

BOROUGH OF MANHATTAN COMMUNITY COLLEGE
City University of New York

Department of Mathematics

Basic Mathematics

Class hours: 4

MAT 8

Semester:

Credits: 0

Instructor Information:

Name:

Email:

Phone:

Office:

Course Description:

This is a course in arithmetic skills and the rudiments of algebra. Topics covered include whole numbers, fractions, decimals, percents, proportions, signed numbers, and solving simple linear equations.

Pre/Co-Requisites:

Co-Requisite: ESL 62. Students are placed into this course based on their ACCUPLACER (or equivalent) score.

Student Learning Outcomes and Assessment:

Course Student Learning Outcomes	Measurements
1. Students should be able to correctly compute a variety of operations involving real numbers in a number of different formats, including the correct usage of the order of operations.	1. Homework, quizzes, online problem assignments, midterm, final exam
2. Students should be able to correctly convert between a variety of real number types and formats.	2. Homework, quizzes, online problem assignments, midterm, final exam
3. Students should be able to make estimates and to check the reasonableness of solutions to calculations and problems involving real numbers.	3. Homework, quizzes, online problem assignments, midterm, final exam
4. Students should be able to solve applied word problems, including correctly setting up problems and translating between words and algebraic expressions and equations.	4. Homework, quizzes, online problem assignments, midterm, final exam

General Education Outcomes and Assessment:

General Education Learning Outcomes	Measurements
Communication Skills- Students will be able to write, read, listen and speak critically and effectively.	Homework, quizzes, online problem assignments, midterm, final exam
Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	Homework, quizzes, online problem assignments, midterm, final exam
Information & Technology Literacy- Students will be able to collect, evaluate and interpret information and effectively use information technologies.	Homework, quizzes, online problem assignments, midterm, final exam

Required Text and Technology

1. Bundle package: Geoffrey Akst and Sadie Bragg, *Basic Mathematics Through Applications, Fourth Custom Edition* with MyMathLab access code, Pearson Custom Publishing, 2008
ISBN 9781269903585.

OR

2. Stand-alone MyMathLab access code with eBook ISBN: 9781269891707

Math Lab Use:

The Math Lab is located in S535.

You will need a valid BMCC student ID to visit the Math Lab. Tutors are available in the Math Lab for free to all BMCC students. The Math Lab has worksheets with practice problems in stock, as well as computer- and video-based tutoring.

Use of Technology: You are required to use the **MyMathLab** online courseware system. It contains videos, homework problems, chapter tests and quizzes, step-by-step help, an online version of the textbook, and more. You can access the online courseware only by buying a **new textbook** that contains a student access card or by buying a **separate access code** from the bookstore or the publisher. **MyMathLab** can be accessed on any computer that has internet access.

Registering for MyMathLab: Before registering, you will need the following information:

1. E-mail address: Your professor will communicate with you via this address.
2. Course ID: Your course ID will be provided by your instructor.
3. Access Code: The required access code comes either with your book or by itself at your bookstore. Alternatively, you can buy instant access with a credit card or PayPal account during registration.

Once you have this information, you may register by following the directions below:

1. Go to www.mymathlab.com
2. Under the large **Register Now** section on the right side of the page, click on the **Student** button.
3. Read the on-screen instructions and click **OK! Register now.**
4. Next, enter the **Course ID** for your course. You will receive this from your professor.
5. **Create** a new Pearson account if you do not have one, or, if you have a Pearson account already, sign in with your username and password.
6. On the next page, you have three choices:
 - i) Click the **Access Code** button if you purchased a package with an access code from the bookstore
 - ii) Purchase instant access now by clicking on the purchase options under the **Use a Credit Card or PayPal** section.
 - iii) Choose Get temporary access without payment for 14 days, toward the bottom of the page to start your work. **MAKE SURE YOU BUY THE CODE BEFORE YOUR TEMPORARY ACCESS EXPIRES.**

Evaluation and Requirements of Students:

- The course grade will be either a passing grade of S (satisfactory), or a non-passing grade of R (repeat).
- You are also required to take a departmental Midterm Exam during the seventh week of classes.
- If your score on the Midterm Exam is below 70%, you are required to complete the online Intervention Assignments (on MyMathLab) with a score of 70% or higher on each assignment. All other students are strongly encouraged to complete these intervention assignments for extra practice and/or course grade improvement.
- You are also required to take a departmental Final Exam during the fourteenth week of classes.

- If your score on the departmental Final Exam is below 70% on your first try, you will be given a chance to take the Final Exam again during finals week.
- To pass the course, you must obtain a score of 70% or higher on the departmental Final Exam and also satisfy any additional requirements stated by the instructor. That may include homework, quizzes, tests, etc.
- Your course grade will be evaluated by the following distribution:

<u>REQUIRED Grade Distribution</u>	
Departmental Midterm Exam:	20 %
Departmental Final Exam:	35 %
Quizzes:	15 %
Homework and Participation:	30 %
Total	100%

BMCC is committed to the health and well-being of all students. It is common for everyone to seek assistance at some point in their life.

There are free and confidential services on campus that can help:

A. **Single Stop:** www.bmcc.cuny.edu/singlestop room S230, 212-220-8195.

If you are having problems with food or housing insecurity, finances, health insurance or anything else that might get in the way of your studies at BMCC, come by the Single Stop Office for advice and assistance. Assistance is also available through the Office of Student Affairs, S350, 212-220- 8130.

B. **Counseling Center:** www.bmcc.cuny.edu/counseling room S343, 212-220-8140

Counselors assist students in addressing psychological and adjustment issues (i.e., depression, anxiety, and relationships) and can help with stress, time management and more. Counselors are available for walk-in visits.

C. **Office of Compliance and Diversity:** www.bmcc.cuny.edu/aac room S701, 212-220-1236

BMCC is committed to promoting a diverse and inclusive learning environment free of unlawful discrimination/harassment, including sexual harassment, where all students are treated fairly. For information about BMCC's policies and resources, or to request additional assistance in this area, please visit or call the office, or email olevy@bmcc.cuny.edu, or twade@bmcc.cuny.edu. If you need immediate assistance, please contact BMCC Public safety at 212-220-8080.

D. Academic Adjustments for Students with Required Accommodations:

Office of Accessibility www.bmcc.cuny.edu/accessibility, room N360 (accessible entrance: 77 Harrison Street), 212-220-8180 This office collaborates with students who have documented disabilities, to coordinate support services, reasonable accommodations, and programs that enable equal access to education and college life. To request an accommodation due to a documented disability, please visit or call the office.

BMCC Policy on Plagiarism and Academic Integrity Statement:

Plagiarism is the presentation of someone else’s ideas, words or artistic, scientific, or technical work as one’s own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism. Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC’s web site, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).

Suggested Schedule:

Week 1	Whole numbers: adding, subtracting, estimating, multiplying and dividing, area, more applications	Week 8	Basic Algebra; Ratio and Proportion
Week 2	Exponents, averages, Order of Operations, begin word problems	Week 9	Intro to Percents Quiz on Algebra, Ratio and Proportion, applications on proportions; Percent equations; Percent applications: tax, percent increase and decrease, commission, etc.
Week 3	Word Problems; Quiz on whole numbers; Factors and prime numbers, divisibility rules; Fractions: fraction bars, reducing, mixed numbers, comparing size	Week 10	Percent review; Basic Statistics
Week 4	Fractions: review, and finding an equivalent fraction with a certain denominator; adding and subtracting; adding and subtracting mixed numbers	Week 11	Quiz on Percents and Basic Statistics Signed Numbers: intro, addition, absolute value, subtraction; multiplication and division; review of order of operations
Week 5	Fractions: review adding and subtracting; multiplying and dividing; multiplying and dividing mixed numbers	Week 12	Scientific Notation and integer review
Week 6	Fraction Review; Quiz on fractions; Decimals: intro, adding, subtracting, multiplying;	Week 13	Department Quiz 6: Signed Numbers and Scientific Notation; Review and practice exams
Week 7	Decimals: dividing decimals; Quiz on Decimals; Review for Departmental Midterm Exam; Departmental Midterm Exam: Whole Numbers, Fractions, and Decimals	Week 14	Department Final Exam; Exam Review
		Week 15	Second try for Final Exam

Outline of Topics

Whole Numbers

- Writing, rounding, adding, subtracting, multiplying, and dividing whole numbers
- Estimating the sum, difference, products and quotients of whole numbers
- Problems involving exponents, simple averages, and order of operations
- Prime factorizations of whole numbers
- Applied problems and word problems

Fractions

- Forming, reducing, adding, subtracting, multiplying, dividing and comparing fractions
- Converting between mixed numbers and improper fractions
- Solving applied problems and word problems

Decimals

- Writing, rounding, adding, subtracting, multiplying, dividing and comparing decimals
- Converting between decimals and fractions
- Solve applied problems and word problems

Basic Algebra

- Translating between word statements and simple algebraic statements
- Evaluating simple algebraic expressions and solving simple linear equations
- Solving word problems

Ratio and Proportions

- Writing and simplifying ratios and rates as fractions
- Finding units rates and best buys
- Setting up and solving proportion problems
- Solving applied problems and word problems

Percents

- Converting between decimals, percent and fractions
- Setting up and solving percent problems, including application problems involving percent

Signed Numbers

- Adding, subtracting, multiplying, dividing and comparing signed numbers
- Determining absolute value
- Completing word problems involving signed numbers

Basic Statistics

- Finding the mean median, mode, and range of a given set of numbers
- Reading and interpreting tables, line graphs, bar graphs and pie charts
- Solving applied problems and word problems involving basic statistics and bar graphs

Scientific Notation (supplemental worksheet in Math Lab)

- Converting numbers between standard form and scientific notation
- Adding, subtracting, multiplying, and dividing numbers in scientific notation
- Solving applied problems and word problems