



Mathematics 137-003 Algebra and Triangle Trigonometry Winter, 2014

Instructor: Cathy Frost

Lansdowne Office: Ewing 250

Timetable:

Ph#: 250-370-3404

E-mail: frost@camosun.bc.ca

Website: <http://online.camosun.ca>

Time	Monday	Tuesday	Wed	Thursday	Friday
10:30am - 12:30pm	Math 137 E346	Math 137 E346	Math 137 E346	Math 137 E346	
12:30-1:30pm	Office Hour	Office Hour	Office Hour	Office Hour	
1:30-2:30pm	Office Hour		Office Hour		
2:30-4:20pm	Math 137 E346	Math 137 E346	Math 137 E346	Math 137 E346	
Additional Office Hours by Appointment					

Important Dates:

Jan 6	First day of classes for Winter term
Jan 20	Fee Deadline
Feb 10	Family Day Holiday- College closed
Feb 13-14	Reading Break
Mar 10	Withdrawal Deadline
Apr 18 and 21	Good Friday/Easter Holidays – College closed
Apr 12	Last day of classes for Winter term
Apr 14-17, 22-25	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:

- M.L. Bittinger, *Intermediate Algebra*, 11th Edition, Addison-Wesley, Boston, 2011
- The only calculator allowed on tests and the final exam is the Sharp EL-531W scientific calculator.

Supplementary Materials:

- Math 137 Course Pack, Frost
- Student's Solutions Manual, Judith Penna (for sale at the bookstore, reference library)
- Videotapes and CD's covering each section of the text in the library viewing room (free-3 day loan)
- 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 <http://camosun.ca/learn/programs/math/labs.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 105, 107, 109

C for Math 112

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 4:30pm** on the designated day (see pacing schedule) and assignment keys will be posted on the website shortly afterwards. Late assignments will NOT be accepted. I'll count the best four assignments.

Quick Quizzes: To give you more practice between tests, I may give a quick quiz in any class. It will consist of one or two questions from the Recommended Practice Problems. I'll count the best 10 quick quizzes so that you will not be penalized if you have to miss a class for illness or other reasons. There will be no make-u quick quizzes.

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, however, I'll count the best four tests. If you must miss more than one test due to illness 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 and quick quizzes	10%*
5 Tests	40%*
Comprehensive Final Exam:	50%

*The lowest of the five test marks and the lowest of the five assignment marks will be dropped.

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

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 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 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 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 Chap 7 and Trig	
4.3	Introduction to Factoring	Final Cumulative Exam	
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 Chap 3&4			

6. Pacing Schedule (tentative)

Wk		Monday	Tuesday	Wednesday	Thursday	Friday
1	Jan 6-10	Intro, R.1, R.2	R.3,R.4,R.5	R.6,R.7	R.7,1.1	
2	Jan 13-17	1.2,1.3 <i>Asst #1 due</i>	1.4, 1.5	1.6	Test #1 (R.1-R.7)	
3	Jan 20-24	2.1 Fee deadline	2.2	2.3,2.4	2.5, 2.6	
4	Jan 27-31	2.6	3.1,3.2	3.3 Comparing Methods	3.4a ,3.7ab <i>Asst #2 due</i>	
5	Feb 3-7	4.1,4.2	Test #2 (1.1-2.6)	4.3,4.4	4.5	
6	Feb 10-14	HOLIDAY	4.6	4.7	Reading Break	Reading Break
7	Feb 17-21	4.8	5.1	5.2	5.3,5.4 <i>Asst #3 due</i>	
8	Feb 24-28	5.5	Test #3 (3.1-4.8)	5.6	5.7, 5.8	
9	Mar 3-7	6.1, 6.2	6.3	6.4	6.5	
10	Mar 10-14	6.6 Withdrawal deadline	6.7	6.8	7.1 <i>Asst #4 due</i>	
11	Mar 17-21	7.2	Test #4 (5.1-6.8)	7.3	7.4	
12	Mar 24-28	7.5	7.6	7.7	5.1*	
13	Mar 31-Apr4	5.2*,5.3*	5.3*,7.1*	7.1*,7.2*	Trig Applications <i>Asst #5 due</i>	
14	Apr 7-11	Trig Exercise Review	Review	Test #5 (7.1-7.7, Trig)	Exam Review	
Final exam period: Apr 14-17, 22-25						

7. Recommended Homework and Assignments

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

Assignment	Sec.	Recommended Practice Problems (not to be handed in)	Required Problems (use the template handed out in class)
Assignment 1 Due: Jan 13	R.1	3, 11, 15, 17, 23, 33, 39, 41, 45, 49, 51, 59, 63	4, 40, 54
	R.2	5, 15, 23, 51, 53, 71, 75, 77, 87, 89, 95, 103, 109, 113	52, 88, 104
	R.3	1, 5, 13, 15, 25, 29, 31, 33, 35, 37, 41, 45, 55, 59, 67, 85, 97, 105, 107	32, 50, 76, 106
	R.4	1, 3, 13, 15, 17, 23, 25, 31, 35, 37, 41, 45	22, 26, 40
	R.5	1, 7, 11, 19, 21, 25, 31, 35, 37, 41, 45, 47, 53, 59	12, 36, 52
	R.6	11, 15, 21, 23, 27, 35, 41, 43, 47, 53, 57, 67	22, 48, 54,64
	R.7	1, 5, 9, 13, 17, 21, 25, 29, 37, 41, 49, 53, 57, 61, 69, 71, 79, 81, 87, 89, 93, 97, 103, 105	16, 56, 62, 82, 110
Assignment 2 Due: Jan 30	1.1	9, 11, 23, 35, 37, 43, 47, 51, 55, 59, 61, 63, 69, 73, 77, 79	78, 80
	1.2	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 37	18, 30
	1.3	1, 5, 7, 9, 13, 15, 21, 23	10, 14
	1.4	3, 5, 7, 9, 11, 13, 17, 27, 35, 37, 41, 43, 47, 55, 59, 63, 71, 73, 77, 85	52, 82
	1.5	1, 5, 13, 17, 21, 29, 41, 45, 47, 51, 59, 61	20, 46

	1.6	1, 5, 11, 15, 21, 31, 35, 37, 43, 51, 53, 57, 59, 63, 67	12, 52, 62
	2.1	1, 5, 15, 17, 25, 31, 33, 41, 45, 47, 49, 51	36, 46
	2.2	1, 5, 7, 9, 19, 21, 23, 27, 35, 43, 47, 49, 53, 55, 57, 59, 61	22, 42
	2.3	1, 5, 7, 9, 11, 15, 19, 23, 27, 33, 37	2, 6, 30, 36
	2.4	1, 5, 9, 13, 19, 19, 23, 27, 31, 33	12, 20, 32
	2.5	1, 5, 9, 13, 17, 19, 23, 29, 31, 39, 43, 45, 51, 55, 71, 75, 77	12, 30, 50
	2.6	1, 5, 9, 11, 19, 25, 29, 31, 33, 41, 45, 51	28, 44, 52
Assignment 3 Due: Feb 20	3.1	3, 5, 13, 15, 17, 19 (omit consistency and dependence part)	4, 14
	3.2	1, 7, 11, 15, 17, 19, 21	4, 14, 20
	3.3	3, 5, 9, 11, 15, 17, 27, 31	10,28
	3.4a	1, 5, 7, 9, 13, 17, 19	8, 18
	3.7ab	1, 5, 11, 13, 17, 19, 21	14, 22
	4.1	1, 5, 7, 21, 25, 29, 35, 41, 51, 55, 67, 73, 79	4, 76
	4.2	1, 5, 11, 13, 15, 21, 23, 27, 33, 41, 51, 55, 65, 71, 77, 81, 85, 91	30,80,90 $f(a+h) - f(a)$ only
	4.3	1, 5, 9, 11, 17, 21, 25, 29, 33, 37, 43, 47, 49	8, 48
	4.4	1, 5, 7, 11, 13, 19, 21, 23, 25, 27, 29, 33	22, 30
	4.5	1, 5, 9, 19, 25, 29, 33, 41, 45, 51	20, 32, 44
	4.6	1,5,11,17,25,33,35,39,43,47,53,61,63,69,71,75,79,89,95	26,42,62,84
4.7	1,3,5,7,11,17,19,23,25,29,31,35,43,49,51	38,47	
4.8	1, 5, 9, 13, 17, 21, 29, 33, 37, 39, 41, 47, 51, 53, 55, 63, 65, 69, 71, 73,75, 77	38, 66, 80	
Assignment 4 Due: Mar 13	5.1	1, 3, 5, 7, 13, 15, 19, 21, 25, 27, 29, 31, 35, 37, 41, 45, 49, 51, 55, 57	36, 54
	5.2	3, 11, 13, 19, 23, 27, 31, 33, 35, 39, 45, 49, 55, 63, 67, 71	58, 64
	5.3	1, 5, 9, 11, 15, 19, 21, 23, 29, 31, 33	18, 32
	5.4	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 31	8, 26
	5.5	1, 5, 9, 11, 15, 19, 23, 25, 27, 33, 35, 41, 43	26, 38
	1.3(b)	27, 29	n/a
	3.4(b)	21, 23, 28, 29, 31	n/a
	5.6	25, 27, 29	26
	5.7	1-23 odd	4, 14
	5.8	1, 5, 7, 9, 15, 17, 21, 25, 29, 31, 39, 41	24, 30
	6.1	7, 9, 11, 13, 15, 19, 23, 25, 27, 29, 35, 43, 45, 51, 53, 61, 63, 65, 67, 69, 71	24, 28, 46, 54
	6.2	3, 7,15, 21, 29, 33, 39, 41, 43, 45, 49, 51, 53, 55, 59, 63, 69, 71, 73, 75, 79	24, 68, 72, 76, 80
	6.3	1,5, 9, 13, 17, 21, 25, 29, 33, 39, 41, 49, 53, 55, 59, 67, 71, 75,79, 83, 87, 89	40, 46, 64
	6.4	1, 5, 9, 13, 17, 19, 23, 33, 37, 43, 47, 51, 57, 61, 67, 71, 73	30, 70, 72
	6.5	1, 5, 9, 13, 17, 21, 25, 29, 31, 34	6, 20, 30
	6.6	1, 5, 9, 17, 19, 21, 27, 29, 33, 37, 41, 47, 53, 55, 57	18, 42, 56
6.7	1, 5, 7, 11, 13, 17, 19, 21, 23, 29	18, 20	
6.8	1, 5, 13, 17, 19, 27, 31, 35, 39, 47, 71, 77, 81, 87	12, 44, 94	
Assignment 5 Due: Apr 3	7.1	1, 5, 9, 13, 17, 21, 25, 33, 39, 43, 47, 49, 51, 55, 57	38, 44
	7.2	1, 3, 11, 17, 21, 29, 33, 35, 41	30, 34
	7.3	3, 5, 9, 11, 13, 19, 21, 25, 31, 35, 37, 39, 41, 43, 47	12, 30, 42
	7.4	1, 5, 9, 15, 17, 21, 23, 29, 31, 33, 35, 37, 39, 43, 47, 49, 55	8, 24, 34, 46
	7.5	1, 5, 9, 13, 17, 19, 21, 23	12, 20
	7.6	1, 5, 7, 9, 15, 19, 21	8, 16
	7.7	1,3,7	6
	5.1	1-29 odd, 37, 49, 55, 61, 69, 71, 79-91 odd, 97	14, 28, 80, 92
	5.2	1, 3, 9, 13, 15, 17, 21, 27, 29, 31	16, 20, 24, 30
	5.3	15,9,13,15,19,23,25,29,39, 41,45,47,51,61,75, 83, 87, 93, 97	14, 40, 48, 100,102
	7.1	1, 3, 5, 9, 13, 15, 17, 21, 25, 27	2, 16
	7.2	1, 3, 7, 9, 13, 17, 19, 21, 25, 31	2, 14