Mathematics 137-003
Algebra and Triangle Trigonometry
Winter, 2015

Instructor: Cathy Frost **E-mail:** frost@camosun.bc.ca
Lansdowne Office: Ewing 250 Ph#:250-370-3404 **Website:** http://online.camosun.ca

Timetable:

Time	Monday	Tuesday	Wed	Thursday	Friday
12:30-2:20pm	Math 137 E346	Math 137 E346	Math 137 E346	Math 137 E346	
2:30-3:30pm	Office Hour	Office Hour	Office Hour	Office Hour	
Additional Office Hours by Appointment					

Important Dates:

Jan 5	First day of classes for Fall term
Jan 19	Fee Deadline
Feb 9	Family Day- College closed
Feb 12,13	Reading Break
Mar 9	Withdrawal Deadline
Apr 3,6	Easter – College closed
Apr 11	Last day of classes for Fall term
Apr 13-18,20,21	Final Exam Period

1. 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

2. Course Materials and Support
Required Materials:

a) M.L. Bittinger, *Intermediate Algebra*, 11th Edition, Addison-Wesley, Boston, 2011
b) Trigonometry supplement (packaged with above)
c) The only calculator allowed on tests and the final exam is the Sharp EL-531W scientific calculator.

Supplementary Materials:

a) Math 137 Course Pack, Frost
b) Student's Solutions Manual, Judith Penna (for sale at the bookstore, reference library
c) Videotapes and CD's covering each section of the text in the library viewing room (free-3 day loan)
d) MathXL (online text, tutorials, videos, and self-testing). The access code can be purchased online at www.mathxl.com . Once you're registered choose 'Independent Study' and then your textbook.

Study Tips: It is recommended that approximately 8-12 hours per week be spent studying for this course outside of class time. Find a study buddy to discuss math problems and get notes if you have to miss class.

Math Labs: Ewing 342 & 224 (LANS)and Tec142 (INT)**:** These drop-in centres are available for you to work on math homework and to seek free help from the tutor on staff. See the hours posted on the math lab doors (most current) or go to to http://camosun.ca/services/help-centres/math-access.html

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, Registrar's Office or the College web site at http://camosun.ca/

3. Prerequisites and Exit Grade

Prerequisite(s): "B" in Applications of Math 11; or "C" in Principles of Math 10, or Foundations of Math & Pre-calculus 10, or Foundations of Math 11, or Applications of Math 12, or MATH 053; or "C-" in Principles of Math 11, or Pre-calculus 11; or assessment.

Exit Grade and Course Options:

B for Math 115 C+ for Math 107 C for Math 112 or 109

Note that Math 137 cannot be used by BBA students to satisfy the UT math requirement although it can satisfy the pre-requisites.

4. Basis of Student Assessment (Grading)

Assignments: There are 5 assignments which are based on questions from your textbook and will help prepare you for the tests. **Submit your homework assignments on the templates provided in class or print them from the website on legal paper.** Each question should be written with a full solution, not just the answer.

Assignments are due **by 3:00pm** on the designated day (see pacing schedule) and assignment keys will be posted on the website shortly afterwards. Late assignments will NOT be accepted.

Tests: There are 5 in class tests. The dates and topics are on the pacing schedule. If you miss a test for any reason (including illness, sleeping in, getting called into work etc.) a zero will be assigned, unless you contact me via e-mail before the test to make alternate arrangements.

Grade Calculation: The final grade will be calculated according to the following breakdown:

5 Assignments	10%
5 Tests	40%
Comprehensive Final Exam:	50%

Grade Scale:

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

5. Course Content, Recommended Practice Problems, Test and Assignment Dates

It is strongly recommended that you do most of these problems. Your assignments and tests are based on what we do in class and on these homework questions.

Text: Trigonometry Supplement

Sec.	Topic	Recommended Practice Problems (not to be handed in)	Assignment and Test Dates
		Text: ***Trigonometry Supplement***	
5.1 Trig	Trig functions of Acute Angles	1-29 odd, 37, 49, 55, 61, 69, 71, 79-91 odd, 97	Assignment 1 due: Jan 15 Test 1: Jan 19
5.2 Trig	Applications of Right Triangles	1, 3, 9, 13, 15, 17, 21, 27, 29, 31	
5.3 Trig	Trig Functions of Any Angles	15,9,13,15,19,2325,29,39, 41,45,47,51,61,75, 83, 87, 93, 97	
7.1 Trig	The Law of Sines	1, 3, 5, 9, 13, 15, 17, 21, 25, 27	
7.2 Trig	The Law of Cosines	1, 3, 7, 9, 13, 17, 19, 21, 25, 31	

Text: *Intermediate Algebra*, 11th edition, Bittinger

Sec.	Topic	Recommended Practice Problems (not to be handed in)	Assignment and Test Dates
R.1	Set of Real Numbers	3, 11, 15, 17, 23, 33, 39, 41, 45, 49, 51, 59, 63	Assignment 2 due: Jan 29 Test 2: Feb 3
R.4	Introduction to Algebraic Expressions	1, 3, 13, 15, 17, 23, 25, 31, 35, 37, 41, 45	
R.5	Equivalent Algebraic Expressions	1, 7, 11, 19, 21, 25, 31, 35, 37, 41, 45, 47, 53, 59	
R.6	Simplifying Algebraic Expressions	11, 15, 21, 23, 27, 35, 41, 43, 47, 53, 57, 67	
1.1	Solving Equations	9, 11, 23, 35, 37, 43, 47, 51, 55, 59, 61, 63, 69, 73, 77, 79	
1.2	Formulas and Applications	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 37	
1.3	Applications and Problem Solving	1, 5, 7, 9, 13, 15, 21, 23	
1.4	Sets, Inequalities, and Interval Notation	3, 5, 7, 9, 11, 13, 17, 27, 35, 37, 41, 43, 47, 55, 59, 63, 71, 73, 77, 85	
1.5	Intersections, Unions, and Compound Inequalities	1, 5, 13, 17, 21, 29, 41, 45, 47, 51, 59, 61	
1.6	Absolute-Value Equations and Inequalities	1, 5, 11, 15, 21, 31, 35, 37, 43, 51, 53, 57, 59, 63, 67	
2.1	Graphs of Equations	1, 5, 15, 17, 25, 31, 33, 41, 45, 47, 49, 51	
2.2	Functions and Graphs	1, 5, 7, 9, 19, 21, 23, 27, 35, 43, 47, 49, 53, 55, 57, 59, 61	
2.3	Finding Domain and Range	1, 5, 7, 9, 11, 15, 19, 23, 27, 33, 37	
2.4	Linear Functions: Graphs and Slope	1, 5, 9, 13, 19, 19, 23, 27, 31, 33	
2.5	More on Graphing Linear Equations	1, 5, 9, 13, 17, 19, 23, 29, 31, 39, 43, 45, 51, 55, 71, 75, 77	
2.6	Finding Equations of Lines: Applications	1, 5, 9, 11, 19, 25, 29, 31, 33, 41, 45, 51	
3.1	Systems of Equations in Two Variables	3, 5, 13, 15, 17, 19 (omit consistency and dependence part)	Assignment 3 due: Feb 19 Test 3: Feb 24
3.2	Solving by Substitution	1, 7, 11, 15, 17, 19, 21	
3.3	Solving by Elimination	3, 5, 9, 11, 15, 17, 27, 31	
3.4a	Solving Applied Problems	1, 5, 7, 9, 13, 17, 19	
3.7ab	Systems of Inequalities in Two Variables	1, 5, 11, 13, 17, 19, 21	
4.1	Introduction to Polynomials and Polynomial Functions	1, 5, 7, 21, 25, 29, 35, 41, 51, 55, 67, 73, 79	
4.2	Multiplication of Polynomials	1, 5, 11, 13, 15, 21, 23, 27, 33, 41, 51, 55, 65, 71, 77, 81, 85, 91	
4.3	Introduction to Factoring	1, 5, 9, 11, 17, 21, 25, 29, 33, 37, 43, 47, 49	
4.4	Factoring Trinomials: x^2+bx+c	1, 5, 7, 11, 13, 19, 21, 23, 25, 27, 29, 33	
4.5	Factoring Trinomials: ax^2+bx+c	1, 5, 9, 19, 25, 29, 33, 41, 45, 51	
4.6	Special Factoring	1,5,11,17,25,33,35,39,43,47,53,61,63,69,71,75,79,89,95	
4.7	Factoring: A General Strategy	1,3,5,7,11,17,19,23,25,29,31,35,43,49,51	
4.8	Applications of Polynomial Equations	1, 5, 9, 13, 17, 21, 29, 33, 37, 39, 41, 47, 51, 53, 55, 63, 65, 69, 71, 73,75, 77	

5.1	Rational Expressions,Functions: Mult./Div.	1, 3, 5, 7, 13, 15, 19, 21, 25, 27, 29, 31, 35, 37, 41, 45, 49, 51, 55, 57	Assignment 4 due: Mar 17 Test 4: Mar 19
5.2	LCMs, LCDs, Addition and Subtraction	3, 11, 13, 19, 23, 27, 31, 33, 35, 39, 45, 49, 55, 63, 67, 71	
5.3	Division of Polynomials	1, 5, 9, 11, 15, 19, 21, 23, 29, 31, 33	
5.4	Complex Rational Expressions	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 31	
5.5	Solving Rational Equations	1, 5, 9, 11, 15, 19, 23, 25, 27, 33, 35, 41, 43	
1.3(b)	Optional review	27, 29	
3.4(b)	Optional review	21, 23, 28, 29, 31	
5.6	Uniform Motion Applications	25, 27, 29	
5.7	Formulas and Applications	1-23 odd	
5.8	Variation and Applications	1, 5, 7, 9, 15, 17, 21, 25, 29, 31, 39, 41	
R.3	Exponential Notation and Order of Operations	1, 5, 13, 15, 25, 29, 31, 33, 35, 37, 41, 45, 55, 59, 67, 85, 97, 105, 107	
R.7	Properties of Exponents and Scientific Notation	1, 5, 9, 13, 17, 21, 25, 29, 37, 41, 49, 53, 57, 61, 69, 71, 79, 81, 87, 89, 93, 97, 103, 105	
6.1	Radical Expressions and Functions	7, 9, 11, 13, 15, 19, 23, 25, 27, 29, 35, 43, 45, 51, 53, 61, 63, 65, 67, 69, 71	
6.2	Rational Numbers as Exponents	3, 7,15, 21, 29, 33, 39, 41, 43, 45, 49, 51, 53, 55, 59, 63, 69, 71, 73, 75, 79	
6.3	Simplifying Radical Expressions	1,5, 9, 13, 17, 21, 25, 29, 33, 39, 41, 49, 53, 55, 59, 67, 71, 75,79, 83, 87, 89	
6.4	Addition, Subtraction, and More Multiplication	1, 5, 9, 13, 17, 19, 23, 33, 37, 43, 47, 51, 57, 61, 67, 71, 73	
6.5	More on Division of Radical Expressions	1, 5, 9, 13, 17, 21, 25, 29, 31, 34	
6.6	Solving Radical Equations	1, 5, 9, 17, 19, 21, 27, 29, 33, 37, 41, 47, 53, 55, 57	
6.7	Applications Involving Powers and Roots	1, 5, 7, 11, 13, 17, 19, 21, 23, 29	
6.8	The Complex Numbers	1, 5, 13, 17, 19, 27, 31, 35, 39, 47, 71, 77, 81, 87	Assignment 5 due: Apr 1 Test 5: Apr 8
7.1	Basics of Solving Quadratic Equations	1, 5, 9, 13, 17, 21, 25, 33, 39, 43, 47, 49, 51, 55, 57	
7.2	The Quadratic Formula	1, 3, 11, 17, 21, 29, 33, 35, 41	
7.3	Applications Involving Quadratic Equations	3, 5, 9, 11, 13, 19, 21, 25, 31, 35, 37, 39, 41, 43, 47	
7.4	More on Quadratic Equations	1, 5, 9, 15, 17, 21, 23, 29, 31, 33, 35, 37, 39, 43, 47, 49, 55	
7.5	Graphing $f(x) = a(x-h)^2 + k$	1, 5, 9, 13, 17, 19, 21, 23	
7.6	Graphing $f(x) = ax^2 + bx + c$	1, 5, 7, 9, 15, 19, 21	
7.7	Mathematical Modeling with Quadratic Functions	1,3,7	

6. Pacing Schedule (tentative)

Wk		Monday	Tuesday	Wednesday	Thursday	Friday
1	Jan 5-9	5.1*	5.1*, 5.2*	5.3*	*5.3**	
2	Jan 12-16	7.1*	7.2* Trig Activity	R.5,R.6 Order of Operations, 1.1	R.4 ,1.2, 1.3 *Asst #1 due*	
3	Jan 19-23	**Test #1** (Trig) Fee deadline	1.4,1.5	R.1 1.6	2.1, 2.2	
4	Jan 26-30	2.3,2.4	2.5,2.6	3.1,3.2,	3.3, Comparing Methods *Asst #2 due*	
5	Feb 2-6	3.4a ,3.7ab	**Test #2** (R.4,R.5,R.6,1.1-2.6)	4.1,4.2	4.3,4.4	
6	Feb 9-13	HOLIDAY	4.5	4.6	Reading Break	
7	Feb 16-20	*4.7*	4.8	5.1	*5.2* *Asst #3 due*	
8	Feb 23-27	5.3	**Test #3** (3.1-4.8)	5.4	5.5	
9	Mar 2-6	5.6	5.7, 5.8	Exponent Review R.3, R.7, 6.1	6.2	
10	Mar 9-13	6.3 Withdrawal deadline	6.4	6.5	6.6	
11	Mar 16-20	6.7	R.1, 6.8 *Asst #4 due*	7.1	**Test #4** (R.3, R.7,5.1-6.7)	
12	Mar 23-27	7.2	7.3	7.4	7.4	
13	Mar 30-Apr 3	7.6	7.6	7.7 *Asst #5 due*	HOLIDAY	
14	Apr 6-10	HOLIDAY	Review	**Test #5** (6.8,7.1-7.7)	Exam Review	
Final exam period: Apr 13-18, 20,21						