MATH 3002DA

City Colleges of Chicago

Course Title: Math Refresher II

Length of course: 16 Weeks
Contact Hours: 3 Contact Hours
Credit Hours: 3 Credit Hours
Lecture Hours: 3 Lecture Hours
Lab Hours:
Weekly Plan: 3 Hours
Catalogue Description:

The course will cover the following: whole-number exponents; order of operations; measurement; polynomials and linear equations; graphing; geometry applications. Applications and problem-solving skills are emphasized throughout the course. The use of calculators is discouraged. Writing assignments, as appropriate to the discipline, are part of the course.

Students the Course is Expected to Serve:

This course is intended for students who have strong skills in arithmetic skills but lack skills in algebra or desire a review of the subject matter. Students must be high school graduates or GED recipients and intend to pursue a program in the credit division, but test below the minimum college entry levels as determined by CCC Placement Testing Policy

Pre-requisites:

Consent of Chair -- or
Placement Test -- and Concurrent Enrollment -- PC MATH 3001

Course Objectives:

1. Understand and make connections between numbers and algebra.
2. Convert phrases and sentences into algebraic forms to solve contextual problems.
3. Utilize algebraic and geometric formulas to solve contextual problems.
4. Develop the ability to perform computations without the use of technological or computer aids.
5. Write and communicate the results of problem solving appropriately.

Student Learning Outcomes:

Upon satisfactory completion of the course, students will be able to:

A. Know and use order of operations.
B. Understand the order relations on the set of real numbers and be able to

illustrate them on the real number line (review).

C. Know terminology of algebra, including: variables, like terms, factors, numerical coefficients, and constants.
D. Demonstrate knowledge of a variable as a representation of a number.
E. Evaluate algebraic expressions, whole-number exponents and introduce square roots of perfect squares.
F. Simplify algebraic expressions by combining like terms, including the removal of parentheses, braces or square brackets.
G. Translate verbal expressions into algebraic (or numerical) expressions and vice versa.
H. Recognize and represent numerical or algebraic expressions in equivalent forms.
I. Solve one step and two step linear equations in one variable.
J. Graph and interpret sets of data on a rectangular coordinate system.
K. Apply and interpret concepts involving measurement, including conversion between different units to multiple contextual situations.
L. Apply and interpret formulas involving ratio and proportions.
M. Apply and interpret formulas using area and perimeter, and volume for twoand
three-dimensional figures.
N. Apply and interpret angle measurement, including supplementary and complementary angles, to multiple contextual situations.

Topical Outline:

Suggested Timeframe

Week	**Topic**
1 – 2	Order of Operations & Terminology
3	Evaluate algebraic Expressions
4 – 5	Simplifying Algebraic Expressions
	Translating Expressions
6 - 7	Applications
	Solve Linear Equations
8 - 9	Applications
	Graphing
	Measurement & Estimation
10	Applications
	Ratios & Proportions

11 – 12

Applications

Ratios & Proportions

13

Applications

Geometry

14 – 16

Applications

Calendar:

Methods of Evaluation:

Total Percentage: 0%
Final grades (S or F) are determined. The weight given to exams, quizzes, and other instruments used for evaluation will be determined by the instructor. COMPASS and/or Department Exit Examination will also be used to evaluate the student

Methods of Assessment:

Exams, quizzes, homework and other assessments will be used as appropriate to measure student learning.

Methods of Instruction:

Problem-based activities, collaborative-learning techniques, and lecture will be used as appropriate.

Recommended Text:

1. Lial, Salzman and Hestwood *Basic College Mathematics* 7th Edition, Addison-Wesley, 2006 ISBN: 0-321-25780-4
2.Toby and Slater. Basic College Mathematics, 5th Edition, Prentice Hall, 2005
ISBN: 0-13-149057-5