



**CAMOSUN COLLEGE**  
**School of Trades and Technology**  
**Department of Civil Engineering Technology**

**CIVE 142 X03**  
**Survey 2**  
**2018 Winter**

**COURSE OUTLINE**

*Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

**1 Instructor Information**

Instructor	Stephen Cowden	
Office hours	See course website	
Location	TEC 105	
Phone	(250) 370-4401	Alternative: _____
E-mail	cowdens@camosun.bc.ca	
Website	<a href="http://civil.camosun.bc.ca/student">http://civil.camosun.bc.ca/student</a>	

**2 Prerequisites and Co-requisites**

C in CIVE 131, C in CIVE 141

**3 Hours and Credits**

**Course Activity**

- Lecture (Direct Instruction)
- Seminar (Direct Instruction)
- Lab /Collaborative Learning
- Supervised Field Practice
- Workplace Integrated Learning (Coop, Internship, etc.)
- Other\* (please note):

Hours / Week	Instruction – No of Weeks <small>(Q=11; S=14; "P or S" = 7)</small>
4	14

Credits = 2

**4 Short Description**

Students traverse and survey a two to three hectare area of land using a total station with a data collector. Data is then uploaded to specialized software in order to create a digital surface and final topographic map. A survey layout is also conducted using a total station and data collector to enable construction of an engineering design.

*Open to students in Civil Engineering Technology or by permission of department chair.*

## 5 Intended Learning Outcomes

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

- Apply relevant safety regulations and best practices in the lab and in the field.
- Coordinate with other survey crews to ensure all necessary topography is recorded.
- Survey a closed traverse of >2 hectares in area using a total station and balance with appropriate software.
- Assess the elevation and location of inaccessible points by trigonometric leveling and triangulation.
- Use both field book manual recording and a data collector to record topographic data.
- Conduct an extensive field pickup of topographic points for both natural and man-made objects in the field.
- Create a digital surface model using industry recognized civil software to create a topographic map.
- Create a series of layout points using computer software (such as a road centerline) and stake them in the field using a data collector and total station.

## 6 Course Content and Schedule

<i>Week</i>	<i>Topic</i>
1	Field lab: Trigonometric Leveling (determine elevation of an inaccessible point)
2	Field lab: Triangulation (determine coordinate and elevation of an inaccessible point)
3	Introduction to survey data loggers/collector; Quiz 1
4	Field lab: Check tie distance, resection, multi-set angles with data logger
5	Field lab: Traverse with data collection using data logger
6	Reading Break
7	Field lab: Traverse continued
8	Field lab: Layout of road curve
9	Field lab: Prepare for Site survey; station descriptions
10	Field Lab: Control traverses using data logger
11	Field lab: Topographic data collection using data logger
12	Field lab: previous lab continued
13	Computer lab: topographic data used to create contour map of site.
14	Computer lab: previous lab continued; prepare site map for submission
15	Exam Week: no exam for this course

## 7 Basis of Student Assessment

<i>Component</i>	<i>Weighting %</i>	<i>Comments</i>
Assignments	25	Field books: formal booking for each week
Mid-term Exam	0	No midterm or final exam
Quizzes	5	One quiz
Labs	30	Trigonometric Leveling, Triangulation, Traverse
Site survey	30	Topographic map of survey site Use of Data logger, electronic files, Civil software
Other	10	Instructor's assessment (attendance, punctuality) Group participation assessment
TOTAL	100	

## 8 Recommended Materials to Assist Students to Succeed Throughout the Course

- a) Texts – Kavanagh, Barry F. & Slattery, Dianne K. “Surveying with Construction Applications”; 8<sup>th</sup> ed.; Pearson Pub.; ISBN-13: 978-0-13-276698-2
- b) Other – Course notes

## 9 College Supports, Services and Policies



### Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

### College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

### College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

## 10 Grading System

- Standard Grading System (GPA)*
- Competency Based Grading System*

See [Camosun Grading Policy E-1.5](#)

## 11 Class Policies

- All lab work & assignments must be submitted.
  - Late assignments submitted before marked assignments have been returned to class will have 10% deducted.
  - Late assignments submitted after marked assignments have been returned to class will be checked and count as submitted but will receive no mark.
- Full attendance at the lab sessions is mandatory unless prior approval is granted by the instructor.
  - Students must speak directly to the instructor, and will be granted approval to miss a lab only under extreme circumstances.
  - In case of illness or other unscheduled cause for absence, the student must notify the instructor at least 15 minutes before class by email or by telephone.
- 2% will be deducted from the final grade for each absence from a lab without the instructor's prior permission or a doctor's certificate.
- Late arrivals greater than 20 minutes will be considered an absence.