CAMOSUN COLLEGE
School of Access
Community Learning Partnerships Department

Math 073
Advanced Mathematics 2
Fall 2018

COURSE OUTLINE

The calendar description is available on the web @   http://camosun.ca/learn/calendar/current/web/math.html

✟ *Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

1. Instructor Information

(a)	**Instructor**	Wendy Seward
(b)	**Office hours**	3:00 – 3:50 pm, MW; or by appointment
(c)	**Location**	Belmont School Room A117
(d)	**Phone**	**Alternative:**
(e)	**E-mail**	sewardw@camosun.ca
(f)	**Website**	http://camosun.ca/

2. Intended Learning Outcomes
Successful completion of Math 073 awards 4 credits.

Complete ABE Fundamental Mathematics learning outcomes at ABE Articulation Handbook website
https://www2.gov.bc.ca/assets/gov/education/post-secondary-education/adult-education/abe_guide.pdf
(*After completion of Math 072 **and** 073, students will meet the outcomes as identified in the 2017- 2018 Adult Basic Education Articulation Handbook*)

On completion of the course, students 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.

Note: 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.

3. Required Materials
(a) Textbook: *Intermediate Algebra,* 12th edition by M.L. Bittinger. (Same as Math 072)
(b) Scientific calculator: The Sharp EL 531W model will be the only calculator allowed for this course

4. Course Content and Schedule
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 to 20 hours per week to complete in 4 months).

If you do not understand something, seek help right away. Resources include your instructor, your family and friends, and /or the Math Help Centres.

	Math 073 course content				
Section	Topic	Suggested Time (Days)	Suggested Date	Suggested Week
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Unit 1: Chapter 4	**Polynomials and Polynomial Functions**			
	Pre-test	1	Sep 4	1
4.1	Introduction to Polynomials and Polynomial Functions	1	Sep 5, 6	1
4.2	Multiplication of Polynomials	1	Sep 7	1
4.3	Introduction to Factoring	1	Sep 8	1
4.4	Factoring Trinomials: $xx^2 + bbxx + cc$	2	Sep 9, 10	1, 2
4.5	Factoring Trinomials: $aaxx^2 + bbxx + cc$	2	Sep 11, 12	2
4.6	Special Factoring	2	Sep 13, 14	2
4.7	Factoring: A General Strategy	2	Sep 15, 16	2
4.8	Applications of Polynomial Equations	4	Sep 17 – 20	3
	Post-test	1	Sep 21	3
	Unit 1 final test	1	Sep 22 – 24	3, 4
Unit 2: Chapter 5	**Rational Expressions, Equations, and Functions**			
	Pre-test	1	Sep 25	4
5.1	Rational Expressions, Functions: Mult./Div.	2	Sep 26, 27	4
5.2	LCMs, LCDs, Addition and Subtraction	2	Sep 28, 29	4
5.3	Division of Polynomials	3	Sep 30, Oct 1,2	4, 5
5.4	Complex Rational Expressions	2	Oct 3, 4	5
5.5	Solving Rational Equations	2	Oct 5, 6	5
5.6c	Uniform Motion Applications	3	Oct 7, 8	5, 6
5.7	Formulas and Applications	2	Oct 9, 10	6
5.8	Variation and Applications	2	Oct 11, 12	6
	Post-test	1	Oct 13	6
	Unit 2 final test	1	Oct 14 -15	6, 7
Unit 3: Chapter 6	**Radical Expressions, Equations, and Functions**			
	Pre-test	1	Oct 16	7
6.1	Radical Expressions and Functions	2	Oct 17, 18	7
6.2	Rational Numbers as Exponents	1	Oct 19	7
6.3	Simplifying Radical Expressions	2	Oct 20, 21	7
6.4	Addition, Subtraction, and More Multiplication	4	Oct 22-25	8
6.5	More on Division of Radical Expressions	1	Oct 26	8
6.6	Solving Radical Equations	2	Oct 27, 28	8
6.7	Applications Involving Powers and Roots	2	Oct 29, 30	9
6.8	The Complex Numbers	2	Oct 31, Nov 1	9
	Post-test	1	Nov 2	9
	Unit 3 final test	1	Nov 3 – 5	9, 10
Unit 4: Chapter 7	**Quadratic Equations and Functions**			
	Pre-test	1	Nov 6	10
7.1	Basics of Solving Quadratic Equations	2	Nov 7, 8	10
7.2	The Quadratic Formula	1	Nov 9	10
7.3	Applications Involving Quadratic Equations	3	Nov 10, 11, 12	10, 11
7.4	More on Quadratic Equations	2	Nov 13, 14	11
7.5	Graphing $ff(xx) = aa(xx - h)^2 + kk$	2	Nov 15, 16	11
7.6	Graphing $ff(xx) = aaxx^2 + bbxx + cc$	2	Nov 17, 18	11
7.7a	Mathematical Modeling with Quadratic Functions	3	Nov 19, 20, 21	12
	Post-test	1	Nov 22	12
	Unit 4 final test	1	Nov 23 – 25	12
Section	Topic	Suggested Time (Days)	Suggested Date	Suggested Week
Unit 5: Trig*	**Trigonometry***			

	Pre-test	1	Nov 26	13
6.1*	Trig Functions of Acute Angles	2	Nov 27, 28	13
6.2*	Applications of Right Triangles	2	Nov 29, 30	13
6.3*	Trig Functions of Any Angle	2	Dec 1, 2	13
8.1*	The Law of Sines	1	Dec 3	14
8.2*	The Law of Cosines	1	Dec 4	14
	Post-test ON D2L	1	Dec 5	14
	Unit 5 final test	1	Dec 6 – 9	14
	Final Exam Pre-test			
	Final Exam Post-test			
	Final Exam	1	Dec 10 - 14	

5. Basis of Student Assessment (Weighting)

Five Unit Exams worth 50% | Final Exam worth 50% (You **must** pass final to pass the course)

Note: Students with a record of poor attendance OR poor progress may be restricted from re-registering in Community Learning Partnerships Department courses.

6. Grading System

(If any changes are made to this part, then the Approved Course description must also be changed and sent through the approval process.)
(Mark with "X" in box below to show appropriate approved grading system – see last page of this template.)

X Standard Grading System (GPA)

☐ Competency Based Grading System

7. Recommended Resources to Assist Students to Succeed Throughout the Course

> **Ask your course instructor FIRST and then you could also go to:**
> **ACADEMIC UPGRADING HELP CENTRES (CBA 109 and E342)**
> http://camosun.ca/services/help-centres/math.html

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 http://camosun.ca/services/

8. College Supports, Services and Policies

Immediate, Urgent, or Emergency Support
If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ http://camosun.ca/about/mental-health/emergency.html   or   http://camosun.ca/services/sexual-violence/get-support.html#urgent

College Services
Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at http://camosun.ca/

College Policies
Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at http://camosun.ca/about/policies/. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS *http://www.camosun.bc.ca/policies/policies.php*

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

Percentage	Grade	Description	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
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at http://www.camosun.bc.ca/policies/E-1.5.pdf for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	*Compulsory Withdrawal*: A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.