

MATH 172 Basic Technical Mathematics

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Office hours: As posted or by appointment

	Monday	Tuesday	Wednesday	Thursday	Friday
08:30-09:20					
09:30-10:20					
10:30-11:20		Lecture			
11:30-12:20	Lecture	Lecture	Lecture	Lecture	Lecture
12:30-13:20					
13:30-14:20					
14:30-15:20					
15:30-16:20					

This course in intermediate algebra covers real numbers, linear equations and inequalities, exponents, polynomials, rational expressions, rational exponents and radicals, quadratic equations, linear equations and inequalities in two variables and systems of linear equations.

Organization

In-class workload: 6 hours lecture per week
 Out-of-class workload: 6 to 12 hours per week
 Prerequisites: B in Math 050 or Math 10 or by assessment

Calculator Policy

Only ordinary scientific calculators (i.e. non-graphing and non-programmable) are permitted on quizzes and the final exam. On certain term test, calculators may not be permitted at all.

Text (Bring this to the class)

Intermediate Algebra (Third Edition) by Mark Dugopolski, McGraw Hill.

Assignment: Problems will be assigned every class; they are due at the beginning of the class on Tuesdays (starting October 1, 2002). This counts for 10% of the evaluation. You need to show all your work. NO late papers will be accepted. Solutions should be presented in a neat and clear fashion and the paper should be well organized (and stapled if there is more than one page).

Term Test: There will be 4 tests (Thursday Oct. 3, Thursday Oct. 24, Thursday Nov. 14 and Thursday Dec. 5). They count for 5%, 12%, 11% and 12% respectively (and hence a total of 40%) of the final mark. There is NO makeup. Medical excuse must be accompanied by your physician's note.

Final Exam: To be held in the week Dec 9 – Dec 13. This counts for 50% of the final mark. There is NO makeup.

Assessment

Assignment 10% of Final Mark
 4 Term Tests: 40% of Final Mark
 Final Exam: 50% of Final Mark

Percentage to Letter Grade Conversion

Percentage	Letter Grade
95 to 100	A+
90 to 94	A
85 to 89	A-
80 to 84	B+
75 to 79	B
70 to 74	B-
65 to 69	C+
60 to 64	C
50 to 59	D
below 50	F

Hints:

1. Attend all classes.
2. Start working on the exercises as soon as a section is covered.
3. Studying in groups is an efficient way to learn mathematics; on the other hand, learn to solve problems yourself.
4. Interurban Math Lab: Technology Centre TEC142. This drop-in center 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).

Name	Phone No.	Name	Phone No.

Outline

The course will follow the textbook fairly closely, covering the following topics:

Chapter 1 – The Real Numbers

- 1.1 Sets
- 1.2 The Real Numbers
- 1.3 Operations on the Set of Real Numbers
- 1.4 Evaluating Expressions
- 1.5 Properties of the Real Numbers
- 1.6 Using the Properties

Chapter 2 - Linear Equations and Inequalities in One Variable

- 2.1 Linear Equations in One Variable
- 2.2 Formulas
- 2.3 Applications
- 2.4 Inequalities
- 2.5 Compound Inequalities (optional)

Chapter 3 – Graph and Functions in the Cartesian Coordinate System

- 3.1 Graphing Lines in the Coordinate Plane
- 3.2 Slope of a Line
- 3.3 Three Forms for the Equation of a Line
- 3.4 Linear Inequalities and Their Graphs (omit graphing compound inequalities)

Chapter 4 - Systems of Linear Equations

- 4.1 Solving Systems by Graphing and Substitution
- 4.2 The Addition Method

Chapter 5 - Exponents and Polynomials

- 5.1 Integral Exponents and Scientific Notation
- 5.2 The Power Rules
- 5.3 Addition, Subtraction, and Multiplication of Polynomials
- 5.4 Multiplying Binomials
- 5.5 Division of Polynomials (omit synthetic division)
- 5.6 Factoring Polynomials
- 5.7 Factoring $ax^2 + bx + c$
- 5.8 Factoring Strategy
- 5.9 Solving Equations by Factoring

Chapter 6 - Rational Expressions

- 6.1 Properties of Rational Expressions
- 6.2 Multiplication and Division
- 6.3 Addition and Subtraction
- 6.4 Complex Fractions
- 6.5 Solving Equations Involving Rational Expressions
- 6.6 Applications

Chapter 7 - Rational Exponents and Radicals

- 7.1 Rational Exponents
- 7.2 Radicals
- 7.3 Operations with Radicals
- 7.4 More Operations with Radicals
- 7.5 Solving Equations with Radicals and Exponents
- 7.6 Complex Numbers

Chapter 8 - Quadratic Equations and Inequalities

- 8.1 Factoring and Completing the Square
- 8.2 The Quadratic Formula
- 8.3 More on Quadratic Equations