Math 71: Elementary Algebra
Winter 2017

Contact Information

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Course Information

When:	Monday-Thursday 8:30am-12pm
	Tuesday 1/3 throughTuesday 1/24
	No class Monday 1/16
Where:	NAC 4/125
Text:	Johnston, Willis & Hughes, *Developmental Mathematics*, 4th Edition.
	ISBN 13: 978-0-534-94500-8, ISBN 10: 0495014427

Overview

Each day we will begin class with a short quiz (10-15 min) based on the previous day's material. After this, new material will be presented and several example problems will be discussed as a class. Periodically the class will work individually on problem sets while I check-in with everyone and make myself available to answer questions one-on-one. Problems which are not finished during class will be assigned as homework.

The Midterm will be given on Thursday, January 12, and the Final Exam will be given on Tuesday, January 24. Partial credit will be awarded very sparingly and no credit will be awarded to answers which do not show work.

Attendance & Materials

Students are expected to arrive on time for every class. Attendance will be taken promptly at the beginning of class. Two late arrivals will be counted as one absence. You are permitted two absences only. Additional absences will

impact a student's grade.

Students are required to bring paper, a writing utensil, and the course textbook to class each day. Students should not bring a calculator to class, since they are not allowed in this course nor in most college math courses. Additionally, cell phones must be silenced and put away.

Course Grade

60%	Quizzes (daily)
15%	Midterm (Thursday, January 12)
25%	Final Exam (Tuesday, January 24)

Syllabus

Numbers refer to sections in the course textbook.

I. Fractions

- 2.1 The Meaning of Fractions
- 2.2 Multiplication of Fractions: An Introduction
- 2.3 Changing an Improper Fraction to a Mixed Number
- 2.4 Changing a Mixed Number to an Improper Fraction
- 2.5 Equivalent Fractions
- 2.6 Prime Factorization
- 2.7 Reducing Fractions to Lowest Terms
- 2.8 Adding and Subtracting Like Fractions
- 2.9 Lowest Common Denominator (LCD)
- 2.10 Adding and Subtracting Unlike Fractions
- 2.11 Adding Mixed Numbers
- 2.12 Subtracting Mixed Numbers
- 2.13 Multiplying Mixed Numbers
- 2.14 Division of Fractions
- 2.16 Powers and Roots of Fractions
- 2.17 Combined Operations (Order of Operations)
- 2.18 Comparing Fractions

II. Decimal Fractions

- 3.1 Reading and Writing Decimal Numbers
- 3.2 Rounding Off Decimals

- 3.3 Adding Decimals
- 3.4 Subtracting Decimals
- 3.5 Multiplying Decimals
- 3.6 Division of Decimals
- 3.7 Multiplying and Dividing Decimals by Powers of Ten
- 3.8 Powers and Roots of Decimals
- 3.9 Combined Operations
- 3.10 Changing a Fraction to a Decimal
- 3.11 Changing a Decimal to a Fraction
- 3.12 Operations with Decimals and Fractions
- 3.13 Comparing Decimals

III. Ratio, Proportion, and Percent

- 4.1 Ratio and Rate Problems
- 4.2 Proportion Problems
- 4.3 Word Problems Using Proportions
- 4.4 Percent
- 4.5 Finding a Fractional Part of a Number
- 4.6 Percent Problems
- 4.7 Word Problems Using Percent

IV. Signed Numbers

- 6.1 Signed Numbers
- 6.2 Adding Signed Numbers
- 6.3 Subtracting Signed Numbers
- 6.4 Multiplying Signed Numbers
- 6.5 Dividing Signed Numbers
- 6.6 Properties
- 6.7 Operations with Zero
- 6.8 Powers of Signed Numbers

V. Evaluating Expressions

- 7.1 Order of Operations
- 7.2 Grouping Symbols
- 7.3 Finding the Value of Expressions
- 7.4 Evaluating Formulas and Functional Notation

VI. Exponents

- 8.2 Positive and Zero Exponents
- 15.1 Negative Exponents
- 15.2 General Rule of Exponents
- 15.3 Scientific Notation

VII. Polynomials

- 8.1 Basic Definitions
- 8.3 The Distributive Rule
- 8.4 Combining like Terms
- 8.5 Adding & Subtracting Polynomials
- 8.6 Multiplication of Polynomials
- 8.7 Product of Two Binomials
- 8.8 Division of Polynomials

VIII. Equations and Inequalities

- 9.1 Solving Equations Having Only One Number on the Same Side as the Variable
- 9.2 Solving Equations Having Two Numbers on the Same Side as the Variable
- 9.3 Solving Equations in Which the Variable Appears on Both Sides
- 9.4 Solving Equations Containing Grouping Symbols
- 9.5 Conditional Equations, Identities, and Equations
- 9.6 Inequalities

IX. Word Problems

- 10.1 Changing Word Expressions into Algebraic Expressions
- 10.2 Solving Word Problems

X. Factoring

- 11.1 Prime Factorization and Greatest Common Factors (GCF)
- 11.2 Factoring by Grouping
- 11.3 Factoring the Difference of Two Squares
- 11.4 Factoring a Trinomial Whose Leading Coefficient is One
- 11.5 Factoring a Trinomial Whose Leading Coefficient is Not One
- 11.6 Factoring Completely
- 11.7 Solving Equations by Factoring

XI. Graphing

- 13.1 The Rectangular Coordinate System
- 13.2 Graphing Lines
- 13.3 Slope of a Line
- 13.4 Equations of Lines

XII. Systems of Equations

- 14.1 Graphical Method
- 14.2 Addition Method
- 14.3 Substitution Method
- 14.4 Using Systems of Equations to Solve Word Problems

XIII. Radicals

- 15.4 Square Roots
- 15.5 Simplifying Square Roots
- 15.6 Adding Square Roots
- 15.7 Multiplying Square Roots
- 15.8 Diving Square Roots

XIV. Quadratic Equations

- 16.1 General Form of a Quadratic Equation
- 16.2 Solving the Quadratic Equation by Factoring
- 16.3 Incomplete Quadratic Equations
- 16.4 The Quadratic Formula

XV. Geometry

- 17.2 Triangles
- 17.5 Perimeter
- 17.6 Area