



CAMOSUN COLLEGE
School of Trades and Technology
Civil Engineering Technology

CIVE 141
Survey 1
Fall Semester 2018

COURSE OUTLINE

The calendar description is available on the web @ [CIVE 141 Calendar Description](#)

Ω 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

(a) Instructor	Stephen Cowden
(b) Office hours	Friday 2:30pm to 3:30pm
(c) Location	TEC 105
(d) Phone	250-370-4504 Alternative: _____
(e) E-mail	cowdens@camosun.bc.ca
(f) Website	civil.camosun.bc.ca/student (click on CIVE 141)

2. 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.

Prerequisites and Co-requisites

Prerequisite: Pre-calculus 12, Principles of Math 12, MATH 107 or MATH 115

Co-requisite: CIVE 131

3. Required Materials

Textbook:

Kavanagh, Barry F., Surveying with Construction Applications, 8th Edition.

Survey Supplies:

Field Book	'Rite-in-Rain': Stapled (#351 - preferred) or Spiral Bound (#353)	~\$7.00 or \$10.00
2 mm Lead Holder	Staedtler 780C 2mm lead holder	~ \$7.00
2mm 2H leads	Staedtler 2mm 2H leads (in tube)	~\$2.50
White eraser	Staedtler white vinyl eraser	~\$1.10 or \$ 2.75
Short ruler	6 inch ruler with both metric and inch	Individual purchase or as a Math set

4. Course Content and Schedule

Class Hours: 1 hour per week

Lab Hours: 4 hours per week

Out of Class Requirments: Assignments, Reading assignments, Lab write up completion

See schedule on next page for dates for quizzes and exams

Course Schedule:

Week	Week of Monday	Topic
1	Sept. 4	Lecture: No lecture (Labour Day) Lab: Introduction to Course and Labs
2	Sept. 11	Lecture: Introduction to Surveying Lab: Pace Calibration, Compass
3	Sept. 18	Lecture: Direction and Distance Lab: Station Descriptions, Break Taping
4	Sept. 25	Lecture: Angles and Angle Calculations Lab: Reconnaissance Survey
5	Oct. 2	Lecture: Differential Leveling Lab: Differential Leveling
6	Oct. 9	Lecture: No Lecture (Thanksgiving) Lab: Prism setup and practice
7	Oct. 16	Lecture: Quiz 1, Direction, Distance, Angle Calculations, Angle Conversions and Differential Leveling Lab: Total Station Introduction and Setup
8	Oct. 23	Lecture: Traverse Surveying Lab: Traverse Survey
9	Oct. 30	Lecture: Traverse Computations - Angular Lab: Traverse Surveying
10	Nov. 6	Lecture: Traverse Computations - Linear Lab: Traverse Computations
11	Nov. 13	Lecture: No Lecture (Remembrance Day) Lab: Traverse Computations
12	Nov. 20	Lecture: Quiz 2: Differential Leveling, Traverse Surveying and Traverse Computations Lab: Topographic Survey
13	Nov. 27	Lecture: Review: Field Exam Lab: Practice Field Exam
14	Dec. 4	Lecture: Review: Written Final Exam Lab: Field Exam
15/16		Exam Week – Final Exam: TBA

5. Basis of Student Assessment (Weighting)

(a) Assignments

3 Assignments worth 15%

7 Labs worth 25% (part of your lab assessment is based on your participation during labs)

(b) Quizzes

2 Quizzes worth 10%

(c) Exams

1 Practical (Field) Exam worth 25%

1 Written Exam worth 25%

Class Policies

- **An overall weighted average of 50% must be attained on all tests and exams and a mark of at least 50% must be obtained on both the 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 submitted before marked assignments have been returned to the class or solutions posted will have 10% deducted.**
- **Late assignments submitted after marked assignments have been returned to the class or solutions posted 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.**
- ***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.***

Grading System

Standard Grading System (GPA)

Competency Based Grading System

Recommended Materials to Assist Students to Succeed Throughout the Course

Metal Erasing Shield	Staedtler 529-50 erasing shield	~\$1.50	Optional
Triangular Set-squares	Small 30-60° and 45° set squares	Individual purchase or as a Math set	Optional
Protractor	4-inch minimum size - either a 180° or 360° (preferred)	Individual purchase or as a Math set	Optional
Squared paper	5 squares / inch (1 square ≈ 5 mm)		Optional
Lead pointer	Staedtler 502 2mm lead pointer (note the model with the chrome top has a built in pencil sharpener)	~\$7.00	Optional
Triangular scale: optional; select one from the list below.			
Staedtler Triangular scale (Professional grade)	987-18-6 (a.k.a. surveyors): 1:500, 1:1000, 1:1250, 1:1500, 1:2000, 1:2500 987-18-SI (a.k.a. Engineering): 1:1, 1:10, 1:2, 1:20, 1:5, 1:50	~\$11.50	Optional
Staedtler Triangular scale (Economy grade)	987 19-6 (a.k.a. Surveyors): 1:500, 1:1000, 1:1250, 1:1500, 1:2000, 1:2500 987 19-SI (a.k.a. Engineering): 1:1, 1:2, 1:5, 1:10, 1:20, 1:50 987 19-4 (a.k.a. Architects): 1:100, 1:200, 1:250, 1:300, 1:400, 1:500	~\$7.95	Optional

8. 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.

A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/index.html> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.