COURSE SYLLABUS

Camosun College respectfully acknowledges that our campuses are situated on the territories of the Lək̓ʷəŋən (Songhees and Kosapsum) and WSÁNEĆ peoples. We honour their knowledge and welcome to all students who seek education here.

COURSE TITLE: Math 077 – College Prep Math 1

CLASS SECTION: 001

TERM: 2025W

COURSE CREDITS: 4

DELIVERY METHOD(S): Face-to-face lecture

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

INSTRUCTOR DETAILS

NAME: Gemma Cuizon

EMAIL: cuizon@camosun.ca

OFFICE: Ewing 342A

Class Hours: 10:30 am – 12:20 pm Mon-Thurs

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

Students will develop the foundation in algebra and trigonometry that will enable further study of mathematics or satisfy program and entrance requirements for Precalculus 11. Topics include linear equations and inequalities; function notation; linear functions; systems of linear equations in two variables; polynomial, rational, and radical expressions and equations; quadratic functions and equations; and triangle trigonometry including the Sine and Cosine Laws.

PREREQUISITE(S): One of: C in Foundations of Math and Pre-calculus 10, C- in Pre-calculus 11, C in MATH 053, C in MATH 075

CO-REQUISITE(S): None.

EQUIVALENCIES: None.

COURSE LEARNING OUTCOMES / OBJECTIVES

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

1. Demonstrate basic algebraic skills, and use a 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/linear equations in one variable,
    b. solve simple formulas for a given variable,
    c. solve and graph linear 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), and
    h. simplify expressions containing absolute value and solve absolute value equations.
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 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, one, 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,
    h. divide polynomials and binomials using long division, and
    i. divide polynomials and binomials using synthetic 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 variation.

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 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.
9. 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°),
   e. use the Law of Sines and the Law of Cosines to solve non-right (oblique) triangles 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.

After completion of Math 077, students will meet the outcomes for Mathematics: Advanced Level (Algebraic) as identified in the 2018-2019 Adult Basic Education Articulation Handbook found at https://www.bctransferguide.ca/transfer-options/adult-basic-education/past-abe-guides/

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					
10:00					
11:00	Math 077 001 Ewing 348	Math 077 001 Fisher 334	Math 077 001 Ewing 346	Math 077 001 Fisher 306	
12:00	Office Hours Ewing 342A		Office Hours Ewing 342A		
13:00					
14:00					
15:00		Office Hours ZOOM		Office Hours Ewing 342A	
16:00	Math 077 B02 ZOOM	Math 077 B02 ZOOM	Math 077 B02 ZOOM	Math 077 B02 Ewing 348	
17:00					

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

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WEEK	Text Sections	Tests
1	Just in Time Review 1 - 20	
2	1.1 – 1.6	Homework 1 due (JITR, 1.1 – 1.6)
3	2.1 – 2.4	Test 1 January 23
4	2.5 – 2.6, 3.1 – 3.3	Homework 2 due (2.1-2.6, 3.1-3.3)

WEEK	Text Sections	Tests
5	3.4a, 3.7ab, 4.1 – 4.2	Test 2 February 6
6	4.3 – 4.8	Homework 3 due (3.4a,3.7ab, 4.1-4.8)
7	Family Day and Reading Break	
8	5.1 – 5.4	Test 3 February 27
9	5.5 – 5.8, 6.1 – 6.3	Homework 4 due (5.1-5.8)
10	6.4 – 6.7	Test 4 March 13
11	6.8, 7.1 – 7.3	Homework 5 due (6.1-6.8)
12	7.4 – 7.7	Test 5 March 27
13	Trig. 1 – Trig. 4	Homework 6 due (7.1-7.7)
14	Trig. 5, Course Review	Test 6

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	January 16, 2025
Term Test 1	January 23, 2025
Homework 2	January 30, 2025
Term Test 2	February 6, 2025
Homework 3	February 13, 2025
Term Test 3	February 27, 2025
Homework 4	March 6, 2025
Term Test 4	March 13, 2025
Homework 5	March 20, 2025
Term Test 5	March 27, 2025
Homework 6	April 3, 2025
Term Test 6	April 8, 2025

EVALUATION OF LEARNING

Your grades will be kept up to date in D2L.

DESCRIPTION	WEIGHTING
Homework	15%
Tests (Best of 5 out of 6)	50%
Final Exam	35%
TOTAL	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 policy for more information. https://camosun.ca/sites/default/files/2021-05/e-1.14.pdf

COURSE GUIDELINES & EXPECTATIONS

Late/Missed Course Items

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

Class Time

- Attendance is expected and is important for success in this course; however, if you must miss a class, catch up on the math content by going to our course page and reading the lecture notes on D2L; reading the textbook, and completing the homework on myLab Math.
- Bring your calculator, paper, pencils and/or pens to class. You can bring your laptop/tablet/phone to access resources.
- Follow all of Camosun's health guidelines carefully. Do not come to class if you feel unwell.

Homework (online through myLab Math)

- There are 6 homework (Homework 1 to Homework 6) that you are required to answer on myLab Math. Copy of your work will be submitted (answer and solutions) in the Assignment Tool in D2L. Scan a copy of your written homework and save it as a single PDF file and then submit the PDF file in the Assignment Tool in D2L. If you don't have access to a scanner, you can download a scan app on your smart phone.
- Each question allows 3 tries per in general. If you answer the question correctly, you get full marks, there are no penalties for attempts; however, you should refrain from guessing without thinking through your answers since it will not help you learn.
- Collaboration and resources are allowed for homework but use them sparingly for best results.

MyLabMath

- Homework 1 – Homework 6 will be available in myLab Math (for marks)
- Practice questions covering the previous weeks' material is available in MyLabMath(not for marks)
- Sign up for MyLabMath using your student access code and the Course ID cuizon21012.

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

- Tests are written on paper in class during class time.

Final Exam (in-person on paper)

- The Final Exam 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 (Apr 14-25) until the schedule is posted on myCamosun (on or around Feb 14).
- No resources or collaboration.

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 camosun.ca/services.

Support Service	Website
Academic Advising	camosun.ca/services/academic-supports/academic-advising
Accessible Learning	camosun.ca/services/academic-supports/accessible-learning
Counselling	camosun.ca/services/health-and-wellness/counselling-centre
Career Services	camosun.ca/services/co-operative-education-and-career-services
Financial Aid and Awards	camosun.ca/registration-records/financial-aid-awards
Help Centres (Math/English/Science)	camosun.ca/services/academic-supports/help-centres
Indigenous Student Support	camosun.ca/programs-courses/iecc/indigenous-student-services
International Student Support	camosun.ca/international
Learning Skills	camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills
Library	camosun.ca/services/library
Office of Student Support	camosun.ca/services/office-student-support
Ombudsperson	camosun.ca/services/ombudsperson
Registration	camosun.ca/registration-records/registration
Technology Support	camosun.ca/services/its
Writing Centre	camosun.ca/services/academic-supports/help-centres/writing-centre-learning-skills

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 Integrity

Students are expected to comply with all College policy regarding academic integrity; which is about honest and ethical behaviour in your education journey. The following guide is designed to help you understand your responsibilities: https://camosun.libguides.com/academicintegrity/welcome
Please visit https://camosun.ca/sites/default/files/2021-05/e-1.13.pdf for Camosun's Academic Integrity policy and details for addressing and resolving matters of academic misconduct.

Academic Accommodations for Students with Disabilities

Camosun College is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging appropriate academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a documented disability and think you may need accommodations, you are strongly encouraged to contact the Centre for Accessible Learning (CAL) and register as early as possible. Please visit the CAL website for more information about the process of registering with CAL, including important deadlines: https://camosun.ca/cal

Academic Progress

Please visit https://camosun.ca/sites/default/files/2023-02/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 https://camosun.ca/sites/default/files/2021-05/e-2.2.pdf for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit https://camosun.ca/registration-records/tuition-fees#deadlines.

Grading Policy

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.5.pdf for further details about grading.

Grade Review and Appeals

Please visit https://camosun.ca/sites/default/files/2021-05/e-1.14.pdf for policy relating to requests for review and appeal of grades.

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 (see Medical/Compassionate Withdrawals policy). Please visit https://camosun.ca/services/forms#medical to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence

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 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 Policy: https://camosun.ca/sites/default/files/2021-05/e-2.9.pdf and camosun.ca/services/sexual-violence-support-and-education.
To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-370-3841

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 https://camosun.ca/sites/default/files/2021-05/e-2.5.pdf to understand the College's expectations of academic integrity and student behavioural conduct.

Looking for other policies?

The full suite of College policies and directives can be found here: https://camosun.ca/about/camosun-college-policies-and-directives

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.