

City Colleges of Chicago**Course Title: Math Refresher I**

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:

Topics in this course include a review of arithmetic, decimal, percents, and common fractions and their applications. This course provides an introduction to: signed numbers; estimation and rounding off; order of operations; ratios and proportions; and measurement. 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 lack strong skills in arithmetic 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 3002

Course Objectives:

1. Understand and make connections between arithmetic operations and properties of numbers.
2. Develop the number sense skills necessary for problem solving.
3. Develop the ability to perform computations without the use of technological or computer aids.
4. Write and communicate the results of problem solving appropriately.

Student Learning Outcomes:

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

- A. Demonstrate the order relations on the set of real numbers and be able to illustrate them on the real number line.

- B. Understand and apply properties of arithmetic operations.
- C. Perform operations on signed numbers (Introduction).
- D. Perform operations on various forms of numbers (fractions, mixed numbers, decimals, and percentages).
- E. Recognize and use positive integer exponents.
- F. Use order of operations to evaluate numerical expressions.
- G. Translate verbal expressions into numerical expressions and vice versa.
- H. Formulate and apply concepts of ratio and proportion to multiple contextual situations.
- I. Formulate and apply concepts involving various forms of numbers, including fractions, mixed numbers, decimals, and percents.
- J. Formulate and apply concepts involving measurement, including the conversion between different units to multiple contextual situations(Introduction).
- K. Formulate and apply concepts involving estimation and rounding to multiple contextual situations.

Topical Outline:

<u>Week</u>	<u>Topic</u>
1 – 2	Whole Numbers Fractions & Decimals
3 - 6	Applications with Fractions & Decimals Ratio & Proportion
7 – 9	Applications of Proportions Percents
10 11 - 12	Applications pf Percents Signed Numbers Measurement
13-14	Applications of Measurement Ratios & Proportions
15 – 16	Estimation & Rounding

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