

# COURSE SYLLABUS



COURSE TITLE: Math 073 S01

TERM: Winter 2023

COURSE CREDITS: 4 credits

DELIVERY METHOD(S): Self-paced

WEBSITE(S): D2L: <http://online.camosun.ca>

MyMathLab: <http://pearsonmylabandmastering.com>

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

For COVID-19 information please visit <https://legacy.camosun.ca/covid19/index.html>.

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*Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.*

## INSTRUCTOR DETAILS

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NAME: Gemma Cuizon

EMAIL: [cuizon@camosun.bc.ca](mailto:cuizon@camosun.bc.ca)

## CALENDAR DESCRIPTION

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This refresher course provides a foundation for the further study of mathematics. Topics include rational and radical expressions and equations, quadratic equations and functions, right triangle trigonometry, trigonometric functions of any angle and the Sine and Cosine Laws.

**PREREQUISITE(S):** One of: C+ in MATH 072, C+ in MATH 075, C+ in MATH 135, C in MATH 077, C in Pre-calculus 11, C in Foundations of Math 12 - Must be completed prior to taking this course.

## COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Use a scientific calculator to evaluate complex expressions with emphasis on using special keys to perform a variety of functions.
2. Develop facility with polynomial expressions and equations. In particular:
  - a. divide polynomials and binomials using long division, and
  - b. divide polynomials and binomials using synthetic division.

3. Perform mathematical operations involving rational expressions. In particular:
  - a. identify situations and find values for which a rational expression will be undefined,
  - b. simplify rational expressions,
  - c. add, subtract, multiply and divide rational expressions,
  - d. solve rational equations and check the solutions,
  - e. solve formulas involving rational expressions for a given variable,
  - f. solve applied problems that can be modelled with rational equations,
  - g. simplify complex fractions,
  - h. express variations in the form of equations (direct, inverse, joint, combined), and
  - i. solve problems involving direct, inverse, joint and combined variation.
  
4. Perform mathematical operations involving radicals and rational exponents. In particular:
  - a. identify situations and find values for which a radical expression will be undefined,
  - b. write radicals as powers with rational exponents and vice-versa,
  - c. use rational exponents to simplify radical expressions,
  - d. simplify, add, subtract, multiply and divide radical expressions (numeric or algebraic,)
  - e. rationalize denominators in fractional expressions containing radicals (including the use of conjugates,)
  - f. solve equations involving radical expressions or powers with rational exponents and check for extraneous roots,
  - g. solve formulas involving powers and square roots for a given variable,
  - h. solve applied problems which can be modelled by radical equations, and determine if solutions are reasonable given the context of the problem,
  - i. identify imaginary and complex numbers and express them in standard form, and
  - j. add, subtract, multiply, and divide complex numbers.
  
5. Develop facility with solving problems involving quadratic functions. In particular:
  - a. solve quadratic equations by factoring, using the principle of square roots, completing the square, and employing the quadratic formula,
  - b. use the discriminant to identify the number and type of solutions of a quadratic equation,
  - c. write a quadratic equation given its solutions,
  - d. solve rational and radical equations reducible to a quadratic pattern and check that answers are reasonable,
  - e. solve selected polynomial equations that can be factored simplifying to linear and/or quadratic factors,
  - f. graph quadratic functions of the form  $f(x)=a(x-h)^2+k$  and demonstrate translations, reflections, and stretching/shrinking resulting from changes in the function equation,
  - g. find the vertex, line of symmetry, minimum or maximum values, x- and y-intercepts, domain and range, given the function  $f(x)=a(x-h)^2+k$ ,
  - h. rewrite  $f(x)=ax^2+bx+c$  as  $f(x)=a(x-h)^2+k$  by completing the square,
  - i. solve problems that can be modelled using quadratic equations such as maximum and minimum problems,
  - j. solve quadratic equations having complex number solutions.

6. Understand the basics of triangle trigonometry. In particular:
- label the sides of a right triangle with respect to a given angle,
  - determine sine, cosine, and tangent ratios of an angle in a right triangle using the side lengths,
  - use a scientific calculator to find the trigonometric value for a given angle and find an angle given its trigonometric value,
  - solve right triangles and applied problems using the basic trigonometric ratios, the Pythagorean Theorem, and the sum of the angles of a triangle (180°),
  - use the Law of Sines and the Law of Cosines to solve non-right (oblique) triangles and applied problems,
  - determine the quadrant for positive and negative angles in standard position,
  - identify coterminal angles,
  - identify reference angles,
  - determine all trigonometric function values for angles in standard position,
  - solve trigonometric equations involving the primary functions over a specific domain,
  - find exact values of the trigonometric ratios for special angles, and
  - find exact values of the trigonometric functions for angles with special reference angles.

*A grade of C+ or better is needed for Math 073, 142, 143, or 109. A grade of B or better is needed for Math 139. After completion of Math 072 and 073, students will meet the outcomes as identified in the Adult Basic Education Articulation Handbook found at [http://www2.gov.bc.ca/assets/gov/education/post-secondary-education/adult-education/2016-17\\_abe\\_guide.pdf](http://www2.gov.bc.ca/assets/gov/education/post-secondary-education/adult-education/2016-17_abe_guide.pdf).*

#### REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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i. **Required Textbook**

Choose the print textbook or the e-text (both come with the MLM access code). Go to <https://www.camosuncollegebookstore.ca/> and select either:

Intermediate Algebra W/**Mymathlab** Access LI 13Th Ed (print)

or Intermediate Algebra Etext W/Integrated Review **Mymathlab** Access (e-text).

Register for **Mymathlab/MyLabMath (MLM)** for the e-text, video, assignments and practice tests. Go to <https://www.pearsonmylabandmastering.com/northamerica/mymathlab/students/get-registered/index.html> to register using your access code and the **Course ID cuizon15665**. *You can get 14 days of free temporary access.*

- ii. **Calculator:** Sharp EL-531 scientific calculator or <https://www.calculator.net/scientific-calculator.html> (free online calculator)

## COURSE SCHEDULE AND TOPICS

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
12:30 pm - 1:20 pm			Math 075 001 Tech 175		Math 075 001 Tech 175
1:30 pm - 2:20 pm					
2:30 pm - 3:20 pm	Math 072 003 Young 217	Math 072 003 Young 217	Office Hours Ewing 342A	Math 072 003 Young 217	Office Hours Ewing 342A
3:30 pm - 4:20 pm				Office Hours Ewing 342A	
4:30 pm - 5:20 pm	Office Hours Ewing 342A	Office Hours Ewing 342A			
5:30 pm - 7:50 pm	Math 072/073 S01 E346		Math 072/073 S01 E346		

Since this is a self-paced online course, there will not be a formal lecture. However, I encourage you to check in regularly. Class time may include a mini-lecture on a popular topic or individual questions. I can usually accommodate everyone's questions during class time, but you may be asked to wait, return in a short time, or limit your questions.

It may be helpful to set aside the 4 hours of class time and an additional 4 hours for studying. To complete the course in one term, you will need to dedicate at least 8-12 hr/week.

Math 073 covers Chapter 4 through Chapter 7 in the textbook plus a trigonometry section:

- Unit 1: Chapter 4 Polynomials and Polynomial Functions – 4.1 – 4.8
- Unit 2: Chapter 5 Rational Expressions, Equations, Functions - 5.1 – 5.8
- Unit 3: Chapter 6 Radical Expressions, Equations, Functions – 6.1 – 6.8
- Unit 4: Chapter 7 Quadratic Equations and Functions – 7.1 – 7.7a
- Unit 5: Trigonometry Lessons #1 – 5 (text: 6.1\* - 6.3\*, 8.1\* - 8.2\*)

This pacing schedule is provided if you want to complete Math 073 in one term. You may to complete it faster, or if you need more time you can re-register for another term. Test marks may be carried forward for up to one year. You can take up to 3 terms to complete a course. If you wrote the Math 072 Chap 4 test within the last year, you can transfer that score for your first test in Math 073.

Wk	Date	Monday	Tuesday	Wednesday	Thursday	Friday
1	Jan 9 - 13	Section 4.1 Intro. to Polynomials	Section 4.2 Multiplication of Polynomials	Section 4.3 Intro. to Factoring	Section 4.4 Factoring Trinomials: $x^2 + bx + c$	Section 4.5 Factoring Trinomials: $ax^2 + bx + c$
2	Jan 16 - 20	Section 4.6 Special Factoring	Section 4.7 Factoring: A General Strategy	Section 4.8 Applications of Polynomial Eqtns.	Chapter 4 Practice Test	Chapter 4 Review

3	Jan 23 - 27	<b>Chapter 4 Test</b>	Section 5.1 Rational Expressions, Functions: Mult/Div	Section 5.2 LCMs, LCDs, Addition and Subtraction	Section 5.3 Division of Polynomials	Section 5.4 Complex Rational Expressions
4	Jan 30 – Feb 3	Section 5.5 Solving Rational Equations	Section 5.6c Uniform Motion Applications	Section 5.6c Uniform Motion Applications	Section 5.7 Formulas and Applications	Section 5.8 Variation and Applications
5	Feb 6 - 10	<b>Chapter 5 Practice Test</b>	Chapter 5 Review	<b>Chapter 5 Test</b>	Section 6.1 Radical Expressions and Functions	Section 6.2 Rational Numbers as Exponents
6	Feb 13 - 17	Section 6.3 Simplifying Radical Expressions	Section 6.3 Simplifying Radical Expressions	Section 6.4 Addition, Subtraction and More Multiplication	Section 6.4 Addition, Subtraction and More Multiplication	Section 6.5 More on Division of Radical Expression
7	Feb 20 - 24	<b>Family Day College Closed</b> Section 6.5 More on Division of Radical Expression	<b>Reading Break</b> Section 6.6 Solving Radical Equations	<b>Reading Break</b> Section 6.6 Solving Radical Equations	<b>Reading Break</b> Section 6.7 Applications Involving Powers and Roots	<b>Reading Break</b> Section 6.8 The Complex Numbers
8	Feb 27 – Mar 3	<b>Chapter 6 Practice Test</b>	Chapter 6 Review	<b>Chapter 6 Test</b>	Section 7.1 Basics of Solving Quadratic Equations	Section 7.1 Basics of Solving Quadratic Equations
9	Mar 6 - 10	Section 7.2 The Quadratic Formula	Section 7.3 Applications Involving Quadratic Equations	Section 7.4 More on Quadratic Equations	Section 7.4 More on Quadratic Equations	Section 7.5 Graphing $f(x) = a(x - h)^2 + k$
10	Mar 13 - 17	Section 7.5 Graphing $f(x) = a(x - h)^2 + k$	Section 7.6 Graphing $f(x) = ax^2 + bx + c$	Section 7.6 Graphing $f(x) = ax^2 + bx + c$	Section 7.7a Applications with Quadratic Functions	Section 7.7a Applications with Quadratic Functions
11	Mar 20 - 24	<b>Chapter 7 Practice Test</b>	Chapter 7 Review	<b>Chapter 7 Test</b>	Trig 6.1* Trig. Functions of Acute Angles	Trig 6.1* Trig. Functions of Acute Angles
12	Mar 27 - 31	Trig 6.2* Applications of Right Triangles	Trig 6.2* Applications of Right Triangles	Trig 6.3* Trig Functions of Any Angles	Trig 6.3* Trig Functions of Any Angles	Trig 8.1* The Law of Sines
13	Apr 3 - 7	Trig 8.1* The Law of Sines	Trig 8.2* The Law of Cosines	Trig 8.2* The Law of Cosines	<b>Trig Practice Test</b>	<b>Good Friday College Closed</b> Trig Review
14	Apr 10 - 14	Trig Review	Trig Review	<b>Trig Test</b>	Exam Review	<b>Exam Practice Test</b>
15	Apr 17 - 25 (No exam on Sunday, Apr 23)	<b>Final Exam Period</b>	<b>Final Exam Period</b>	<b>Final Exam Period</b>	<b>Final Exam Period</b> <i>Last Day to Write Tests/Exam is on Monday, Apr 24</i>	

\* Trigonometry material posted on D2L.

Tests can be written on Mon. or Wed. evenings from 4:00 pm - 8:00 pm. Let me know if you have to write a test or an exam on other days of the week. **The last day to write tests/exam is on Monday, April 24, 2023.**

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required. Deadlines can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

## ASSOCIATED PREPARATION

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### Class Time

Our class meets twice a week, but there is no lecture. During meeting times, you are free to work on recommended exercises and study at your own pace while getting support from the instructor when you need it.

- a. Sign-in/Check-in with the instructor.
- b. Have your textbook, calculator and work materials with you when you attend our class.
- c. If you need help, please raise your hand on the Collaborate Tool in D2L. I may have to limit the time I spend with you. i.e.; 2 questions at a time.

## ENSURING SUCCESS

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- a. Come to class every meeting on Collaborate Tool in D2L. If you don't attend class, it's easy to fall behind and much tougher to catch up as you have to relearn the material.
- b. Do the suggested exercises from your course outline. Work through the problems thoughtfully, not just to get them done. Think about what the instruction means, what a similar question might look like on the test and what are some of the pitfalls that you need to avoid.
- c. Try to find time to do at least a bit of math at least 5 days a week. On your timetable, schedule time each day for your math homework; it is really important to establish a routine. You can't put your math course on the back burner and hope to cram it in at the end.
- d. **It is imperative that you notify the instructor** asap if you anticipate being absent for any period of time due to illness or other unforeseen events.
- e. If you don't understand something seek help right away from your instructor or from the Instructional Assistants in the [Math Labs in E224 and E342](#).  
Hours: **E342 4:30pm – 8:30pm**  
**E224 9:00am – 4:30pm**
- f. Keep working, stay positive and do the best you can, given all the other demands in your life.

## EVALUATION OF LEARNING

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DESCRIPTION	WEIGHTING
Homework	15
Tests	50
Final Exam	35
	<b>TOTAL</b>
	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.  
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

## Transferring Grades

If you are continuing this course from a previous semester, please let your instructor know. You won't need to redo any of the tests you've successfully completed.

## COURSE GUIDELINES AND EXPECTATIONS

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Classes and office hours are indicated in the Course Outline. Homework are done in MyMathLab (MLM); Tests and the Final exam are written at the Math Help Centre, Ewing 342.

a) **Homework Assignments (15%):** There is an assignment for each chapter. You get three attempts on each question.

b) **Tests (50%):** After completing all the homework and the practice test, you can book your test by sending me an email noting the day (Tues. or Thurs.) and time (between 4:00-8:00pm) when you can write it. If I feel that your work is satisfactory, the test will be loaded onto MyLabMath within two business days. Show all your work on paper, clearly numbering each question, then enter the answers in MyLabMath. Submit your work within half an hour of writing the test by scanning it as a single pdf file, then submit it using the Assignment Tool in [D2L](#). You will not receive credit for the test unless satisfactory work is shown.

There are five (equally-weighted) chapter tests. Re-tests are only provided if you score less than 65%. Only one re-test is allowed. You will need approximately 2 hours to complete each chapter test.

c) **Final Exam (35%):** The comprehensive final exam is based on the entire course. You only have one attempt. It covers all of the material from Chapter 4 to the end of Trigonometry. When you have completed all the tests and the exam review, and feel that you're ready, please let me know what day (Tues. or Thurs.) and time (between 4:00-8:00pm) you want to write it. There are no rewrites for the final exam. You will need approximately 3 hours to write the final exam.

## GRADING SYSTEM

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### 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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

## STUDENT RESPONSIBILITY

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Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

## SUPPORTS AND SERVICES FOR STUDENTS

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Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Support Service	Website
Academic Advising	<a href="http://camosun.ca/advising">http://camosun.ca/advising</a>
Accessible Learning	<a href="http://camosun.ca/accessible-learning">http://camosun.ca/accessible-learning</a>
Counselling	<a href="http://camosun.ca/counselling">http://camosun.ca/counselling</a>
Career Services	<a href="http://camosun.ca/coop">http://camosun.ca/coop</a>
Financial Aid and Awards	<a href="http://camosun.ca/financialaid">http://camosun.ca/financialaid</a>
Help Centres (Math/English/Science)	<a href="http://camosun.ca/help-centres">http://camosun.ca/help-centres</a>
Indigenous Student Support	<a href="http://camosun.ca/indigenous">http://camosun.ca/indigenous</a>
International Student Support	<a href="http://camosun.ca/international/">http://camosun.ca/international/</a>
Learning Skills	<a href="http://camosun.ca/learningskills">http://camosun.ca/learningskills</a>
Library	<a href="http://camosun.ca/services/library/">http://camosun.ca/services/library/</a>
Office of Student Support	<a href="http://camosun.ca/oss">http://camosun.ca/oss</a>
Ombudsperson	<a href="http://camosun.ca/ombuds">http://camosun.ca/ombuds</a>
Registration	<a href="http://camosun.ca/registration">http://camosun.ca/registration</a>
Technology Support	<a href="http://camosun.ca/its">http://camosun.ca/its</a>
Writing Centre	<a href="http://camosun.ca/writing-centre">http://camosun.ca/writing-centre</a>

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.



### Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started: <http://camosun.ca/services/accessible-learning/>

### Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

### Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

### Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

### Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

### Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

### Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures" (<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

### Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

### Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and [camosun.ca/sexual-violence](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto:oss@camosun.ca) or by phone: 250-370-3046 or 250-3703841

### Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

**Changes to this Syllabus:** Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.