

**Mathematics 172: Basic Technical Mathematics**  
**Q2, 2003-2004**

**Instructor:** Patricia Wrean (Pat)

**Office:** CBA 153

**Telephone:** 370-4542

**E-mail:** wrean@camosun.bc.ca

**Web site:** <http://www.camosun.bc.ca/~wrean/>

**Office Hours:** Posted on office door and on website.

**Course Description:** This is a course in intermediate algebra. Topics: real numbers, linear equations and inequalities, polynomials, rational expressions, rational exponents, radicals, quadratic equations, linear equations and inequalities in two variables, and systems of linear equations.

**Prerequisites:** Math 10 or by assessment.

**Textbook:** M. Dugopolski, *Intermediate Algebra*, 4<sup>th</sup> Edition, McGraw-Hill, Boston, 2004. (3<sup>rd</sup> edition is also acceptable.)

**Calculator Policy:** No calculators are permitted.

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

Quizzes (6-7):	40%
Assignments (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 judged satisfactory, 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

---

**Course Content:**

Chapter 1 – The Real Numbers

Section 1.1: Sets	2 hours
Section 1.2: The Real Numbers	2 hours
Section 1.3: Operations on the Set of Real Numbers	1 hour
Section 1.4: Evaluating Expressions	1 hour
Section 1.5: Properties of the Real Numbers	1 hour
Section 1.6: Using the Properties	1 hour

Chapter 2 – Linear Equations and Inequalities in One Variable

Section 2.1: Linear Equations in One Variable	2 hours
Section 2.2: Formulas	1 hour
Section 2.3: Applications	2 hours
Section 2.4: Inequalities	1 hour
Section 2.5: Compound Inequalities	1 hour
Section 2.6: Absolute Value Equations and Inequalities (optional)	1 hour

Chapter 3 – Graphs and Functions in the Cartesian Coordinate System

Section 3.1: Graphing Lines in the Coordinate Plane	1 hour
Section 3.2: Slope of a Line	1 hour
Section 3.3: Three forms for the Equation of a Line	1 hour
Section 3.4: Linear Inequalities and Their Graphs	1 hour

Chapter 4 – Systems of Linear Equations:	
Section 4.1: Solving Systems by Graphing and Substitution	1 hour
Section 4.2: The Addition Method	1 hour
Chapter 5 – Exponents and Polynomials:	
Section 5.1: Integral Exponents and Scientific Notation	2 hours
Section 5.2: The Power Rules	1 hour
Section 5.3: Polynomials and Polynomial Functions	1 hour
Section 5.4: Multiplying Binomials	1 hour
Section 5.5: Factoring Polynomials	1 hour
Section 5.6: Factoring $ax^2 + bx + c$	1 hour
Section 5.7: Factoring Strategy	1 hour
Section 5.8: Solving Equations by Factoring	1 hour
Chapter 6 – Rational Expressions:	
Section 6.1: Properties of Rational Expressions	1 hour
Section 6.2: Multiplication and Division	1 hour
Section 6.3: Addition and Subtraction	1 hour
Section 6.4: Complex Fractions	1 hour
Section 6.5: Division of Polynomials (synthetic division optional)	2 hours
Section 6.6: Solving Equations Involving Rational Expressions	1 hour
Section 6.7: Applications	2 hours
Chapter 7 – Rational Exponents and Radicals:	
Section 7.1: Radicals	2 hours
Section 7.2: Rational Exponents	1 hour
Section 7.3: Operations with Radicals	1 hour
Section 7.4: Quotients, Powers, and Rationalizing Denominators	1 hour
Section 7.5: Solving Equations with Radicals and Exponents	2 hours
Section 7.6: Complex Numbers	1 hour
Chapter 8 – Quadratic Equations and Inequalities:	
Section 8.1: Factoring and Completing the Square	1 hour
Section 8.2: The Quadratic Formula	1 hour
Section 8.4: More on Quadratic Equations	1 hour