



**Mathematics 137 002**  
**Algebra and Triangle Trigonometry**  
**Winter 2012**

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**Schedule:**

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

**Important Dates:**

January 9	First day of Math 137 class
February 16-17	Reading Break – NO CLASS
March 13	Last day to withdraw or change to audit
April 6	Good Friday – NO CLASS
April 9	Easter Monday – NO CLASS
April 13	Last day of instruction of Math 137
Apr 16-21 & 23-24	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+(77%) or better in 137 to continue into Math 115 and a C+(65%) to continue into Math 105, 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)
- c) MathXL (online text, tutorials, videos, and self-testing)
  - The access code can be purchased online at [www.mathxl.com](http://www.mathxl.com) . Once you’re registered choose ‘Independent Study’ and then your textbook.

**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 5<sup>th</sup> 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
<b>F</b>	<b>D</b>	<b>C</b>	<b>C+</b>	<b>B-</b>	<b>B</b>	<b>B+</b>	<b>A-</b>	<b>A</b>	<b>A+</b>

**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	
	<b>Review of Basic Algebra</b>		<b>Rational Expressions, Equations, and Functions</b>
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
<b>Test Chap R</b>		5.8	Variation and Applications
	<b>Solving Linear Equations and Inequalities</b>		<b>Radical Expressions, Equations, and Functions</b>
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
	<b>Graphs, Functions, and Applications</b>	6.7	Applications Involving Powers and Roots
2.1	Graphs of Equations	6.8	The Complex Numbers
2.2	Functions and Graphs	<b>Test Chap 5&amp;6</b>	
2.3	Finding Domain and Range		<b>Quadratic Equations and Functions</b>
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
<b>Test Chap 1&amp;2</b>		7.4	More on Quadratic Equations
	<b>Systems of Equations</b>	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		<b>Trigonometry</b>
		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
	<b>Polynomials and Polynomial Functions</b>	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	<b>Test Chap 7 and Trig</b>	
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		
<b>Test Chap 3&amp;4</b>			

**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](http://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](http://www.camosun.bc.ca/policies/policies.html).

## Math 137 Lectures (2 hr) [Winter 2012]

1	Jan 9 R.1, R.2	Jan 10 R.3, R.4	Jan 11	Jan 12 R.5, R.6	Jan 13 R.7, 1.1
2	Jan 16 <b>Assign. R due</b> 1.1, 1.2	Jan 17 Review(R.1-R.7), 1.3	Jan 18	Jan 19 <b>Unit Test 1,</b> 1.4	Jan 20 1.5, 1.6
3	Jan 23 2.1, 2.2	Jan 24 2.3, 2.4	Jan 25	Jan 26 2.5, 2.6	Jan 27 <b>Assign. 2 due</b> 3.1, 3.2
4	Jan 30 Review(Ch.1&2), 3.3	Jan 31 <b>Unit Test 2</b>	Feb 1	Feb 2 3.4a, 3.7ab	Feb 3 4.1, 4.2
5	Feb 6 4.3, 4.4	Feb 7 4.5, 4.6	Feb 8	Feb 9 4.6, 4.7	Feb 10 4.8
6	Feb 13 5.1, 5.2	Feb 14 <b>Assign. 3 due</b> Review(Ch.3&4) 5.3	Feb 15	Feb 16 <b>READING BREAK</b>	Feb 17 <b>READING BREAK</b>
7	Feb 20 <b>Unit 3 Test</b>	Feb 21 5.3, 5.4	Feb 22	Feb 23 5.4, 5.5	Feb 24 5.5, 5.6
8	Feb 27 5.7, 5.8	Feb 28 6.1, 6.2	Feb 29	Mar 1 6.2, 6.3	Mar 2 6.4, 6.5

9	Mar 5 6.5, 6.6	Mar 6 6.7, 6.8	Mar 7	Mar 8 7.1, 7.2	Mar 9 <b>Assign. 4 due,</b> 7.2, 7.3
10	Mar 12 Review(Ch.5&6), 7.4	Mar 13 <b>Unit 4 Test</b>	Mar 14	Mar 15 7.4, 7.5	Mar 16 7.5, 7.6
11	Mar 19 7.6, 7.7	Mar 20 7.7, 5.1s*	Mar 21	Mar 22 5.1s*, 5.2s*	Mar 23 5.2s*, 5.3s*
12	Mar 26 5.3s*, 7.1s*	Mar 27 7.1s*, 7.2s*	Mar 28	Mar 29 7.2s*	Mar 30 <b>Assign. 5 due</b>
13	Apr 2 Review (Ch. 7 & Trig.)	Apr 3 <b>Unit 5 Test</b>	Apr 4	Apr 5 Review	Apr 6 GOOD FRIDAY
14	Apr 9 Review	Apr 10 Review	Apr 11 Review	Apr 12 Review	Apr 13 Review
15	Apr 16 Final Exam Period	Apr 17 Final Exam Period	Apr 18 Final Exam Period	Apr 19 Final Exam Period	Apr 20 Final Exam Period

## Recommended Homework and Assignments

Text: *Intermediate Algebra*, 11<sup>th</sup> edition, Marvin Bittinger

Assignment	Sec.	Recommended Practice Problems (not to be handed in)	Required Problems (HAND IN)
Assignment 1 Due Sept 8			<b>Handout</b>
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. 27	1.1	9, 11, 23, 35, 37, 43, 47, 51, 55, 59, 61, 63, 69, 73, 77, 79	<b>78, 80</b>
	1.2	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 37	<b>18, 30</b>
	1.3	1, 5, 7, 9, 13, 15, 21, 23	<b>10, 14</b>
	1.4	3, 5, 7, 9, 11, 13, 17, 27, 35, 37, 41, 43, 47, 55, 59, 63, 71, 73, 77, 85	<b>52, 82</b>
	1.5	1, 5, 13, 17, 21, 29, 41, 45, 47, 51, 59, 61	<b>20, 46</b>
	1.6	1, 5, 11, 15, 21, 31, 35, 37, 43, 51, 53, 57, 59, 63, 67	<b>12, 52, 62</b>
	2.1	1, 5, 15, 17, 25, 31, 33, 41, 45, 47, 49, 51	<b>36, 46</b>
	2.2	1, 5, 7, 9, 19, 21, 23, 27, 35, 43, 47, 49, 53, 55, 57, 59, 61	<b>22, 42</b>
	2.3	1, 5, 7, 9, 11, 15, 19, 23, 27, 33, 37	<b>2, 6, 30, 36</b>
	2.4	1, 5, 9, 13, 19, 19, 23, 27, 31, 33	<b>12, 20, 32</b>
	2.5	1, 5, 9, 13, 17, 19, 23, 29, 31, 39, 43, 45, 51, 55, 71, 75, 77	<b>12, 30, 50</b>
	2.6	1, 5, 9, 11, 19, 25, 29, 31, 33, 41, 45, 51	<b>28, 44, 52</b>
Assignment 3 Due: Feb. 13	3.1	3, 5, 13, 15, 17, 19 (omit consistency and dependence part)	<b>4, 14</b>
	3.2	1, 7, 11, 15, 17, 19, 21	<b>4, 14, 20</b>
	3.3	3, 5, 9, 11, 15, 17, 27, 31	<b>10, 28</b>
	3.4a	1, 5, 7, 9, 13, 17, 19	<b>8, 18</b>
	3.7ab	1, 5, 11, 13, 17, 19, 21	<b>14, 22</b>
	4.1	1, 5, 7, 21, 25, 29, 35, 41, 51, 55, 67, 73, 79	<b>4, 76</b>
	4.2	1, 5, 11, 13, 15, 21, 23, 27, 33, 41, 51, 55, 65, 71, 77, 81, 85, 91	<b>30, 80, 90</b> $f(a+h) - f(a)$ only
	4.3	1, 5, 9, 11, 17, 21, 25, 29, 33, 37, 43, 47, 49	<b>8, 48</b>
	4.4	1, 5, 7, 11, 13, 19, 21, 23, 25, 27, 29, 33	<b>22, 30</b>
	4.5	1, 5, 9, 19, 25, 29, 33, 41, 45, 51	<b>20, 32, 44</b>
	4.6	1, 5, 11, 17, 25, 33, 35, 39, 43, 47, 53, 61, 63, 69, 71, 75, 79, 89, 95	<b>26, 42, 62, 84</b>
	4.7	1, 3, 5, 7, 11, 17, 19, 23, 25, 29, 31, 35, 43, 49, 51	<b>38, 47</b>
4.8	1, 5, 9, 13, 17, 21, 29, 33, 37, 39, 41, 47, 51, 53, 55, 63, 65, 69, 71, 73, 75, 77	<b>38, 66, 80</b>	
Assignment 4 Due: Mar. 9	5.1	1, 3, 5, 7, 13, 15, 19, 21, 25, 27, 29, 31, 35, 37, 41, 45, 49, 51, 55, 57	<b>36, 54</b>
	5.2	3, 11, 13, 19, 23, 27, 31, 33, 35, 39, 45, 49, 55, 63, 67, 71	<b>58, 64</b>
	5.3	1, 5, 9, 11, 15, 19, 21, 23, 29, 31, 33	<b>18, 32</b>
	5.4	1, 5, 9, 13, 17, 19, 21, 23, 27, 29, 31	<b>8, 26</b>
	5.5	1, 5, 9, 11, 15, 19, 23, 25, 27, 33, 35, 41, 43	<b>26, 38</b>
	1.3(b)	27, 29	<b>n/a</b>
	3.4(b)	21, 23, 28, 29, 31	<b>n/a</b>
	5.6	25, 27, 29	<b>26</b>
	5.7	1-23 odd	<b>4, 14</b>
	5.8	1, 5, 7, 9, 15, 17, 21, 25, 29, 31, 39, 41	<b>24, 30</b>
	6.1	7, 9, 11, 13, 15, 19, 23, 25, 27, 29, 35, 43, 45, 51, 53, 61, 63, 65, 67, 69, 71	<b>24, 28, 46, 54</b>
	6.2	3, 7, 15, 21, 29, 33, 39, 41, 43, 45, 49, 51, 53, 55, 59, 63, 69, 71, 73, 75, 79	<b>24, 68, 72, 76, 80</b>

	6.3	1, 5, 9, 13, 17, 21, 25, 29, 33, 39, 41, 49, 53, 55, 59, 67, 71, 75, 79, 83, 87, 89	<b>40, 46, 64</b>
	6.4	1, 5, 9, 13, 17, 19, 23, 33, 37, 43, 47, 51, 57, 61, 67, 71, 73	<b>30, 70, 72</b>
	6.5	1, 5, 9, 13, 17, 21, 25, 29, 31, 34	<b>6, 20, 30</b>
	6.6	1, 5, 9, 17, 19, 21, 27, 29, 33, 37, 41, 47, 53, 55, 57	<b>18, 42, 56</b>
	6.7	1, 5, 7, 11, 13, 17, 19, 21, 23, 29	<b>18, 20</b>
	6.8	1, 5, 13, 17, 19, 27, 31, 35, 39, 47, 71, 77, 81, 87	<b>12, 44, 94</b>
<b>Assignment 5</b> <b>Due: Mar. 30</b>	7.1	1, 5, 9, 13, 17, 21, 25, 33, 39, 43, 47, 49, 51, 55, 57	<b>38, 44</b>
	7.2	1, 3, 11, 17, 21, 29, 33, 35, 41	<b>30, 34</b>
	7.3	3, 5, 9, 11, 13, 19, 21, 25, 31, 35, 37, 39, 41, 43, 47	<b>12, 30, 42</b>
	7.4	1, 5, 9, 15, 17, 21, 23, 29, 31, 33, 35, 37, 39, 43, 47, 49, 55	<b>8, 24, 34, 46</b>
	7.5	1, 5, 9, 13, 17, 19, 21, 23	<b>12, 20</b>
	7.6	1, 5, 7, 9, 15, 19, 21	<b>8, 16</b>
	7.7	1,3,7	<b>6</b>
	5.1s*	1-29 odd, 37, 49, 55, 61, 69, 71, 79-91 odd, 97	<b>14, 28, 80, 92</b>
	5.2s*	1, 3, 9, 13, 15, 17, 21, 27, 29, 31	<b>16, 20, 24, 30</b>
	5.3s*	15,9,13,15,19,23,25,29,39, 41,45,47,51,61,75, 83, 87, 93, 97	<b>14, 40, 48, 94</b>
	7.1s*	1, 3, 5, 9, 13, 15, 17, 21, 25, 27	<b>2, 16</b>
	7.2s*	1, 3, 7, 9, 13, 17, 19, 21, 25, 31	<b>2, 14</b>