



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

**CIVE 141**  
**Survey 1**  
**Winter Semester 2020**

**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	Monday 1:30pm to 2:30pm	
Location	TEC 105	
Phone	250-370-4504	Alternative: _____
E-mail	cowdens@camosun.ca	
Website	<a href="http://civil.camosun.bc.ca/student/">http://civil.camosun.bc.ca/student/</a> (click on CIVE 141)	

**2 Prerequisites and Co-requisites**

Prerequisites

One of:

- C in Pre-Calculus 12
- C in Principles of Math 12
- C in [MATH 107](#)
- C in [MATH 115](#)
- C in [MATH 173](#)

Co-requisites

- C in [CIVE 131](#)

**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>
1	14
4	14

Credits = 3

4 **Short Description:** [CIVE 141 Calendar Description](#) (click on link to Camosun website)

## 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.
- Work as part of a survey crew to efficiently complete surveying assignments.
- Create station descriptions using measurements collected with compass and tape.
- Perform a pace-and-compass survey using calibrated pace length, compass, clinometer and hand level.
- Perform a peg test to check the accuracy of an auto level.
- Perform a closed loop differential leveling circuit of acceptable accuracy to determine station elevations.
- Survey a closed traverse using a total station and balance with appropriate software.
- Perform a Topographic Survey using a total station.

## 6 Course Content and Schedule

Week	Week of Monday	Topic
1	Jan. 6	<b>Lab:</b> Introduction to Labs, Compass Use <b>Lecture:</b> Introduction to Surveying
2	Jan. 13	<b>Lab:</b> Pace Calibration <b>Lecture:</b> Direction and Distance
3	Jan. 20	<b>Lab:</b> Station Descriptions, Break Taping <b>Lecture:</b> Angles and Angle Calculations
4	Jan. 27	<b>Lab:</b> Reconnaissance Survey <b>Lecture:</b> Differential Leveling
5	Feb. 3	<b>Lab:</b> Peg Test, Differential Leveling <b>Lecture:</b> Quiz 1, Direction, Distance, Angle Calculations, Angle Conversions
6	Feb. 10	<b>Lab:</b> Differential Leveling <b>Lecture:</b> Traverse Surveying
7	Feb. 17	Reading Break
8	Feb. 24	<b>Lab:</b> Prism Setup and Total Station Setup <b>Lecture:</b> Traverse Computations - Angular
9	Mar. 2	<b>Lab:</b> Total Station Introduction <b>Lecture:</b> Traverse Computations - Linear
10	Mar. 9	<b>Lab:</b> Traverse Surveying <b>Lecture:</b> Quiz 2: Differential Leveling, Traverse Surveying and Computations
11	Mar. 16	<b>Lab:</b> Traverse Computations <b>Lecture:</b> Topographic Surveying
12	Mar. 23	<b>Lab:</b> Topographic Survey <b>Lecture:</b> Review: Field Exam
13	Mar. 30	<b>Lab:</b> Practice Field Exam <b>Lecture:</b> Review: Written Final Exam
14	Apr. 6	<b>Lab:</b> Field Exam <b>Lecture:</b>
15		Exam Week – Final Exam: TBA

## 7 Basis of Student Assessment

<i>Component</i>	<i>Weighting %</i>	<i>Comments</i>
Assignments	15	3 assignments
Quizzes	10	2 quizzes
Labs	25	7 labs
Practical Field Exam	25	1 final field exam (must get 50% to pass course)
Written Final Exam	25	1 final written exam (must get 50% to pass course)
TOTAL	100	

## 8 Required Materials

- Texts – Kavanagh, Barry F., Surveying with Construction Applications, 8th Edition.
- Other:

Field Book	'Rite-in-Rain' : stapled (#351) or spiral bound (#353)
2 mm Lead Holder	Staedtler 780C 2mm lead holder ( <i>note the model with the chrome top has a built in pencil sharpener</i> ). Or similar.
2mm <b>2H</b> leads	Staedtler 2mm <b>2H</b> leads (in tube). Or similar.
Lead pointer	Staedtler 502 2mm lead pointer (note the Staedtler 780C 2mm lead holder with the chrome top has a built in pencil sharpener)
White eraser	Staedtler white vinyl eraser
Short ruler	6 inch ruler with both metric and inch

## 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

- An overall weighted average of 50% must be attained on all quizzes and assignments
- A mark of at least 50% must be obtained on both the Practical (Field) Exam and the Written Final Exam, otherwise an F will be awarded.
- All lab work and assignments **must** be submitted in order to qualify to write the final exam.
- Late assignments and lab work:
  - Will have 10% deducted if submitted before marked work has been returned to the class or solutions posted.
  - Will receive NO mark if submitted after marked work has been returned to the class or solutions posted, but will be checked and count as submitted.
- Full attendance at the lab sessions is mandatory unless prior approval is granted by the instructor. Students must speak directly to the instructor.
- *5% 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.***
- *Equity, diversity, and inclusion (EDI) are central to Camosun's culture and values. The Camosun community and the engineering community at large commit to pursuing equity in education regardless of race, heritage, religion, gender or gender identity, and ability.*

*We learn best when we feel safe.*

*Inappropriate, hateful or demeaning comments or actions will not be tolerated.*

*Your suggestions on how to make your experience here better are encouraged and appreciated.*

*Please let your instructor or the department chair know ways to improve your experience at Camosun.*

*If you wish to know more about Camosun's EDI policy, please see the [Equity, Diversity and Inclusion page](#) on the college's website*