATIONS CORE COMPETENCY

Yukon College recognizes that a greater understanding and awareness of Yukon First Nations history, culture and journey towards self-determination will help to build positive relationships among all Yukon citizens. As a result, to graduate from ANY Yukon College program, you will be required to achieve core competency in knowledge of Yukon First Nations. For details, please see www.yukoncollege.yk.ca/yfnccr.

THE LORENE ROBERTSON WRITING CENTRE

All students are encouraged to make the Writing Centre a regular part of the writing process for coursework. The Lorene Robertson Writing Centre is staffed by helpful writing coaches from across the College and offers one-on-one appointments to students in need of writing support.

The Lorene Robertson Writing Centre can help you:

- Get started on an assignment and focus your ideas
- Outline and plan your assignment
- Write clearly, logically and effectively
- Address specific needs and writing problems
- Revise the first and final drafts on your project
- Gain confidence in your writing

For in-person appointments, the Centre coaching office is located in the Academic Support Centre in room A2302. You can also participate in coaching appointments over the phone or online. See the Academic Support Centre schedule in English and Writing support time.

TOPIC OUTLINE (subject to changes)

Week	Lecture	Lab
1	Introduction, the earth and earth coordinates	NO LAB this week
2	Map scale and distance finding, map projections	Introduction to maps
3	Grid coordinate systems (Universal Transverse Mercator – UTM system and Universal Polar Stereographic system)	Using maps (1): Map projections, UTM and Geographic coordinate systems
4	Relief portrayal (topography)	Using maps (2): Measuring distances, converting between MGRS and UTM
5	Quantitative and qualitative thematic maps	Introduction to air photos and remotely sensed data
6	Map accuracy and uncertainty	Remote sensing
7	Review	Term Projects: Researching your project area – Lab held at the Elijah Smith Building Term Projects: Preliminary mapping
8	READING WEEK – NO CLASS	
9	Mid-term	Term Projects: Data Collection – This lab is OUTSIDE, please dress appropriately!!!
10	Direction finding and compasses	Term Projects: Digital Maps (1)
11	Global Positioning System (GPS) and maps	Term Projects: Digital Maps (2)
12	Position finding and navigation	Work on Term Projects
13	Area and Volume Measurements	Term Projects Due
14	Review	NO LAB study !
15	Final Exam	