



**CAMOSUN COLLEGE**  
**School of Access**  
**Academic and Career Foundations Department**

**MATH 057 Intermediate Math for Trades**  
**Winter 2013 (January 7 – April 12) Section S03**

## **COURSE OUTLINE**

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**The Approved Course Description is available on the College website**

<http://www.camosun.bc.ca/learn/calendar/index.html>

⚡ Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records.

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### **1. Instructor Information**

- (a) Instructor: Richard Zajchowski
- (b) Office hours: by appointment or drop-in: 1:30-3 pm Mon/Wed CBA 110, other times available
- (c) Help Centre hours: 12:30-1:30 pm Mon/Wed CBA 109
- (d) Location: Interurban Campus
- (e) Phone: (250) 370-4915
- (f) E-mail: [zackr@camosun.bc.ca](mailto:zackr@camosun.bc.ca)
- (g) Website

### **2. Intended Learning Outcomes**

(complete ABE Intermediate Mathematics learning outcomes at ABE Articulation Handbook website <http://www.aved.gov.bc.ca/abe/handbook.pdf>)

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 ELT program, Advanced-level mathematics, and other courses and programs

### 3. Required Materials

- (a) textbook: *Developmental Mathematics*, 6<sup>th</sup>/7<sup>th</sup>/8<sup>th</sup> edition, Marvin Bittinger/Judith Beecher
- (b) module: Trigonometry (*ABE Intermediate Mathematics* module 14), British Columbia
- (c) module: Vectors (Camosun College)
- (d) scientific calculator (Sharp EL531 for MATH 072)

#### Supplementary Materials

- (e) *Student's Solutions Manual*, Judith Penna  
(for sale in the bookstore; available for reference in the classroom)
- (f) *Instructor's Solutions Manual*, Judith Penna (for reference in the classroom)
- (g) video CDs (cover each section of the text, for viewing at the college or at home)
- (h) website [www.mymathlab.com](http://www.mymathlab.com) (online text, tutorials, videos, and testing)

### 4. Course Content and Schedule

#### Self-paced Instructions

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 without the use of a calculator – 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 final 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 final test results with the instructor, and proceed to the next unit if you score 75% or better, or rewrite the final test if you score less than 75% (all test scores count)

8th ed'n	7th ed'n	MATH 057 course content		
		<b>Unit R – Arithmetic Review (no calculator)</b>		
R.1	R.1	Place value		
R.2	R.2	Comparing numbers		
R.3	R.3	Rounding numbers		
R.4	R.4	Adding and subtracting whole numbers and decimals		
R.5	R.5	Multiplying whole numbers and decimals		
R.6	R.6	Dividing whole numbers and decimals		
R.7	R.7	Order of operations		
R.8	R.8	Operations with fractions		
R.9	R.9	Equivalent fractions		
R.10	R.10	Adding and subtracting fractions		
R.11	R.11	Multiplying fractions		
R.12	R.12	Dividing fractions		
R.13	R.13	Converting fractions and decimals		
R.14	R.14	Estimation		
		Practice Test		
		Unit R final test (no calculator)		

8th Ed	7th Ed	<b>Math 057 Course Content</b>	
		<b>Unit 1 – Real Numbers and Algebraic Expressions</b> (for 4-month completion: 20 days)	
7.1	7.1	Introduction to algebra	
7.2	7.2	The real numbers	
7.3	7.3	Addition of real numbers	
7.4	7.4	Subtraction of real numbers	
7.5	7.5	Multiplication of real numbers	
7.6	7.6	Division of real numbers	
7.7	7.7	Properties of real numbers	
7.8	7.8	Simplifying expressions; order of operations	
		Summary and review	
		Chapter test	
		Unit 1 final test	
		<b>Unit 2 – Solving Equations and Inequalities</b> (30 days)	
8.1	8.1	Solving equations: the addition principle	
8.2	8.2	Solving equations: the multiplication principle	
8.3	8.3	Using the principles together	
8.4	8.4	Formulas	
8.5	8.5	Applications of percent	
8.6	8.6	Applications and problem solving	
8.7	8.7	Solving inequalities	
8.8	8.8	Applications and problem solving with inequalities	
		Summary and review	
		Chapter test	
		Unit 2 final test	
		<b>Unit 3 – Graphs of Linear Equations</b> (22 days)	
9.1	9.1	Graphs and applications of linear equations	
9.2	9.2	More with graphing and intercepts	
9.3	9.3	Slope and applications	
		Summary and review	
		Chapter test	
		Unit 3 final test	
		<b>Unit 4 – Polynomials: Operations and Factoring</b> (28 days)	
10.1*	10.1*	Integers as exponents	
10.2*	10.2*	Exponents and scientific notation	
		*after 10.2, complete supplementary exercises on exponents (#1-25)	
10.3	10.3	Introduction to polynomials	
10.4	10.4	Addition and subtraction of polynomials	
10.5	10.5	Multiplication of polynomials	
10.6	10.6	Special products	
10.7	10.7	Operations with polynomials in several variables	
10.8	10.8	Division of polynomials	
11.1	11.1	Introduction to factoring	
11.2	11.2	Factoring trinomials of the type $x^2 + bx + c$	
		Summary and review	
		Chapter test	
		Unit 4 final test	
		MATH 053 review	
		MATH 053 final exam	
		day 105	

<b>Math 057 Course Content</b>				
		<b>Unit 5 – Trigonometry</b> (supplementary module)	(25 days)	
5.1	5.1	The right triangle		
5.2	5.2	Angles and sides		
5.3	5.3	The Pythagorean theorem (more in 7e text p 1059, 8e text p 1087)		
5.4	5.4	The tangent ratio		
5.5	5.5	Using the tangent ratio		
5.6	5.6	The sine and cosine ratios		
5.7	5.7	Solving triangles		
		Practice test		
		Unit 5 final test		
		<b>Unit 6 – Vectors</b> (supplementary module)		
p 10	p 10	Problem Sets		
		Vectors Final 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 poor attendance OR poor progress may be restricted from re-registering in Academic and Career Foundations Department courses.

## 6. Grading System

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

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, Registration, or on the College website <http://camosun.ca/services/>

### ACADEMIC CONDUCT POLICY

It is the student's responsibility to become familiar with the content of the Academic Conduct Policy. The policy is available in each School Administration Office, Registration, and on the College website <http://camosun.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.pdf>

### ACADEMIC PROGRESS POLICY

The Academic Progress Policy designed to enhance a learner's likelihood of success. Students should become familiar with the content of this policy, The policy is available in each School Administration Office, Registration, and on the College website <http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.1.pdf>