Welcome to Camosun College!

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

School of Access - Academic and Career Foundations Department

MATH 057   Math for Electrical Trades

Winter 2019; Section S08 (2019/01/07 - - 2019/04/17)

COURSE OUTLINE

The Approved Course Description is available on the College website
http://camosun.ca/learn/calendar/current/web/math.html

1. Instructor Information

(a) Instructor: Rusekampunzi Augustin

(b) Office hours: 1100–1200 and 1600–1700 (Mon & Wed **E222);**1330–1700 (T & Th **CBA 108**)

(c) Help hours: 1200 – 1230;1530--1600 (Mon & Wed in **E 342)/**1230--1330 **(**T & Th **CBA 109**)

(d) Location of class and time: Lansdowne Campus 1230 – 1520 (Mon & Wed **E342**)

(e) Phone: 250 370 4489

(f) E-mail: ruse@camosun.bc.ca.

2. Intended Learning Outcomes

At the end of the course, students will be able to:
1. Use mathematics at an ABE Intermediate level with competence
2. Demonstrate knowledge and skills in using the language, principles, and operations of introductory algebra and trigonometry
3. Apply a variety of strategies in solving math-related problems
4. Apply knowledge and skills in introductory algebra and trigonometry to solve problems
5. Use knowledge of introductory algebra and trigonometry as a basis for further study in the Electrical Foundation program, Advanced-level mathematics, and other courses and programs

3. Required Materials

a) Textbook: *Developmental Mathematics*, Custom Edition for Camosun College, Marvin Bittinger/Judith Beecher (Content taken from the 9th Edition of *Developmental Mathematics* by the same authors*)*
b) Module: Trigonometry *(ABE Intermediate Mathematics* module 14*)*, British Columbia
c) Module: Vectors (Camosun College)
d) Scientific calculator (Sharp EL-531X or EL-531W for next level MATH 072 or 135)

Supplementary Materials
e) *Unit R Arithmetic Review* booklet
f) Selected open source math videos: https://sites.camosun.ca/acf-math/math-057/

g) *Student's Solutions Manual*, Judith Penna (for sale in the bookstore; available for reference in the classroom)
h) *Instructor's Solutions Manual*, Judith Penna (for reference in the classroom)
i) website *www.mymathlab.com* (online text, tutorials, videos, and testing)

4. Course Instructions and Content

The course completion time will vary for each student, depending on a number of factors, including your current level of math skills, motivation, learning rate, and how much time you have to study math, either at the college or at home. Students generally need to spend 5−15 hours of study time per week to complete each math course within 4 months.

(a) before starting unit 1, students must pass a competency test to demonstrate that they can add, subtract, multiply, and divide whole numbers, fractions, and decimals <u>without the use of a calculator</u> – if necessary, use the Arithmetic Review booklet to review these operations before writing the competency test
(b) for each section of the 057 text listed in the table below, read the explanations, study the Examples, do the Margin Exercises, and then work through and check all or at least some of the more difficult odd-numbered problems in the Exercise Set
(c) note that unit 4 includes text chapter 10, 11.1, & 11.2, and a supplement on exponents
(d) to prepare for the test for each unit, do the Summary and Review Exercises and write the Chapter Test at the end of the chapter, and correct all of your errors
(e) review your test results with the instructor, and proceed to the next unit if you score 75% or better, or rewrite the unit test if you score less than 75% (all test scores count)

MATH 057 course content			
	Unit R – Arithmetic Review (no calculator) (supplementary module)		
R.1	Place value		
R.2	Comparing numbers		
R.3	Rounding numbers		
R.4	Adding and subtracting whole numbers and decimals		
R.5	Multiplying whole numbers and decimals		
R.6	Powers – repeated multiplication		
R.7	Dividing whole numbers and decimals		
R.8	Order of operations		
R.9	Operations with fractions		
R.10	Equivalent fractions		
R.11	Adding and subtracting fractions		
R.12	Multiplying fractions		
R.13	Dividing fractions		
R.14	Converting fractions and decimals		
R.15	Estimation		
	Practice Test		
	Unit R test (no calculator)		
9th & 8th ed	**MATH 057 course content**		
	Unit 1 – Real Numbers and Algebraic Expressions (20 days)		
7.1	Introduction to algebra		
7.2	The real numbers		
7.3	Addition of real numbers		
7.4	Subtraction of real numbers		
7.5	Multiplication of real numbers		
7.6	Division of real numbers		
7.7	Properties of real numbers		
7.8	Simplifying expressions; order of operations		
	Summary and review		

	Chapter test			
	Unit 1 test			
	Unit 2 − Solving Equations and Inequalities (30 days)			
8.1	Solving equations: the addition principle			
8.2	Solving equations: the multiplication principle			
8.3	Using the principles together			
8.4	Formulas			
8.5	Applications of percent			
8.6	Applications and problem solving			
8.7	Solving inequalities			
8.8	Applications and problem solving with inequalities			
	Summary and review			
	Chapter test			
	Unit 2 test			
	Unit 3 − Graphs of Linear Equations (22 days)			
9.1	Graphs and applications of linear equations			
9.2	More with graphing and intercepts			
9.3	Slope and applications			
9.4	Equations of lines			
9.5	Graphing using the slope and y-intercept			
	Summary and review			
	Chapter test			
	Unit 3 test			
	Unit 4 − Polynomials: Operations and Factoring (28 days)			
10.1*	Integers as exponents			
10.2*	Exponents and scientific notation			
	* after 10.2, complete supplementary exercises on exponents #1−25			
10.3	Introduction to polynomials			
10.4	Addition and subtraction of polynomials			
10.5	Multiplication of polynomials			
10.6	Special products			
10.7	Operations with polynomials in several variables			
10.8a	Division of polynomials by a monomial			
11.1ab	Introduction to common factoring			
11.2	Factoring trinomials of the type $x^2 + bx + c$			
11.5cd	Factoring differences of squares			
	Summary and review			
	Chapter test			
	Unit 4 test			
	MATH 053 review and final exam day 105			
	MATH 057 course content			
	Unit 5 − Trigonometry (supplementary module) (15 days)			
5.1	The right triangle			
5.2	Angles and sides			
5.3	The Pythagorean theorem (more in 7e text p 1059, 8e text p 1087)			
5.4	The tangent ratio			
5.5	Using the tangent ratio			
5.6	The sine and cosine ratios			
5.7	Solving triangles			
	Practice test			
	Unit 5 test			

	Unit 6 − Vectors (supplementary module) (10 days)			
p 10	Problem Sets			
	Unit 6 test day 130			

5. Basis of Student Assessment (Weighting)

(a) **Tests** 75% of the course grade is based on the average of **all** unit final test scores for units 1−6 (including both passing and failing test scores)

(b) **Exams** 25% of the course grade is based on the average of **all** final exam scores (including both passing and failing exam scores)

Note: Students with a record of low attendance OR lack of progress may be restricted from re-registering in Academic and Career Foundations Department courses.

6. Course Grading System – Standard Grading System
http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf

A+	90–100%	B+	77–79%	C+	65–69%
A	85–89%	B	73–76%	C	60–64%
A−	80–84%	B−	70–72%	IP	in progress

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/education-academic/e-1-programming-and-instruction/e-1.5.pdf

for information on conversion to final grades, and for additional information on student record and transcript notations.

7. Learning Support and Services for Students

> **ACADEMIC UPGRADING HELP CENTRE (CBA 109 or Ewing 342)**
> http://camosun.ca/services/help-centres/math.html
> Help with coursework, reference & learning materials library,
> computers & printers, quiet testing & study areas

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/

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/services/

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.