

COURSE OUTLINE



COURSE TITLE: GEOG 219 Field Surveying

CLASS SECTION: 001

TERM: Winter 2022

COURSE CREDITS: 3

DELIVERY METHOD(S): F2F

Camosun College campuses are located on the traditional territories of the Ləkʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

COURSE DESCRIPTION

This course introduces techniques and procedures of field surveying. Students will learn the principles of vertical and horizontal survey geometry, and perform field-based labs in small groups. They will become proficient with high-level equipment and the standards of field data recording. Students will generate accurate ground-survey maps.

This is a technical, hands-on course. See below for details.

INSTRUCTOR DETAILS

NAME: Chris Ayles

EMAIL: cayles@camosun.bc.ca

OFFICE: Ewing 256, Lansdowne campus

HOURS: Tue 11-12, Wed 11:30-12:30, Fri 12:30-1:30

Other times available by chance or appointment, email if you want to arrange something.

ABOUT THE PANDEMIC

It's an unusual time, to say the least. The COVID-19 pandemic drags on, and everyone has been under extra stress. It's excellent to be back on campus, but we have to wear masks and wash our hands all the time. It has been weird and draining. So let's make this as easy as possible by being extra kind, patient and respectful with each other.

A general goal of any college class is to develop your ability to learn. That means showing up on time, participating and doing your best. It's also important for us to maintain normal educational standards, so that you are properly prepared for the future. However, under this year's circumstances, some extra flexibility may be required. If you are sick or struggling, please contact me ASAP so we can talk it over.

Having said all that, I think this will be a great class, and I look forward to working with you.

Also see the abundance of COVID-19 information on Camosun's web site: <http://camosun.ca/covid19/>.

LEARNING OUTCOMES

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

1. Apply the core concepts of field surveying to enable accurate data collection.
2. Collect, correct and process field surveying data to ensure both accuracy and precision.
3. Use a variety of survey collection equipment with proficiency.

REQUIRED MATERIALS

Course content (slides, lab handouts, etc.) will be posted on D2L (<http://online.camosun.ca>).

- a) Lab tools:
 - Metric graph paper, pencils, eraser, ruler, protractor and calculator will be needed. These are available for purchase in the bookstore.
 - A smart phone will be helpful at times, and can serve as a calculator. (But for tests you need a real scientific calculator, not a phone.)
 - For outdoor work (and there will be lots), a waterproof field notebook will be needed. These are available for purchase in the bookstore.
 - Also for outdoors, make sure to dress for the weather! It is guaranteed to be cold and/or wet, so at minimum you will want waterproof footwear, a rain jacket and extra warm layers. Bonus items that sound like overkill but are not: rain pants, rain hat and/or toque and gloves.
 - (As they say in the outdoor industry, “There’s no bad weather, just bad gear.”)
- b) Optional textbook: Kavanagh, B. and T. Mastin, 2014. *Surveying – Principles and Applications*, 9th ed. Pearson, 575 pp.
 - This book is available in the bookstore or on reserve in the Camosun library.
 - Why optional? Because this course is strongly oriented toward technical surveying and mapping skills, rather than theory.
 - However, reading is a valuable supplement to what you learn in class – it provides additional depth and an alternative perspective. So if you are feeling confused, wanting practice calculations, or just curious, don’t hesitate to crack Kavanagh or a similar textbook.

COURSE CONTENT

This class has a lecture-lab structure.

- Lectures usually will take place on Wednesdays. They will provide the background you will need to understand the labs and pass the tests. We will often devote some lecture time to introduction, practice or completion of assignments. Some lecture material will be posted on D2L, but class attendance is critical so that you can take detailed notes, ask questions and participate in class discussion. Consistent participation will improve the learning experience for you and everyone else.

PLEASE: Don’t skip class.

- Labs are the main focus of this class. They take place on Fridays, and will sometimes spill over into lecture slots or subsequent lab blocks. There are nine lab assignments to complete. Handouts will be posted on D2L. You are encouraged to read and in some cases start them ahead of time. Be sure to attend the lab sessions! You will be learning how to use technical surveying equipment to gather, process and map topographic data with precision and accuracy. Missing a lab session is guaranteed to be detrimental to your success.

REALLY: Don't skip class.

In lab, you are welcome to ask questions and collaborate with other students. Unless otherwise instructed, however, each student must write their own individual answers. I will be asking you to submit hard copies of your work, because I can't stand marking on a screen. Labs are generally due the following week, and late labs are subject to a penalty of 1 mark per day – a token amount, but hopefully some incentive so stay on track. Late assignments will not be accepted after I have returned them marked.

Labs involve some math and/or computer skills. I will make sure to review all this in class, but if you find some of this a bit above your comfort level, I am happy to provide extra coaching. Just ask.

As noted above, we will be outside a lot for labs as well as the final project. Dressing (even overdressing) for the weather will make your field experience far more enjoyable. In case of truly extreme weather, labs may be postponed or altered. Please check D2L for updates. Better yet, set your D2L so it sends you email notifications.

- Project: Students will be assigned to small teams to complete a topographic mapping project that integrates course skills. It will be an extension of the labs, but a bit more involved, and consequently worth more marks.
- Tests: There will be three tests that cover both lecture and lab content. These will not be cumulative, except in the sense that later course content makes use of earlier material. I will provide some sample test questions prior to the first test so you have a sense for how these will work.

For students registered with the Centre for Accessible Learning (CAL), please be sure to review the official procedures regarding academic accommodations, test procedures, deadlines, etc. here: <http://camosun.ca/services/accessible-learning/exams.html>

- Illness, etc.: If you miss a lab or test due to illness or some other valid reason, contact me ASAP so we can discuss and adjust. Otherwise, a mark of zero for the missed assignment will be given.

CAMOSUN STATEMENT ON STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

(My take on this: let's approach this class as the responsible adults that we all are, and treat each other with respect. Each of us plays a part in making this a great educational experience for the whole group. Also, please don't cheat. You are here to learn, and in the end, if you cheat you are just cheating yourself. Clichéd, but true.)

COURSE SCHEDULE

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Week of	Wednesday	Friday
10-Jan	Course intro	Lab 0: Gear Grab
17-Jan	Maps and Coordinate Systems	Lab 1: Topographic Maps
24-Jan	Distance Measurement	Lab 2: Distance Measurement
31-Jan	Direction	Lab 3: Direction
07-Feb	Test #1	Lab 4: GPS Mapping
14-Feb	GPS	Lab 4 cont'd
21-Feb	Reading week: no class.	Reading week: no class.
28-Feb	Radial traversing	Lab 5: Radial Traverse
07-Mar	Vertical Control and Leveling	Lab 6: Differential Leveling
14-Mar	Test #2	Lab 7: Error
21-Mar	Topographic Mapping	Lab 8: Total Stations
28-Mar	Mapping Project	Mapping Project
04-Apr	Mapping Project	Mapping Project
11-Apr	Guest lecture; Review	Good Friday: no class.

Exam period: Test #3

EVALUATION OF LEARNING

Evaluation will be based on accuracy, clarity and thoroughness. Whenever applicable, always show your work and keep track of units of measure! When grading your work, I look for proof of your understanding, so work clearly and carefully. I endeavour to mark fairly and consistently, but if you have a question about my assessment, please ask as soon as possible. Also see the [Grade Review and Appeals](#) policy.

Labs	44% (2% for Lab 0, 6% for Labs 4 & 6, 5% for others)
Project	11%
Tests	45% (15% each)
TOTAL	100%

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures"

(<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please

visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.