



Mathematics 137-003 2018 Fall
Algebra and Triangle Trigonometry

COURSE OUTLINE

The calendar description is available on the web @ _____

Ω 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 | Bogdan Verjinschi |
| (b) Office hours | M,T,W,TH 12:30-1:20 or by appointment |
| (c) Location | Ewing 244 |
| (d) Phone | 250-370-3494 Alternative: _____ |
| (e) E- mail | verjinschi@camosun.bc.ca |
| (f) Website | https://sites.camosun.ca/bogdanverjinschi/ |

2. Intended Learning Outcomes

This course provides a foundation for the further study of mathematics. 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. [5 Credits] Source: Camosun College Calendar <http://camosun.ca/learn/calendar/current/web/math.html>

3. Required Materials

Required Materials:

a) **M.L. Bittinger**, *Intermediate Algebra*, 12th Edition, Addison-Wesley, Boston, 2011

Supplementary Materials:

- a) **Student's Solutions Manual**, Judith Penna (for sale at the bookstore, loan reference library)
- b) (optional) *Videotapes and CD's covering each section of the text in the library viewing room (free-3 day loan)*

c) CALCULATOR

The only calculator allowed on tests and the final exam is the **Sharp EL531 W** (or EL-510R) scientific calculator. **No other calculator, nor any other electronic device including cell phones, electronic translators, iPods, etc., is allowed.**

4. Course Content and Schedule

| Section | | Section | |
|----------------------------|--|----------------------------|---|
| | Review of Basic Algebra | | Rational Expressions, Equations, and Functions |
| R.1 | Set of Real Numbers | 5.1 | Rational Expressions, Functions: Mult./Div. |
| R.2 | Operations with Real Number | 5.2 | LCMs, LCDs, Addition and Subtraction |
| R.3 | Exponential Notation and Order of Operations | 5.3 | Division of Polynomials |
| R.4 | Introduction to Algebraic Expressions | 5.4 | Complex Rational Expressions |
| R.5 | Equivalent Algebraic Expressions | 5.5 | Solving Rational Equations |
| R.6 | Simplifying Algebraic Expressions | 5.6 | Applications and Proportions |
| R.7 | Properties of Exponents and Scientific Notation | 5.7 | Formulas and Applications |
| Test 1 Chap R | | 5.8 | Variation and Applications |
| | Solving Linear Equations and Inequalities | | Radical Expressions, Equations, and Functions |
| 1.1 | Solving Equations | 6.1 | Radical Expressions and Functions |
| 1.2 | Formulas and Applications | 6.2 | Rational Numbers as Exponents |
| 1.3 | Applications and Problem Solving | 6.3 | Simplifying Radical Expressions |
| 1.4 | Sets, Inequalities, and Interval Notation | 6.4 | Addition, Subtraction, and More Multiplication |
| 1.5 | Intersections, Unions, and Compound Inequalities | 6.5 | More on Division of Radical Expressions |
| 1.6 | Absolute-Value Equations and Inequalities | 6.6 | Solving Radical Equations |
| | Graphs, Functions, and Applications | 6.7 | Applications Involving Powers and Roots |
| 2.1 | Graphs of Equations | 6.8 | The Complex Numbers |
| 2.2 | Functions and Graphs | Test 4 Chap 5&6 | |
| 2.3 | Finding Domain and Range | | Quadratic Equations and Functions |
| 2.4 | Linear Functions: Graphs and Slope | 7.1 | Basics of Solving Quadratic Equations |
| 2.5 | More on Graphing Linear Equations | 7.2 | The Quadratic Formula |
| 2.6 | Finding Equations of Lines: Applications | 7.3 | Applications Involving Quadratic Equations |
| Test 2 Chap 1&2 | | 7.4 | More on Quadratic Equations |
| | Systems of Equations | 7.5 | Graphing $f(x) = a(x-h)^2 + k$ |
| 3.1 | Systems of Equations in Two Variables | 7.6 | Graphing $f(x) = ax^2 + bx + c$ |
| 3.2 | Solving by Substitution | 7.7 | Mathematical Modeling with Quadratic Functions |
| 3.3 | Solving by Elimination | | Trigonometry |
| | | 5.1* | Trig functions of Acute Angles |
| 3.4a | Solving Applied Problems | 5.2* | Applications of Right Triangles |
| 3.7ab | Systems of Inequalities in Two Variables | 5.3* | Trig Functions of Any Angles |

| | | | |
|----------------------------|--|--|--------------------|
| | Polynomials and Polynomial Functions | 7.1* | The Law of Sines |
| 4.1 | Introduction to Polynomials and Polynomial Functions | 7.2* | The Law of Cosines |
| 4.2 | Multiplication of Polynomials | Test 5 Chap 7 and Trig | |
| 4.3 | Introduction to Factoring | Final Cumulative Exam Dec 10-18 | |
| 4.4 | Factoring Trinomials: $x^2 + bx + c$ | | |
| 4.5 | Factoring Trinomials: $ax^2 + bx + c$ | | |
| 4.6 | Special Factoring | | |
| 4.7 | Factoring: A General Strategy | | |
| 4.8 | Applications of Polynomial Equations | | |
| Test 3 Chap 3&4 | | | |

5. Basis of Student Assessment (Weighting)

(a) Assignments 10%

There are 5 assignments which are based on questions from your textbook. The assignment questions are listed in the Recommended HW and Assignments document. Assignments are due on the designated days (see pacing schedule) and assignment keys will be posted on the website shortly afterwards.

Late assignments will NOT be accepted.

All assignments count.

(b) TESTS There are 5 in class tests. 40%

Tentative dates:

T1 Sept17,

T2 Oct 1st,

T3 Oct 22,

T4 Nov19,

T5 Dec 3

If you must miss one test due to illness or family affliction contact me via e-mail **before** the test to make alternate arrangements.

If you don't provide a reason for a missed test you may get a zero on that test.

All tests count.

(c) Final Exam: 50%

The final exam will cover the entire course and will be 3 hours long.

All final exams will occur during the final exam period, Dec 10-18

Students MUST be available to write the final exam at the scheduled time.

As stated in the current college calendar "students are expected to write tests and final examinations at the scheduled time and place." Exceptions will only be considered due to emergency circumstances as outlined in the calendar.

Holidays or scheduled flights are not considered to be emergencies.

6. Grading System

| | | | | | | | | | |
|----------|----------|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|
| 0-49 | 50-59 | 60-64 | 65-69 | 70-72 | 73-76 | 77-79 | 80-84 | 85-89 | 90-100 |
| F | D | C | C+ | B- | B | B+ | A- | A | A+ |

For information on Camosun College's grading policy, see the webpage <http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.5.pdf>

Academic Progress:

The College has an academic progress policy geared mainly toward "at risk" students, the stated intention for which is to improve a student's likelihood of success. To view the policy, see the webpage <http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.1.pdf>

7. 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, Student Services or the College web site at <http://www.camosun.bc.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.
<http://www.camosun.bc.ca/policies/policies.html>

Academic Integrity: The Department of Mathematics and Statistics has prepared a "red handout" called *Student Guidelines for Academic Integrity* to help you interpret college policies involving student conduct, academic dishonesty, plagiarism, etc. **It is your responsibility to become familiar with the contents of the document and the college policies it references.**

Important Dates 2018F:

September 3 Labor Day College closed

September 4 Most Fall '18 credit programs/courses commence.

September 18 Fee Deadline Fall '18

October 1 Deadlines for Course Add/Drop/Withdrawal?

October 8 Thanksgiving Day College closed

October 18 ShakeOut - BC provincial preparedness

October 19 Final Examination Schedule for Fall '18 posted

November 1 Deadlines for Course Add/Drop/Withdrawal?

November 11 **Remembrance Day Holiday** November 12 College closed MONDAY

December 1 Looking for Deadlines for Course Add/Drop/Withdrawal?

December 8 Last day of instruction for most Fall '18 courses

December 10–December 18 Examination period

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 | <i>Incomplete:</i> 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 | <i>In progress:</i> 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 | <i>Compulsory Withdrawal:</i> 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. |