

Mathematics 173: Basic Technical Mathematics 2
Q3, 2004-2005

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Office Hours: Posted on office door and on website.

Course Description: Topics: functions and their graphs, graph transformations, polynomial, exponential and logarithmic functions, trigonometric functions and their inverses, trigonometric identities, systems of equations and inequalities, vectors, dot products, complex numbers, sequences and series, the Binomial Theorem, topics in analytic geometry and plane geometry.

Prerequisites: Math 073 or 172 or Math 11 by assessment.

Textbook: J.A. Beecher, J.A. Penna, and M.L. Bittinger, *Algebra and Trigonometry*, 2nd edition, Pearson Addison-Wesley, 2005. (The 1st edition is also acceptable.)

Calculator Policy: Only regular scientific calculator (non-programmable, non-graphing) will be permitted for quizzes and exams.

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

Quizzes (5-6):	40%
Assignments (6-7):	10%
Final Exam:	50%

The lowest quiz grade will be dropped when calculating the average of your quizzes. This allows a student to be absent on any one quiz day for any reason, including illness, without penalty. There is no provision for "making up" a missed quiz.

If your final exam grade is higher than your term work grade and your term work is **50% or higher**, then your final exam grade will count as 100% of your final grade.

Final Exam: The final exam will cover the entire course and will be 3 hours long. As stated in the current college calendar on page 39, "students are expected to write tests and final examinations at the scheduled time and place." Exceptions will only be considered due to **emergency** circumstances as outlined in the calendar. Holidays or scheduled flights are not considered to be emergencies.

Late Policy: Late assignments will be given a penalty of 25% per week.

Math Room: Technologies Centre (TEC) 142 (phone: 370-4492): This drop-in centre is freely available for your use to work on math homework and to seek help from the tutor on staff (see hours posted on door).

Study Time: It is recommended that between 5 and 10 hours per week (or more for students with a weak background) be spent studying for this course outside of class time.

Grade Scale: Final letter grades are normally assigned as follows (subject to the conditions above):

A+	95-100
A	90-94
A-	85-89
B+	80-84
B	75-79
B-	70-74
C+	65-69
C	60-64
D	50-59
F	0-49

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://www.camosun.bc.ca>

Academic Conduct Policy:

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section at

<http://www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html>

Course Content: (G.* refers to a section on the Geometry Notes)

G.1	Triangles	(1 hour)
G.2	Similar Triangles	(2 hours)
5.1	Trigonometric Functions of Acute Angles	(2 hours)
5.2	Applications of Right Triangles	(2 hours)
5.3	Trigonometric Functions of Any Angle	(2 hours)
1.2	Functions and Graphs	(1 hour)
1.3	Linear Functions, Slopes, and Applications	(1 hour)
1.4	Equations of Lines (and Modeling)	(1 hour)
1.6	The Algebra of Functions	(1 hour)
1.7	Symmetry and Transformations	(2 hours)
2.2	The Complex Numbers	(1 hour)
2.3	Quadratic Equations, Functions, and Models	(1.5 hours)
2.4	Analyzing Graphs of Quadratic Functions	(1.5 hours)
3.1	Polynomial Functions and Models	(1 hour)
3.2	Polynomial Division; The Remainder and Factor Theorem	(2 hours)
3.3	Theorems about Zeros of Polynomial Functions	(2 hours)
3.4	Rational Functions	(3 hours)
4.1	Inverse Functions	(1 hour)
4.2	Exponential Functions and Graphs	(1 hour)
4.3	Logarithmic Functions and Graphs	(2 hours)
4.4	Properties of Logarithmic Functions	(2 hours)
4.5	Solving Exponential and Logarithmic Functions	(2 hours)
4.6	Applications and Models: Growth and Decay	(2 hours)
	Review of 5.1-5.3	(1 hour)
5.4	Radians, Arc Length, and Angular Speed	(2 hours)
5.5	Circular Functions: Graphs and Properties	(2 hours)
5.6	Graphs of Transformed Sine and Cosine Functions	(2 hours)
6.1	Identities: Pythagorean and Sum and Difference	(2 hours)
6.2	Identities: Cofunction, Double-Angle, and Half-Angle	(2 hours)
6.3	Proving Trigonometric Identities	(2 hours)
6.4	Inverses of the Trigonometric Functions	(2 hours)
6.5	Solving Trigonometric Equations	(2 hours)
7.1	The Law of Sines	(2 hours)
7.2	The Law of Cosines	(1 hour)
7.3	Complex Numbers: Trigonometric Form	(2 hours)
7.4	Polar Coordinates and Graphs	(1 hour)
9.1	The Parabola	(2 hours)

9.2	The Circle and the Ellipse	(2 hours)
9.3	The Hyperbola	(2 hours)
10.1	Sequences and Series	(1 hour)
10.2	Arithmetic Sequences and Series	(1 hour)
10.3	Geometric Sequences and Series	(1 hour)
10.7	The Binomial Theorem	(1 hour)
	Optional Topics – as time permits	(3 hours)
G.3	Circles	
G.4	Congruent Triangles	
G.5	Angles and Parallel Lines	
G.7	Rectangles and Squares	
	Lectures (plus one hour intro)	74 hours
	Quizzes and Review	12 hours
	Holidays	2 hours
	Total	88 hours