



*School of Access*  
*Community Learning Partnerships*  
**MATH 072 DS19**  
*Advanced Mathematics 1*  
**Course Outline – Winter 2016**

**Instructor:** Morgan Sargent  
**Class Hours:** Online

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**Office Hours:** By Arrangement

### **Calendar Description**

This course is the first half of Math 11 and provides the algebra skills required for statistics, criminal justice and some business programs. Topics include: linear equations and inequalities, rearranging formulas, linear equations in two variables, systems of linear equations, integer and rational exponents, polynomials and factoring.

**Prerequisite(s):** "C" in Principles of Math 10, or Foundations of Math & Pre-calculus 10, or Pre-calculus 11, or Foundations of Math 11, or MATH 053, or MATH 057; or "C-" in Principles of Math 11; or assessment.

<http://camosun.ca/learn/calendar/current/web/math.html>

### **Exit Grade:**

A grade of C+ (65%) or better in Math 072 is necessary to continue into Math 073 (Advanced Mathematics 2), Math 116 (Elementary Statistics) as well as certain programs such as Criminal Justice, Business Administration, Golf Management, and Hotel and Restaurant Management.

### **Required Materials**

- (a) Reliable access to the internet
- (b) Registration with  
MathXL: <http://www.pearsonmylabandmastering.com/northamerica/mathxl/students/get-registered/index.html>
- (c) Class access code: **sargent44732**
- (d) scientific calculator (Sharp EL531 is the recommended calculator, and is good through 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 Final exam. The Final Exam must be written with an invigilator.

**Grade Calculation:** \*Five Unit Exams 50%  
 \*\*Final Exam 50% or 100%

\*\* If your term average is at least 50% and all your assignments are complete and if your final exam mark is higher than your term average, then your final course grade will be based 100% on your final exam mark.

**Course Objectives:**

The objectives of the course are:

1. To learn the basic algebra skills necessary to be successful both in your chosen field of study and in future math courses. This involves learning the vocabulary, notation, rules, and techniques of intermediate algebra, as well as solving applied problems.
2. To be able to solve problems involving simple calculations without the aid of a calculator.
3. To learn to write mathematics correctly and also to be able to write about the mathematics that you are learning.
4. To be able to talk about the mathematics you are learning.

**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

<b>Math 072 Course Content</b>	
<b>Unit R – Review of Basic Algebra – 7 days</b>	
<b>Pre-test</b>	
<b>R.1</b>	The set of real numbers
<b>R.2</b>	Operations with real numbers
<b>R.3</b>	Exponential notation and order of operations
<b>R.4</b>	Introduction to algebraic expressions
<b>R.5</b>	Equivalent algebraic expressions
<b>R.6</b>	Simplifying algebraic expressions
<b>R.7</b>	Properties of exponents and scientific notation
<b>Post-Test</b>	
<b>Unit R Final Test</b>	
<b>Unit 1 – Solving Linear Equations &amp; Inequalities – 12 days</b>	
<b>Pre-test</b>	
<b>1.1</b>	Solving equations
<b>1.2</b>	Formulas and applications
<b>1.3a</b>	Applications and problem solving
<b>1.4</b>	Sets, inequalities, and interval notation
<b>1.5</b>	Intersections, unions, and compound inequalities
<b>1.6a-d</b>	Absolute-value equations
<b>Post-Test</b>	
<b>Unit 1 Final Test</b>	
<b>Unit 2 – Graphs, Functions, and Applications – 14 Days</b>	
<b>Pre-test</b>	
<b>2.1</b>	Graphs of equations
<b>2.2</b>	Functions and graphs
<b>2.3</b>	Finding domain and range
<b>2.4</b>	Linear functions: graphs and slope
<b>2.5</b>	More on graphing linear equations
<b>2.6</b>	Finding equations of lines; applications
<b>Post-Test</b>	
<b>Unit 2 Final Test</b>	



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<b>Unit 3 – Systems of Equations – 12 Days</b>		
<b>Pre-test</b>		
<b>3.1</b>	Systems of equations in two variables	
<b>3.2</b>	Solving by substitution	
<b>3.3</b>	Solving by elimination	
<b>3.4a</b>	Solving applied problems: two equations	
<b>3.7a,b</b>	Inequalities in two variables	
<b>Post-Test</b>		
<b>Unit 3 Final Test</b>		
<b>Unit 4 – Polynomials &amp; Polynomial Functions – 21 Days</b>		
<b>Pre-test</b>		
<b>4.1</b>	Introduction to polynomials and polynomial functions	
<b>4.2</b>	Multiplication of polynomials	
<b>4.3</b>	Introduction to factoring	
<b>4.4</b>	Factoring trinomials: $x^2 + bx + c$	
<b>4.5</b>	Factoring trinomials: $ax^2 + bx + c, a \neq 1$	
<b>4.6</b>	Special factoring	
<b>4.7</b>	Factoring: a general strategy	
<b>Post-Test</b>		
<b>Unit 4 Final Test</b>		
<b>MATH 072 Final Pre-Test</b>		
<b>MATH 072 Final Post-Test</b>		
<b>MATH 072 FINAL EXAM</b>		

## **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-and-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-and-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-and-instruction/e-1.1.pdf>