



School of Access  
Community Learning Partnerships  
**MATH 073 DS19**  
Advanced Mathematics 2  
**Course Outline – Winter 2018**

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

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

Ω Please note: the College electronically stores this outline for five (5) years only.  
It is **strongly recommended** you keep a copy of this outline with your academic records.  
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

**Instructor Information and Schedule:**

**Name:** Pooja Gupta  
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**Email:** [guptap@camosun.ca](mailto:guptap@camosun.ca)  
**Office:** CBA 149

**My class schedule this term:**

	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
<b>9:30 – 12:20</b>	<b>In class</b> Saanich Adult Education Centre	<b>In class</b> Songhees Wellness Centre	<b>In class</b> Saanich Adult Education Centre	<b>In class</b> Songhees Wellness Centre	<b>Online class</b> (9:30 – 1:50) CBA 159  <b>Office time</b>
<b>12:30 – 2:20</b>	<b>Online class/ Office time</b> Meetings by appointments only		<b>Online class/ Office time</b> Meetings by appointments only		Department Meetings

**Important Dates this Winter term:**

- January 8 – Term Starts
- February 12 – Family Day (College closed)
- February 13 to 16 – Reading break (College closed)
- February 13 – Foundation Bursaries Deadline to apply for winter 2018
- February 23 – T2202A Education Tax Receipts available
- March 30 – Good Friday (College closed)
- April 2 – Easter Monday (College closed)
- April 13 – Last day of instruction
- April 16 to 20 – Exams
- April 20 - Term Ends

**Note:** - Please seek help as soon as possible so that I can help you to be successful this term. As emails are accessible from any location, I prefer **emails** to phone calls.

## Intended Learning Outcomes

*Successful completion of Math 073 awards 4 credits.*

Upon completion of this course the student will be able to:

1. Use basic mathematical operations (& factoring) to simplify polynomial expressions and solve polynomial equations and word problems.
2. Perform mathematical operations on rational algebraic expressions and solve equations and word problems involving rational algebraic equations.
3. Divide polynomials using long and synthetic division.
4. Perform mathematical operations on complex numbers.
5. Simplify and perform mathematical operations on square roots (and other roots) involving variables and solve radical equations.
6. Use rational exponents when working with radical expressions to aid in simplifying these expressions.
7. Solve quadratic equations, and solve practical problems involving quadratic type equations using the methods of completing the square, factoring, square root property, and the quadratic formula.
8. Graph and analyze quadratic functions, including finding the vertex, intercepts, axis of symmetry, and maximum or minimum values of the function.
9. Use the definitions of the basic trigonometric functions to find ratios, angles (degree measure only), and solve practical problems involving right triangles.
10. Find the trigonometric ratios of special triangles (exact values), and find the trigonometric function values of any angle in standard position using a scientific calculator.
11. Solve basic trigonometric equations.
12. Use the Law of Sines and the Law of Cosines to solve non-right triangles (oblique), and practical problems involving these triangles.

*A grade of C or better is needed for Math 109, 139, 142, or 143. A grade of C+ or better is needed for Math 107 or 155. A grade of B or better is needed for Math 115. After completion of Math 072 **and** 073, students will meet the outcomes as identified in the 2016-2017 Adult Basic Education Articulation Handbook found at <https://www2.gov.bc.ca/gov/content/education-training/adult-education/adult-upgrading>.*

**Prerequisite(s):** "C+" in MATH 072; or "C" in Principles of Math 11, or Pre-calculus 11, or Foundations of Math 12; or assessment.

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

## Required Materials:

- (a) Reliable access to the internet
- (b) Registration with MyMathLab:  
<http://www.pearsonmylabandmastering.com/northamerica/mathxl/students/get-registered/index.html>

- (c) Course ID: **gupta05344**
- (d) Calculator: The Sharp EL-531W is required for this course.

## 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).

Contact your instructor to get permission to write the Final exam. The Final Exam must be written with an invigilator.

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 Help Centres.

### Math Help

You can get free face-to-face tutoring from our instructional assistants in the Math Help Centres/Labs in E224 & E342 (Lansdowne) or TEC142 (Interurban). Hours are posted on the doors and on the website <http://camosun.ca/services/help-centres/>.

Math 073 Course Content				
Section	Topic	Suggested Time (Days)	Suggested Date	Suggested Week
<b>Unit 1: Chapter 4</b>	<b>Polynomials and Polynomial Functions</b>			
	<b>Pre-test</b>	1	Jan 8	1
4.1	Introduction to Polynomials and Polynomial Functions	1	Jan 8, Jan 9	1
4.2	Multiplication of Polynomials	1	Jan 10	1
4.3	Introduction to Factoring	1	Jan 11	1
4.4	Factoring Trinomials: $x^2 + bx + c$	1	Jan 12	1
4.5	Factoring Trinomials: $ax^2 + bx + c$	1	Jan 15	2
4.6	Special Factoring	2	Jan 16, Jan 17	2
4.7	Factoring: A General Strategy	2	Jan 18, Jan 19	2
4.8	Applications of Polynomial Equations	2	Jan 22, Jan 23	3
	<b>Post-test</b>	1	Jan 24	3
	Unit 1 final test	1	Jan (24-28)	3
<b>Unit 2: Chapter 5</b>	<b>Rational Expressions, Equations, and Functions</b>			
	<b>Pre-test</b>	1	Jan 29	
5.1	Rational Expressions, Functions: Mult./Div.	2	Jan 29, Jan 30	4
5.2	LCMs, LCDs, Addition and Subtraction	2	Jan 31, Feb 1	4
5.3	Division of Polynomials	1	Feb 2	4

5.4	Complex Rational Expressions	2	Feb 5, Feb 6	5
5.5	Solving Rational Equations	2	Feb 7, Feb 8	5
5.6c	Uniform Motion Applications	1	Feb 9	5
5.7	Formulas and Applications	2	Feb 12, Feb 13	6
5.8	Variation and Applications	2	Feb 14, Feb 15	6
	<b>Post-test</b>	1	Feb 16	6
	Unit 2 final test	1	Feb (16-18)	6
<b>Unit 3: Chapter 6</b>	<b>Radical Expressions, Equations, and Functions</b>			
	<b>Pre-test</b>	1	Feb 19	
6.1	Radical Expressions and Functions	2	Feb 19, Feb 20	6
6.2	Rational Numbers as Exponents	1	Feb 21	6
6.3	Simplifying Radical Expressions	1	Feb 22	6
6.4	Addition, Subtraction, and More Multiplication	2	Feb 23, Feb 26	6, 7
6.5	More on Division of Radical Expressions	1	Feb 27	7
6.6	Solving Radical Equations	2	Feb 28, Mar 1	7
6.7	Applications Involving Powers and Roots	1	Mar 2	7
6.8	The Complex Numbers	1	Mar 5	8
	<b>Post-test</b>	1	Mar 6	8
	Unit 3 final test	1	Mar (7-11)	8
<b>Unit 4: Chapter 7</b>	<b>Quadratic Equations and Functions</b>			
	<b>Pre-test</b>	1	Mar 12	
7.1	Basics of Solving Quadratic Equations	1	Mar 13	9
7.2	The Quadratic Formula	1	Mar 14	9
7.3	Applications Involving Quadratic Equations	2	Mar 15, Mar 16	9
7.4	More on Quadratic Equations	2	Mar 19, Mar 20	10
7.5	Graphing $f(x) = a(x - h)^2 + k$	2	Mar 21, Mar 22	10
7.6	Graphing $f(x) = ax^2 + bx + c$	1	Mar 23	10
7.7a	Mathematical Modeling with Quadratic Functions	2	Mar 26, Mar 27	11
	<b>Post-test</b>	1	Mar 28	11
	Unit 4 final test	1	Mar 28 – Apr 1	11
<b>Unit 5: Trig*</b>	<b>Trigonometry*</b>			
	<b>Pre-test ON D2L</b>	1	Apr 2	12
6.1*	Trig Functions of Acute Angles	2	Apr 3, Apr 4	12
6.2*	Applications of Right Triangles	2	Apr 5, Apr 6	12
6.3*	Trig Functions of Any Angle	2	Apr 9, Apr 10	13
8.1*	The Law of Sines	1	Apr 11	13
8.2*	The Law of Cosines	1	Apr 12	13
	<b>Post-test ON D2L</b>	1	Apr 13	13

	Unit 5 final test	1	Apr (13-15)	13
	<b>Final Exam Pre-test</b>	1	Apr 16	14
	<b>Final Exam Post-test</b>	3	Apr 16-19	14
	<b>Final Exam</b>	1	Apr 20	14

\* Trigonometry material posted on D2L.

**Grade Calculation:** Five Unit Exams 50%  
 Final Exam 50%

### 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

### 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>