COURSE SYLLABUS

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.

COURSE TITLE: Math 139

CLASS SECTION: X01/X02

TERM: Fall 2023

COURSE CREDITS: 3 credits

DELIVERY METHOD(S): Lecture

WEBSITE: D2L: http://online.camosun.ca

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

NAME: Gemma Cuizon

EMAIL: cuizon@camosun.bc.ca

OFFICE: CBA 156

HOURS: Wednesday: 11:00 am – 12:00 pm
Thursday: 12:00 pm – 12:30 pm
Friday: 10:30 am – 11:30 am

CALENDAR DESCRIPTION

This course prepares students heading to a Technology program for further study in applied pre-calculus. Students will learn about real numbers; linear equations and inequalities; function notation; exponents; polynomials; rational expressions; rational exponents and radicals; quadratic functions and equations; systems of linear equations in two variables; triangle trigonometry including the sine and cosine laws; and plane geometry. Note: Only open to students in the following programs: Civil Engineering Technology Access, Computer & Engineering Technician Access, Electronics & Computer Engineering Technology Access, and Mechanical Engineering Technology Access.

PREREQUISITE(S): One of: B in Foundations of Math & Pre-calculus 10 B in MATH 053 B in MATH 057 B in MATH 072 B in MATH 075 B in MATH 135 C in Pre-calculus 11 C in MATH 073 C in MATH 077 C in MATH 137 - Must be completed prior to taking this course.

COURSE LEARNING OUTCOMES / OBJECTIVES

The learning outcomes of this course meet the required learning outcomes in ABE Mathematics: Advanced Level (Business) as outlined in the BC ABE Articulation Handbook 2018/19 Edition.
https://www.bccat.ca/pubs/2018-19%20ABE%20Articulation%20Guide.pdf

Upon successful completion of this course, a student will be able to:

1. Demonstrate basic algebraic skills, and use scientific calculator to evaluate complex expressions with emphasis on using special keys to perform a variety of functions. In particular:
   a. perform operations with real numbers including absolute value and exponential notation,
   b. simplify expressions using rules for order of operations and properties of exponents,
   c. translate common language into algebraic expressions,
   d. evaluate algebraic expressions by substitution,
   e. simplify algebraic expressions with nested parentheses, and
   f. use scientific notation.
2. Solve linear equations and inequalities in one variable. In particular:
   a. solve first degree equations, in one variable,
   b. solve simple formulas for a given variable,
   c. solve and graph inequalities in one variable,
   d. write set-builder and/or interval notation for the solution set or graph of an inequality,
   e. use linear equations, formulas and linear inequalities to solve applied problems,
   f. find the union or intersection of two sets,
   g. solve and graph compound inequalities (conjunctions and disjunctions).
3. Employ two-dimensional graphing techniques for relations and functions. In particular:
   a. write linear relations in slope-intercept form,
   b. graph linear equations and non-linear equations using a table of values,
   c. graph linear equations using the y-intercept and slope and using the x- and y-intercepts,
   d. graph horizontal and vertical lines,
   e. find the slope of a line given two points on the line,
   f. find the equation of a line given graphic data: the slope and y-intercept, the slope and one point, or two points on the line,
   g. determine whether a pair of lines is parallel, perpendicular or neither,
   h. find the equation of a line parallel or perpendicular to a given line and through a given point,
   i. use the definition of function and the vertical line test to distinguish between functions and non-functions,
   j. use and interpret function notation to evaluate functions for given x-values and find x-values for given function values,
   k. determine the domain and range of a function,
   l. use a table of values to graph linear functions and non-linear functions such as quadratic, cubic, square root, reciprocal, and absolute value functions, and
   m. graph linear inequalities in two variables.
4. Solve systems of linear equations in two variables. In particular:
   a. solve by graphing, substitution and elimination methods,
   b. determine if a system of equations will have no solution, one solution, or an infinite number of solutions, and
   c. use systems of equations to solve applied problems.
5. Solve foundational problems with polynomial expressions and equations. In particular:
   a. determine the degree of a polynomial,
   b. distinguish between monomials, binomials, trinomials and other polynomials,
   c. add, subtract, multiply polynomials,
   d. divide polynomials by monomials,
   e. factor polynomials using an appropriate strategy or a combination of techniques: common factors, difference of squares, difference and sum of cubes, perfect square trinomials, trial/error, or grouping,
   f. solve polynomial equations using the principle of zero products,
   g. solve applied problems using polynomial equations/functions, and
   h. divide polynomials and binomials using long division.

6. Solve foundational problems 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 variations.
7. 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.
8. 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 equation 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 $f(x)=a(x-h)^2+k$, and
   h. graph quadratic functions of the form $f(x)=ax^2+bx+c$.
9. Geometry
   a. classify and distinguish among acute, right, obtuse, straight, reflex, complementary and supplementary, and vertically opposite angles,
   b. generalize, using inductive reasoning, the angle relationships created when parallel lines are cut by a transversal and the angle sum property of a triangle,
   c. use deductive reasoning to determine the measures of angles in a diagram that involves parallel lines, angles and triangles,
   d. classify triangles according to sides and angles,
   e. identify the difference between similar and congruent shapes, and
   f. solve problems that involve similar triangles.
10. Use triangle trigonometry to solve problems involving all types of triangles. In particular:
   a. label the sides of a right triangle with respect to a given angle,
   b. determine sine, cosine and tangent ratios of an angle in a right triangle using the side lengths,

c. use a scientific calculator to find the trigonometric value for a given angle and find an angle given its trigonometric value,
d. solve right triangles and applied problems using the basic trigonometric ratios, the Pythagorean Theorem, and the sum of the angles of a triangle (180^0),
e. use the Law of Sines and the Law of Cosines to solve non-right triangles (oblique) and applied problems,
f. determine the quadrant for positive and negative angles in standard position,
g. identify coterminal angles,
h. identify reference angles,
i. determine all trigonometric function values for angles in standard position,
j. solve trigonometric equations involving the primary functions over a specific domain,
k. find exact values of the trigonometric ratios for special angles, and
l. find exact values of the trigonometric functions for angles with special reference angles.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Textbook: Digital copy of Intermediate Algebra (13th Edition) by Bittinger, Beecher, Johnson. You can purchase the digital copy of the etext by getting a Student Access Code from the Camosun Bookstore or click on this link to connect to the bookstore https://www.camosuncollegebookstore.ca/buy_access_codes.asp? Click the box for Math 072/073/139 and then search, the **Intermediate Algebra eText with Integrated Review** title shows up.

Calculator Policy Only scientific calculators are allowed for the tests and final exam. Required calculator for all math courses at Camosun College is the **Sharp EL 531 XG or XT**. **Programmable or graphing calculators are not allowed.**

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

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

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00					
9:00	Math 075 001 CBA 213		Math 075 001 TEC 177		Math 139 X01/X02 CBA 210
10:00	Office Hours CBA 156				Office Hours CBA 156
11:00			Office Hours CBA 156		
12:00				Office Hours	
13:00			Math 139 X01/X02 TEC 181	Math 139 X01/X02 CBA 116	
14:00		Office Hours E342A			
15:00		Math 072 001 E346			
16:00				Office Hours	
17:00	Math 072 001 E346		Math 072 001 E346	Math 072 001 E346	

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

WEEK	Text Sections	Tests
1	Just in Time Review 1 - 18	
2	Just in Time Review 19 – 20, 1.1 – 1.2	Homework 1 due (JITR, 1.1-1.2)
3	1.3 – 1.5, 2.1	Test 1 September 22
4	2.2-2.6	Homework 2 due (1.3-1.5,2.1-2.4)
5	3.1 – 3.4, 4.1 – 4.2	Test 2 October 6
6	4.3 – 4.6	Homework 3 due (2.5-2.6, 3.1-3.4, 4.1-4.4)
7	4.7 – 4.8, 5.1 – 5.2	Test 3 (5.1 – 7.2) October 20
8	5.3 – 5.6	Homework 4 due (4.5-4.8, 5.1-5.4)
9	5.7 – 5.8, 6.1 – 6.2	Test 4 November 3
10	6.3 – 6.6	Homework 5 due (5.5-5.8, 6.1-6.4)
11	6.7 – 6.8, 7.1	Test 5 November 17
12	7.2 – 7.6	Homework 6 due (6.5-6.8, 7.1-7.6)
13	G1 – G3, Trig. 1 – Trig. 2	Test 6 December 1
14	Trig. 3 – Trig. 5, Course Review	

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 noticed is required. Deadlines scan be reviewed on the CAL exams page. http://camosun.ca/services/accessible-learning/exams.html

Tentative Term Test and Homework Dates

Homework 1	September 15, 2023
Term Test 1	September 22, 2023
Homework 2	September 29, 2023
Term Test 2	October 6, 2023
Homework 3	October 13, 2023
Term Test 3	October 20, 2023
Homework 4	October 27, 2023
Term Test 4	November 3, 2023
Homework 5	November 10, 2023
Term Test 5	November 17, 2023
Homework 6	November 24, 2023
Term Test 6	December 1, 2023

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EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Homework	15%
Tests	50%
Final exam	35%
TOTAL	100%

The **final exam** will cover the entire course and will be at most 3 hours long. Students are expected to write tests and final exam at the scheduled time. Exceptions will only be considered due to **emergency circumstances** as considered to be emergencies. The final exam schedule is generally posted in myCamosun.

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 policy for more information.
http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf

Grading System

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

COURSE GUIDELINES & EXPECTATIONS

Late/missed course items

- Under normal circumstances, each assignment must be completed by its due date and each test must be written at its scheduled time.
- If you must miss a course item because of illness or an emergency, email me as soon as possible.

Class time

- Bring a calculator, paper, pencils and/or pens to class. You can bring your laptop/tablet to access the textbooks and class notes if desired. You will need a ruler for some classes.
- Be respectful to your classmates and instructor. Be on time for class and allow others to speak without interruption.
- Follow all of Camosun's health guidelines carefully. Do not come to class if you feel unwell.
- Attendance is expected. If you must miss a class, catch up by going over the class notes on D2L and make sure you do the assigned reading and practice.

MyLabMath

- Assignments covering the previous weeks' material are due every other Friday starting Sept. 15 at 11:59 pm on MyLabMath
- Sign up for MyLabMath using your student access code and the Course ID cuizon25409.

D2L

- We will use Desire2Learn (D2L) for most course materials, announcements, grades, etc.
- Make sure you have access to D2L and check it regularly and/or turn on notifications.
- The link to D2L is at the top bar of camosun.ca

Tests and Final Exam

- Tests are written on paper in class during class time.
- The Final Exam is written on paper in person and covers the entire course. The time/date/location of the exam will be scheduled by the College. Do not make plans for the exam period (Dec 11-19) until the schedule is being posted.

STUDENT RESPONSIBILITY

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

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

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.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

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. To contact the Office of Student Support: 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.