School of Access
Community Learning Partnerships
MATH 057 S16
Intermediate Math for Trades
Course Outline – Fall 2014

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Class Hours: Tu & Th 9:00-11:50   **Office Hours**: By Arrangement

Calendar Description

This course covers the algebra from MATH 053 plus modules on trigonometry and vectors, which provide the skills required for further study in Electrical Foundations, advanced-level mathematics, and any course or program that requires Math 10. Topics include: real numbers, algebraic expressions, equations, inequalities, graphing, polynomials, trigonometry, and vectors.

Prerequisite: MATH 052; or assessment
http://camosun.ca/learn/calendar/current/web/math.html

Required Materials

   (a) textbook: *Developmental Mathematics*, 7th/8th edition, Marvin Bittinger/Judith Beecher
   (b) module: *Trigonometry* (ABE Intermediate Mathematics module 14), British Columbia
   (c) module: Vectors (Camosun College)
   (d) scientific calculator (Sharp EL531W for MATH 072)

Course Content and Schedule – Self-paced Instructions

The course is designed to be completed in one term. However, it can be completed sooner, depending on a number of factors including the students' beginning level of math skills, motivation, learning rate, and how much time they can actually study (average 15 20 hours per week to complete in 4 months).

If you do not understand something seek help right away. In addition to online, resources include your family and friends, your instructor, and /or the Math Tutor Center.

Contact your instructor to get permission to write the unit exam. These exams will be written face-to-face.

Grade Calculation[1]: Seven Unit Exams worth 75% and a Final Exam worth 25%

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[1] As this is a mastery-based course, the goal for each test is 75% or better. If you scored less than 75% then you will need to rewrite the test before you continue. Note: Tests can only be rewritten once for a total of two times and all test scores are averaged to calculate a final mark

Intended Learning Outcomes

(complete ABE Intermediate Mathematics learning outcomes at ABE Articulation Handbook website http://www.aved.gov.bc.ca/abe/docs/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 Foundation program, Advanced-level mathematics, and other courses and programs

Grading System

Percentage	Grade	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
<50%	F	0
In Progress	IP	N/A

MATH 057 course content

Unit R – Arithmetic Review (no calculator)		**Unit 3 – Graphs of Linear Equations**		
R.1	Place value	9.1	Graphs and applications of linear equations	
R.2	Comparing numbers	9.2	More with graphing and intercepts	
R.3	Rounding numbers	9.3	Slope and applications	
R.4	Adding and subtracting whole numbers and decimals	9.4	Equations of lines	
R.5	Multiplying whole numbers & decimals	9.5	Graphing using the slope and y-intercept	
R.6	Dividing whole numbers & decimals	Summary & Review/Chapter test		
R.7	Order of operations	Unit 3 final test		
R.8	Operations with fractions	**Unit 4 – Polynomials: Operations and Factoring**		
R.9	Equivalent fractions	10.1*	Integers as exponents	
R.10	Adding and subtracting fractions	10.2*	Exponents and scientific notation	
R.11	Multiplying fractions		* after 10.2, complete supplementary exercises on exponents #1−25	
R.12	Dividing fractions	10.3	Introduction to polynomials	
R.13	Converting fractions and decimals	10.4	Addition and subtraction of polynomials	
R.14	Estimation	10.5	Multiplication of polynomials	
Practice Test		10.6	Special products	
Unit R final test (no calculator)		10.7	Operations with polynomials in several variables	
Unit 1 – Real Numbers and Algebraic Expressions		10.8a	Division of polynomials by a monomial	
7.1	Introduction to algebra	11.1ab	Introduction to common factoring	
7.2	The real numbers	11.2	Factoring trinomials of the type $x^2 + bx + c$	
7.3	Addition of real numbers			
7.4	Subtraction of real numbers	11.5cd	Factoring differences of squares	
7.5	Multiplication of real numbers	Summary & Review/Chapter test		
7.6	Division of real numbers	Unit 4 final test		
7.7	Properties of real numbers	**MATH 053 review and final exam**		
7.8	Simplifying expressions; order of operations	**Unit 5 – Trigonometry**		
Summary & Review/Chapter test		5.1	The right triangle	
Unit 1 final test		5.2	Angles and sides	
Unit 2 – Solving Equations and Inequalities		5.3	The Pythagorean theorem (more in 7e text p 1059, 8e text p 1087)	
8.1	Solving equations: the addition principle	5.4	The tangent ratio	
8.2	Solving equations: the multiplication principle	5.5	Using the tangent ratio	
8.3	Using the principles together	5.6	The sine and cosine ratios	
8.4	Formulas	5.7	Solving triangles	
8.5	Applications of percent	Practice test		
8.6	Applications and problem solving	Unit 5 final test		
8.7	Solving inequalities	**Unit 6 − Vectors**		
8.8	Applications and problem solving with inequalities	p 10	Problem Sets	
Summary & Review/Chapter test		Unit 6 final test		
Unit 2 final test				

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, Registrar's Office or the College web site at:
http://www.camosun.ca

STUDENT CONDUCT POLICY

There is a Student Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section, or the College web site at:
http://camosun.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.pdf

STUDENT GRADING POLICY

A new student grading policy is in effect for students in the School of Access. This information is available in the College Calendar, Registrar's Office or the College web site at:
http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.5.pdf

ACADEMIC PROGRESS POLICY

There is an 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 web site in the Policy Section or the College web site at:
http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.1.pdf