



Mathematics 137 001
Algebra and Triangle Trigonometry
Winter 2013

Instructor: Gemma Cuizon
Office: Ewing 250
E-mail: cuizon@camosun.bc.ca
Telephone: (250) 370-3321
Schedule:

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:30 am-10:20 am	Math 137_001 E346	Math 137_001 E346		Math 137_001 E346	Math 137_001 E346
10:20 am-11:20 pm	Office Hours E250	Office Hours E250		Office Hours E250	Office Hours E250
11:30 pm - 12:00 pm					
12:30 pm - 2:20 pm	Math 137_003 E346	Math 137_003 E346		Math 137_003 E346	Math 137_003 E346

Important Dates:

Jan 7	First day of Math 072/073 SP class
Jan 21	Fee deadline.
Feb 11	Family Day – College is closed.
Feb 21-22	Reading Break
Feb 22	College Conversations Day – College is closed.
Mar 12	Last day to withdraw from the course or change to audit
Mar 29	Good Friday – College is closed.
Apr 1	Easter Monday – College is closed.
Apr 11	Last day of instruction of Math 137 class
Apr 15-20, 22, 23	Final Examination period

Prerequisites: “C” in Principles of Math 10 or Foundations of Math 11 or “B” in Applications of Math 11 or “C-“ in Principles of Math 11 or Pre-calculus or “C” in Applications of Math 12 or “C” in Math 053 or Math 057 or assessment.

Exit Grade: You need a grade of B(73%) or better in 137 to continue into Math 115 and a C+(65%) to continue into Math 107 and Math 109 and a C(60%) to continue into Math 112.

Required Textbook: *Intermediate Algebra, 11th Edition, Marvin Bittinger*
 In the bookstore, new textbooks come packaged with the Student’s Solution Manual and a Trigonometry booklet..

Supplementary Materials:

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

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>

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.**

Calendar Description: This course provides a foundation for the further study of mathematics. Topics include: linear equations; polynomial, rational and radical expressions and equations; quadratic functions and equations; and triangle trigonometry including Sine and Cosine Laws. [5 credits]
(Source: [Camosun College 2011-2012 Calendar](http://camosun.ca/learn/calendar/2011/web/math.html))
<http://camosun.ca/learn/calendar/2011/web/math.html>

Basis of Student Assessment (Grading)

Assignments: The Review Assignment is a handout that will be e-mailed to you and is available from your teacher. It is due on the 4th day of class.

There are 4 other assignments which are based on questions from your textbook. The assignment questions are listed in this outline. **Submit your homework assignments in a duo-tang or file folder with your name on it.** Clearly state the section number and question number eg. 1.5 # 4. Each question should be written out along with a full solution, not just the answer.

Assignments are due by 8:30pm on the designated day (see pacing schedule). Late assignments will NOT be accepted. All assignments count.

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. 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: 10%
5 Tests 40%*
Comprehensive Final Exam: 50% or 100%**

All assignments count.

*The lowest of the five test marks will be dropped when calculating the test average.

**If your term average is at least 50% and if your final exam mark is higher than your term average, then your final course grade will be based 100% on your final exam mark.

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+

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			

Learning Support

There are a variety of services available for to assist you throughout your learning. This information is available in the College calendar, at Student Services or the college web site at camosun.ca.

Student Conduct

There is a Student Conduct Policy which includes plagiarism. It is your responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section www.camosun.bc.ca/policies/policies.html.

Math 137 Lectures (2 hrs) [Winter 2013]

1	Jan 7 R.1	Jan 8 R.2	Jan 9	Jan 10 R.3, R.4	Jan 11 R.5, R.6
2	Jan 14 R.7, Review(R.1-R.7)	Jan 15 Assign. R due 1.1, 1.2	Jan 16	Jan 17 1.3, 1.4	Jan 18 Unit 1 Test 1.5
3	Jan 21 1.5, 1.6	Jan 22 2.1, 2.2	Jan 23	Jan 24 2.3, 2.4	Jan 25 2.5, 2.6
4	Jan 28 Assign. 2 due Review(Ch.1&2) 3.1a	Jan 29 3.2, 3.3	Jan 30	Jan 31 Unit Test 2 3.4a	Feb 1 3.4a, 3.7ab, 4.1
5	Feb 4 4.1, 4.2, 4.3	Feb 5 4.3, 4.4, 4.5	Feb 6	Feb 7 4.5, 4.6	Feb 8 4.7, 4.8
6	Feb 11 Family Day College Closed	Feb 12 Assign. 3 due Review(Ch.3&4) 5.1	Feb 13	Feb 14 5.2, 5.3	Feb 15 Unit 3 Test 5.4
7	Feb 18 5.4, 5.5	Feb 19 5.5, 5.6	Feb 20	Feb 21 Reading Break	Feb 22 College Connections Day College Closed
8	Feb 25 5.7, 5.8	Feb 26 6.1, 6.2	Feb 27	Feb 28 6.2, 6.3	Mar 1 6.3, 6.4

9	Mar 4 6.5, 6.6	Mar 5 6.6, 6.7	Mar 6	Mar 7 6.7, 6.8	Mar 8 Assign. 4 due, Review(Ch.5&6), 7.1
10	Mar 11 7.2, 7.3	Mar 12 Unit 4 Test 7.3	Mar 13	Mar 14 7.4, 7.5	Mar 15 7.5, 7.6
11	Mar 18 7.6, 7.7	Mar 19 7.7, Trig. 5.1	Mar 20	Mar 21 Trig. 5.1, Trig. 5.2	Mar 22 Trig. 5.2, Trig. 5.3
12	Mar 25 Trig. 5.3, Trig. 7.1	Mar 26 Trig. 7.1, Trig. 7.2	Mar 27	Mar 28 Trig. 7.2	Mar 29 Good Friday College Closed
13	Apr 1 Easter Monday College Closed	Apr 2 Assign. 5 due Review (Ch. 7 & Trig.)	Apr 3	Apr 4 Review (Ch. 7 & Trig.)	Apr 5 Unit 5 Test
14	Apr 8 Final Exam Review	Apr 9 Final Exam Review	Apr 10	Apr 11 Final Exam Review	Apr 12 Final Exam Review
15	Apr 15 Final Exam Period	Apr 16 Final Exam Period	Apr 17 Final Exam Period	Apr 18 Final Exam Period	Apr 19 Final Exam Period

Recommended Homework and Assignments

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

Assignment	Sec.	Recommended Practice Problems (not to be handed in)
Assignment 1 Due Sept 8		
No assignment for this section - do lots of the recommended problems.	R.1	3, 11, 15, 17, 23, 33, 39, 41, 45, 49, 51, 59, 63
	R.2	5, 15, 23, 51, 53, 71, 75, 77, 87, 89, 95, 103, 109, 113
	R.3	1, 5, 13, 15, 25, 29, 31, 33, 35, 37, 41, 45, 55, 59, 67, 85, 97, 105, 107
	R.4	1, 3, 13, 15, 17, 23, 25, 31, 35, 37, 41, 45
	R.5	1, 7, 11, 19, 21, 25, 31, 35, 37, 41, 45, 47, 53, 59
	R.6	11, 15, 21, 23, 27, 35, 41, 43, 47, 53, 57, 67
	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
Assignment 2 Due: Jan 28	1.1	9, 11, 23, 35, 37, 43, 47, 51, 55, 59, 61, 63, 69, 73, 77, 79
	1.2	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 37
	1.3	1, 5, 7, 9, 13, 15, 21, 23
	1.4	3, 5, 7, 9, 11, 13, 17, 27, 35, 37, 41, 43, 47, 55, 59, 63, 71, 73, 77, 85
	1.5	1, 5, 13, 17, 21, 29, 41, 45, 47, 51, 59, 61
	1.6	1, 5, 11, 15, 21, 31, 35, 37, 43, 51, 53, 57, 59, 63, 67
	2.1	1, 5, 15, 17, 25, 31, 33, 41, 45, 47, 49, 51
	2.2	1, 5, 7, 9, 19, 21, 23, 27, 35, 43, 47, 49, 53, 55, 57, 59, 61
	2.3	1, 5, 7, 9, 11, 15, 19, 23, 27, 33, 37
	2.4	1, 5, 9, 13, 19, 19, 23, 27, 31, 33
	2.5	1, 5, 9, 13, 17, 19, 23, 29, 31, 39, 43, 45, 51, 55, 71, 75, 77
	2.6	1, 5, 9, 11, 19, 25, 29, 31, 33, 41, 45, 51
	Assignment 3 Due: Feb 12	3.1
3.2		1, 7, 11, 15, 17, 19, 21
3.3		3, 5, 9, 11, 15, 17, 27, 31
3.4a		1, 5, 7, 9, 13, 17, 19
3.7ab		1, 5, 11, 13, 17, 19, 21
4.1		1, 5, 7, 21, 25, 29, 35, 41, 51, 55, 67, 73, 79
4.2		1, 5, 11, 13, 15, 21, 23, 27, 33, 41, 51, 55, 65, 71, 77, 81, 85, 91
4.3		1, 5, 9, 11, 17, 21, 25, 29, 33, 37, 43, 47, 49
4.4		1, 5, 7, 11, 13, 19, 21, 23, 25, 27, 29, 33
4.5		1, 5, 9, 19, 25, 29, 33, 41, 45, 51
4.6		1,5,11,17,25,33,35,39,43,47,53,61,63,69,71,75,79,89,95
4.7	1,3,5,7,11,17,19,23,25,29,31,35,43,49,51	
4.8	1, 5, 9, 13, 17, 21, 29, 33, 37, 39, 41, 47, 51, 53, 55, 63, 65, 69, 71, 73,75, 77	
Assignment 4 Due: Mar 8	5.1	1, 3, 5, 7, 13, 15, 19, 21, 25, 27, 29, 31, 35, 37, 41, 45, 49, 51, 55, 57
	5.2	3, 11, 13, 19, 23, 27, 31, 33, 35, 39, 45, 49, 55, 63, 67, 71
	5.3	1, 5, 9, 11, 15, 19, 21, 23, 29, 31, 33
	5.4	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 31
	5.5	1, 5, 9, 11, 15, 19, 23, 25, 27, 33, 35, 41, 43
	1.3(b)	27, 29
	3.4(b)	21, 23, 28, 29, 31
	5.6	25, 27, 29
	5.7	1-23 odd
	5.8	1, 5, 7, 9, 15, 17, 21, 25, 29, 31, 39, 41
	6.1	7, 9, 11, 13, 15, 19, 23, 25, 27, 29, 35, 43, 45, 51, 53, 61, 63, 65, 67, 69, 71
	6.2	3, 7,15, 21, 29, 33, 39, 41, 43, 45, 49, 51, 53, 55, 59, 63, 69, 71, 73, 75, 79
	6.3	1,5, 9, 13, 17, 21, 25, 29, 33, 39, 41, 49, 53, 55, 59, 67, 71, 75,79, 83, 87, 89

	6.4	1, 5, 9, 13, 17, 19, 23, 33, 37, 43, 47, 51, 57, 61, 67, 71, 73
	6.5	1, 5, 9, 13, 17, 21, 25, 29, 31, 34
	6.6	1, 5, 9, 17, 19, 21, 27, 29, 33, 37, 41, 47, 53, 55, 57
	6.7	1, 5, 7, 11, 13, 17, 19, 21, 23, 29
	6.8	1, 5, 13, 17, 19, 27, 31, 35, 39, 47, 71, 77, 81, 87
Assignment 5 Due: Apr 2	7.1	1, 5, 9, 13, 17, 21, 25, 33, 39, 43, 47, 49, 51, 55, 57
	7.2	1, 3, 11, 17, 21, 29, 33, 35, 41
	7.3	3, 5, 9, 11, 13, 19, 21, 25, 31, 35, 37, 39, 41, 43, 47
	7.4	1, 5, 9, 15, 17, 21, 23, 29, 31, 33, 35, 37, 39, 43, 47, 49, 55
	7.5	1, 5, 9, 13, 17, 19, 21, 23
	7.6	1, 5, 7, 9, 15, 19, 21
	7.7	1,3,7
	5.1s*	1-29 odd, 37, 49, 55, 61, 69, 71, 79-91 odd, 97
	5.2s*	1, 3, 9, 13, 15, 17, 21, 27, 29, 31
	5.3s*	15,9,13,15,19,23,25,29,39, 41,45,47,51,61,75, 83, 87, 93, 97
	7.1s*	1, 3, 5, 9, 13, 15, 17, 21, 25, 27
	7.2s*	1, 3, 7, 9, 13, 17, 19, 21, 25, 31