

# CAMOSUN COLLEGE School of Access Academic and Career Foundations Department

MATH 057 Math for Electrical Trades Fall 2017; Section S05 (2017/09/06 - - 2017/12/13)

## COURSE OUTLINE

The Approved Course Description is available on the College website

http://camosun.ca/learn/programs/academic-upgrading/what-youll-learn/upgrading.html#tabs-intermediate a

#### 1. Instructor Information

Instructor: Augustin Rusekampunzi Phone: 2503704489

Office Hours: 1130-1230 (M&W); 1230-1630(T&Th) Office: CBA 108

Help Centre Hours: 0930 - 1030(T & Th); 0900 - 1030 (F) Email: 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 9<sup>th</sup> 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) Selected open source math videos: https://sites.camosun.ca/acf-math/math-057/
- f) Student's Solutions Manual, Judith Penna (for sale in the bookstore; available for reference in the classroom)
- g) Instructor's Solutions Manual, Judith Penna (for reference in the classroom)
- h) website www.mymathlab.com (online text, tutorials, videos, and testing)

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#### 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)

9 <sup>th</sup> & 8 <sup>th</sup>	MATH 057 course content					
ed.						
	Unit R - Arithmetic Review (no calculator)					
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)					
	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					

9 <sup>th</sup> &	MATH 057 course content						
8 <sup>th</sup> ed	Unit 2 Solving Equations and Inequalities	(30 days)					
8.1	<ul><li>Unit 2 – Solving Equations and Inequalities</li><li>Solving equations: the addition principle</li></ul>	(30 days)					
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						
0.0	Summary and review						
	Chapter test						
	Unit 2 test						
	Unit 3 – Graphs of Linear Equations	(22 days)					
9.1	Graphs and applications of linear equations	(== ua,y)					
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 exp	onents #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						
	MATHOE and in the state of the	1-1.405					
	MATH 053 review and final exam	day 105					
	Unit 5 Trigonomoters (ounnless entens mondule)	(15 days)					
E 1	Unit 5 - Trigonometry (supplementary module)	(15 days)					
5.1	The right triangle						
5.2	Angles and sides The Datherson of the court (many in 7e text of 1050, Se text of 1007)						
5.3 5.4	The Pythagorean theorem (more in 7e text p 1059, 8e The tangent ratio	ιελι μ 1007)					
5.4	· ·						
5.6	Using the tangent ratio The sine and cosine ratios						
5.7	Solving triangles						
5.7	Practice test						
	Unit 5 test						
	OTHE O LEST						
	Unit 6 - Vectors (supplementary module)	(10 days)					
p 10	Problem Sets	(10 ddys)					
P 10	Unit 6 test day 1:	30					
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# 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. Grading System

A+	90–100%	B+	77–79%	C+	65–69%
Α	85-89%	В	73–76%	С	60-64%
A-	80-84%	B-	70–72%	ΙP	in progress

## 7. Learning Support and Services for Students

## **ACADEMIC UPGRADING HELP CENTRE (CBA 109 or Ewing 342)**

<a href="http://camosun.ca/services/help-centres/math.html">http://camosun.ca/services/help-centres/math.html</a>
 Help with coursework, reference & learning materials library, computers & printers, quiet testing & study areas

There are many other Camosun services available to help you succeed in and out of the classroom, including education planning, learning and personal support, campus life, work and housing, and getting around. This information is available at Registration or the College web site <a href="http://camosun.ca/services/">http://camosun.ca/services/</a>

## 8. College Policies

## **ACADEMIC PROGRESS**

The purpose of this policy is to enhance a learner's likelihood of success, and to encourage the learner to use College resources effectively.

http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf

## **GRADING**

The purpose of this policy is to ensure that grading and promotion are consistent and fair. http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf

#### STUDENT CONDUCT

The purpose of this policy is to provide clear expectations of appropriate academic and non-academic student conduct, and to establish processes for resolution of conduct issues or the imposition of sanctions for inappropriate conduct.

http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf

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