MATH 173 Basic Technical Mathematics 2

ORGANIZATION
    IN-CLASS WORKLOAD: 8 hours/week
    OUT-OF-CLASS WORKLOAD: 6 – 12 hours/week
    PREREQUISITES: MATH 172 or Math 11 by assessment.

Topics: plane geometry, functions, right triangle trigonometry, trigonometric functions of any angle, vectors, Law of Sines and Cosines, radians, graphs of the trigonometric functions, Pythagorean identities, sum and difference formulas, linear functions and systems of linear equations, quadratic equations and functions, exponential and logarithmic functions.

TEXT:
Algebra and Trigonometry, Beecher, Penna, and Bittinger
Plane Geometry (Math 114), Camosun College Mathematics Department

TENTATIVE OUTLINE: (*Topics may not be covered in the order they are listed*)
Chapter 1 – Graphs, Functions and Models
1.2   Functions and Graphs
1.3   Linear Functions, Slopes, and Applications
1.4   Equations of Lines
1.6   Symmetry and Transformations

Chapter 2 – Functions, Equations, and Inequalities
2.3   Quadratic Equations, Functions, and Models
2.4   Analyzing Graphs of quadratic Functions

Chapter 3 – Polynomials and Rational Functions
3.1   Polynomial Functions and Models
3.2   Polynomial Division; The Remainder and Factor Theorem
3.3   Theorems about Zeros of Polynomial Functions
3.4   Rational Functions

Chapter 4 – Exponential and Logarithmic Functions
4.1   Composite and Inverse Functions
4.2   Exponential Functions and Graphs
4.3   Logarithmic Functions and Graphs
4.4   Properties of Logarithmic Functions
4.5   Solving Exponential and Logarithmic Functions
4.6   Applications and Models: Growth and Decay

Geometry (Plane Geometry Booklet)

Chapter 5 – The Trigonometric Functions
5.1   Trigonometric Functions of Acute Angles
5.2   Applications of Right Triangles
5.3   Trigonometric Functions of Any Angle
5.4   Radians, Arc Length, and Angular Speed
5.5   Circular Functions: Graphs and Properties
5.6   Graphs of Transformed Sine and Cosine Functions

Chapter 6 – Trigonometric Identities, Inverse Functions, and Equations
6.1   Identities: Pythagorean and Sum and Difference
6.2   Identities: Cofunction, Double-Angle, and Half-Angle
6.3   Proving Trigonometric Identities
6.4   Inverses of the Trigonometric Functions
6.5   Solving Trigonometric Equations

Chapter 7 – Applications of Trigonometry
7.1   The Law of Sines
7.2   The Law of Cosines
7.4   Polar Coordinates and Graphs
7.5   Vectors and Applications (if time permits)
7.6   Vector Operations (if time permits)

Chapter 8 – Systems of Equations and Matrices
8.1   Systems of Equations in Two Variables
8.2   Systems of Equations in Three Variables
8.6   Determinants and Cramer's Rule

Chapter 9 – Conic Sections
9.1   The Parabola
9.2   The Circle and the Ellipse
9.3   The Hyperbola

Chapter 10 – Sequences, Series, and Combinatorics
10.1   Sequences and Series
10.2   Arithmetic Sequences and Series
10.3   Geometric Sequences and Series
10.7   The Binomial Theorem

CALCULATOR POLICY
Only regular scientific (non programmable, non-graphing) calculator is allowed in term tests and final examination.

ASSIGNMENTS:
Daily assignments will be given throughout the course. They will be posted on our website (http://www.camosun.bc.ca/~lai/). You do not need to turn them in, but complete understanding of the problems of the assignments will be essential for success on the term tests.

EVALUATION:

Either 100% comprehensive final exam. *or*

Test (50%)	There will be 5 tests (week 3, week 5, week 7, week 9 and week 11); each counts for 10% of the final mark. There is NO makeup. **Medical excuse must be accompanied by a physician's note**.
Comprehensive Final Exam (50%)	Final exam. is held from March 22 – 26. You must be available at the scheduled time. There is NO makeup.

GRADING:

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

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Phone No.: 370-4491   **Web Site:**   http://www.camosun.bc.ca/~lai/
Office Hours: As posted or by appointment

	Monday	Tuesday	Wednesday	Thursday	Friday
07:30-08:20					
08:30-09:20	Class	Class		Class	Class
09:30-10:20	Class	Class		Class	Class
10:30-11:20					
11:30-12:20	Office Hour	Office Hour		Office Hour	Office Hour
12:30-13:20	Office Hour	Office Hour		Office Hour	Office Hour
13:30-14:20					
14:30-15:20					
15:30-16:30					