![Camosun College logo] CAMOSUN COLLEGE	**School of Access** **MATHEMATICS DEPARTMENT** **MATH 137-001** **Algebra and Triangle Trigonometry** **Spring 2015**

COURSE OUTLINE

The course description is online @ http://camosun.ca/learn/calendar/current/web/math.html

Ω   *Please note: the College electronically stores this outline for five (5) years only.*
   *It is **strongly recommended** you keep a copy of this outline with your academic records.*
   You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

Math 137 is a 5 credit course, offered in semester format of 16 lecture hours per week for 7 weeks.

*Prerequisite: MATH 053 or MATH 135, or Principles of Math 10; or Foundations of Math & Pre-calculus 10, or "B" in Applications of Math 11; **or** Foundations of Math 11, or Applications of Math 12, or "C-" in either Principles of Math 11, or Pre-calculus 11; **or** assessment.*

1.   Instructor Information

(a)	Instructor:	Dr. Patrick Montgomery
(b)	Office Hours:	Monday-Friday 1:30-2:30
(c)	Location:	Ewing 270
(d)	Phone:	250-370-3459
(e)	Email:	montgomeryp@camosun.bc.ca
(f)	D2L Website:	https://online.camosun.ca

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

(a) Texts – *Intermediate Algebra* 11th Edition by M.L. Bittinger: First Custom Edition for Camosun College, Pearson Learning Solutions, either PRINT version or ONLINE, and
(b) *Trigonometry,* an excerpt from Algebra and Trigonometry, 2nd ed, by Beecher, Penna and Bittinger. This is either available as a handout, or in the library.
(c) Other – Sharp EL-531 calculator. Mathematics Department policy is that the only calculator permitted for use on tests and exams is this calculator. No other make or model of calculator is permitted, nor are other electronic devices such as cell phones, iPods, electronic translators, etc.
(d) **Optional** – Student Solutions Manual by J.A. Penna

Both textbooks are on 2 hour reserve loan status in the library. The total cost at the bookstore for a new bundled package is $237.50. The calculator sells at $16.99

4.   Course Content and Schedule

The course curriculum will be covered according to the following chapters and sections from the text.

Section		Section	
R - Review of Basic Algebra		**5 - 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
1 - Solving Linear Equations and Inequalities		5.8	Variation and Applications
1.1	Solving Equations	**6 - Radical Expressions, Equations, and Functions**	
1.2	Formulas and Applications	6.1	Radical Expressions and Functions
1.3	Applications and Problem Solving	6.2	Rational Numbers as Exponents
1.4	Sets, Inequalities, and Interval Notation	6.3	Simplifying Radical Expressions
1.5	Intersections, Unions, and Compound Inequalities	6.4	Addition, Subtraction, and More Multiplication
1.6	Absolute-Value Equations and Inequalities	6.5	More on Division of Radical Expressions
2 - Graphs, Functions, and Applications		6.6	Solving Radical Equations
2.1	Graphs of Equations	6.7	Applications Involving Powers and Roots
2.2	Functions and Graphs	6.8	The Complex Numbers
2.3	Finding Domain and Range	**7 - 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
3 - Systems of Equations		7.4	More on Quadratic Equations
3.1	Systems of Equations in Two Variables	7.5	Graphing $f(x) = a(x-h)^2 + k$
3.2	Solving by Substitution	7.6	Graphing $f(x) = ax^2 + bx + c$
3.3	Solving by Elimination	7.7	Mathematical Modeling with Quadratic Functions
		Supplemental - Trigonometry	
3.4a	Solving Applied Problems	T 5.1	Trig functions of Acute Angles
3.7ab	Systems of Inequalities in Two Variables	T 5.2	Applications of Right Triangles
4 - Polynomials and Polynomial Functions		T 5.3	Trig Functions of Any Angles
4.1	Introduction to Polynomials and Polynomial Functions	T 7.1	The Law of Sines
4.2	Multiplication of Polynomials	T 7.2	The Law of Cosines
4.3	Introduction to Factoring	The T denotes that these sections are from the Trigonometry supplement provided with the course text	
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		

The course schedule will be May 4th - June 20th, with all classes held in room Ewing 346. Class times are as follows:
- Monday, Tuesday, and Thursday: 8:30-11:20
- Wednesday and Friday: 8:30-11:50

In general, we will cover two to three sections per class. An **approximate** schedule is below, which may be amended by the instructor as the term progresses. In particular please note:
- Assignment deadlines are Tuesdays and Fridays at 11:59 p.m.
- There will be 80 minute in-class Tests every Thursday starting at 10:00 a.m.

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1 – May 4-8	R1-R3	R4-6, Asst 1	R7-1.1	1.2, Test	1.3-1.4, Asst 2
2 – May 11-15	1.5-1.6	2.1-2.2, Asst 3	2.3-2.4	2.5, Test	2.6-3.1
3 – May 18-22	*Victoria Day*	3.2-3.3, Asst 5	3.4a, 3.7ab, 4.1	4.2, Test	4.3-4.4, Asst 6
4 – May 25-29	4.5-4.6	4.7-4.8, Asst 7	5.1-5.2	5.2 Test	5.3-5.4, Asst 8
5 – June 1-5	5.5-5.6	5.7-5.8, Asst 9	6.1-6.2	6.3, Test	6.4-6.5, Asst 10
6 – June 8-12	6.6-6.7	6.8-7.1, Asst 11	7.2-7.3	7.4, Test	7.5-7.6, Asst 12
7 – June 15-19	7.7-7.8	T5.1-2, Asst 13	T5.3-7.1	T7.2, Test	Review, Asst 14

Final Exam period: June 22-24

5. Basis of Student Assessment (Weighting)

(a) Assignments – 10%
(b) In Class Tests – 40%
(c) Exams – Comprehensive Final exam: 50%

6. Grading System

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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

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 E-1.5 at **camosun.ca** for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: 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	*In progress*: A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. *(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)*
CW	*Compulsory Withdrawal:* 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.

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, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and the College web site in the Policy Section.

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/services/help-centres/math-access.html

Dr. Montgomery's Teaching Philosophy

I believe…	I will…	I expect you to…
education is important	- take teaching seriously - be prepared for classes - be available to help - look for answers to questions that I may not be able to answer promptly	- be committed to learning - never give up, persevere
an organized class helps with learning	- start on time - inform you of changes promptly - maintain a course website	- be in class and ready when we start - read the textbook - inform me if you are unable to complete an assignment or test on schedule
curiosity enhances learning	- ask questions to provoke thought - share stories and experiences - provide challenges to give you the opportunity to think deeply - be enthusiastic and excited about mathematics	- foster your own lifelong enjoyment of learning - ask questions of me, your peers, and yourself - look outside the curriculum for connections - share your experiences with others
in an environment of personal respect	- at all times be courteous and polite - behave in a way that makes you feel at ease in the classroom	- maintain behavior that does not disrupt learning - inform me of issues which are affecting your classroom learning
practice is key to performance	- assign homework - provide prompt and constructive feedback	- complete your homework assignments on time - use my feedback to improve your skills