## Math 173

## **Basic Technical Mathematics 2**

Instructor: Gilles Cazelais O\_ce: CBA 158 (phone number: 370-4495) O\_ce hours: http://www.camosun.bc.ca/\_cazelais/schedule.html Email address: cazelais@camosun.bc.ca Course web page: http://www.camosun.bc.ca/ cazelais/173.html Textbook Algebra and Trigonometry by Beecher, Penna, and Bittinger Geometry Supplement by Bittinger, and Beecher Evaluation • Five term tests: 50% or Comprehensive final exam: 50% Comprehensive final exam: 100% Tentative Schedule Test 1 January 16 Test 2 January 30 Test 3 February 13 Test 4 February 27 Test 5 March 12 Final exams are held from March 22 - 26. You must be available at the scheduled time. The following percentage conversion to letter grade will be used: Percentage: 0-49 50-59 60-64 65-69 70-74 75-79 80-84 85-89 90-94 95-100 Letter grade: F D C C+ B- B B+ A- A A+ Course Outline 1. Graphs, Functions, and Models • Functions and Graphs (section 1.2) • Linear Functions, Slope, and Applications (section 1.3) Equations of Lines (section 1.4) More on Functions (section 1.5) Symmetry and Transformation (section 1.6) 2. Functions, Equations, and Inequalities Quadratic Equations, Functions, and Models (section 2.3) Analyzing Graphs of Quadratic Functions (section 2.4) 3. Polynomial and Rational Functions • Polynomial Functions and Models (section 3.1) Polynomial Division; The Remainder and Factor Theorem (section 3.2) • Theorems about Zeros of Polynomial Functions (section 3.3) Rational Functions (section 3.4) 4. Exponential and Logarithmic Functions Composite and Inverse Functions (section 4.1) • Exponential Functions and Graphs (section 4.2) Logarithmic Functions and Graphs (section 4.3) • Properties of Logarithmic Functions (section 4.4) Solving Exponential and Logarithmic Equations (section 4.5) • Applications and Models: Growth and Decay (section 4.6) 5. Geometry (Geometry Supplement) 6. The Trigonometric Functions Trigonometric Functions of Acute Angles (section 5.1) Applications of Right Triangles (section 5.2)

- Trigonometric Functions of Any Angle (section 5.3)
- Radians, Arc Length, and Angular Speed (section 5.4)
- Circular Functions: Graphs and Properties (section 5.5)
- Graphs of Transformed Sine and Cosine Functions (section 5.6)

7. Trigonometric Identities, Inverse Functions, and Equations

· Identities: Pythagorean and Sum and Di\_erence (section 6.1)

· Identities: Cofunction, Double-Angle, and Half-Angle (section 6.2)

Proving Trigonometric Identities (section 6.3)

• Inverses of the Trigonometric Functions (section 6.4)

Solving Trigonometric Equations (section 6.5)

8. Applications of Trigonometry

The Law of Sines (section 7.1)

• The Law of Cosines (section 7.2)

· Polar Coordinates and Graphs (section 7.4)

• Vectors and Applications (section 7.5) If time permits.

9. Systems of Equations and Matrices

• Systems of Equations in Two Variables (section 8.1)

• Systems of Equations in Three Variables (section 8.2)

10. Conic Sections

The Parabola (section 9.1)

• The Circle and the Ellipse (section 9.2)

• The Hyperbola (section 9.3)

11. Sequences, Series, and Combinatorics

• Sequences and Series (section 10.1)

· Arithmetic Sequences and Series (section 10.2)

Geometric Sequences and Series (section 10.3)

• The Binomial Theorem (section 10.7)

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