

<b>BOROUGH OF MANHATTAN COMMUNITY COLLEGE</b> City University of New York <b>Department of Mathematics</b>
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**Basic Mathematics II****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, per cents, proportions, signed numbers, and solving simple linear equations.

**Pre/Co-Requisites:**

Co-Requisite: ESL 062. Students who score less than 26 on the COMPASS Pre-algebra exam are eligible to take MAT 8.

**Student Learning Outcomes and Assessment:**

<b>Course Student Learning Outcomes</b>	<b>Measurements</b>
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:**

<b>General Education Learning Outcomes</b>	<b>Measurements</b>
<b>Communication Skills-</b> Students will be able to write, read, listen and speak critically and effectively.	Homework, quizzes, online problem assignments, midterm, final exam.
<b>Quantitative Reasoning-</b> 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.
<b>Information &amp; Technology Literacy-</b> 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 Readings:**

- 1) Geoffrey Akst and Sadie Bragg, *Basic Mathematics through Applications, Fourth Custom Edition, book package with MyMathLab access code*, Pearson Custom Publishing, 2008 ISBN 9781269903585.

Updated 7/21/15

**OR 2)** Stand-alone MyMathLab access code with eBook (Code: 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:** All students 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. Students 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 given to you 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.pearsonmylabandmastering.com](http://www.pearsonmylabandmastering.com).
2. Under the large **Register** section on the right side of the page, and click the **Student** button.
3. Read the onscreen instructions and click **OK! Register now**.
4. Next, enter the **Course ID** for your course.
5. After this, either **Create** a new Pearson username and password, or, if you've already registered for another Pearson product (i.e. MyStatLab), **Sign In** with that username and password.
6. On the next page, click the **Access Code** button if you purchased a package with an access code from the bookstore, OR purchase instant access now by clicking on the purchase options under the **Use a Credit Card or PayPal** section.
7. You are now registered! Now, it's time to sign. Go to [www.pearsonmylabandmastering.com](http://www.pearsonmylabandmastering.com) and click the **Sign In** button in the top right. Enter your username and password.

#### **Evaluation and Requirements of Students:**

The final grade in this course will be a passing grade of S, or a failing grade of R. To pass the course, the student must pass a **departmental final examination with a grade of 70% or higher and also satisfy any additional criteria stated by the instructor**. Students are also required to take a departmental midterm examination during the seventh week of classes.

Students are required to complete online Intervention Assignments (on MyMathLab) with a score of **70% or better** (students may redo assignments until they obtain this score). Those students who pass the Departmental Midterm Exam with a 70% or better are exempt from the Intervention Assignment Requirement, but are **strongly** encouraged to do those assignments for practice. Our research has shown that **many more** students who do the Intervention Assignments pass the Departmental Final Exam than those who do not. Thus, it is a good idea for **all** students to do the Intervention

Assignments, even if they have passed the midterm. These assignments are an **excellent** way to prepare for the Departmental Midterm and Final Exams.

Students who qualify to take the final exam will take the test during the 14th week of classes. Students who do not pass the departmental final exam on their first try will be given a second chance to take the departmental final during the final exam period.

**College Attendance Policy:**

**1. Absences**

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For this course, you are allowed five hours of absence (not four days). In the case of excessive absence, the instructor has the option to assign an “R” or “WU” grade.

**2. Class Attendance**

- Attendance in both regular and remedial courses is mandated by policy of the City University of New York.
- Once classes begin, you must officially drop or withdraw from a course that you no longer want to attend before the deadlines (check the [Academic Calendar](#) for specific dates). \*

*\*Please Note: If you do not take action on the course, you will receive a grade of "WU or WN" (based on attendance). If the Office of the Registrar assigns a WN (which means you never attended the class during the first week of classes), you are still 100% liable for the tuition. However, if you stop attending at any time during the term then you should receive a grade of WU (Withdrawn Unofficially-same as an "F" grade) which counts as a failure in your GPA and may have financial repercussions.*

**3. Lateness**

Classes begin promptly at the times indicated in the Schedule of Classes. Arrival in classes after the scheduled starting time constitutes lateness. Latecomers may, at the discretion of the instructor, incur an official absence.

**Academic Adjustments for Students with Disabilities:**

Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

**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](http://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,
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	more applications
Week 2	Exponents, averages, Order of Operations,

	begin word problems
Week 3	Word Problems; <b>Quiz on whole numbers</b> ; Factors and prime numbers, divisibility rules; Fractions: fraction bars, reducing, mixed numbers, comparing size
Week 4	Fractions: review, and finding an equivalent fraction with a certain denominator; adding and subtracting; adding and subtracting mixed numbers
Week 5	Fractions: review adding and subtracting; multiplying and dividing; multiplying and dividing mixed numbers
Week 6	Fraction Review; <b>Quiz on fractions</b> ; Decimals: intro, adding, subtracting, multiplying;
Week 7	Decimals: dividing decimals; <b>Quiz on Decimals</b> ; Review for Departmental Midterm Exam; <b>Departmental Midterm Exam: Whole Numbers, Fractions, and Decimals</b>
Week 8	Basic Algebra; Ratio and Proportion

Week 9	Intro to Percents <b>Quiz on Algebra, Ratio and Proportion, applications of proportions</b> ; Percent equations; Percent applications: tax, percent increase and decrease, commission, etc.
Week 10	percent review; Basic Statistics
Week 11	<b>Quiz on Percents and Basic Statistics</b> Signed Numbers: intro, addition, absolute value, subtraction; multiplication and division; review of order of operations
Week 12	Scientific Notation and integer review
Week 13	<b>Department Quiz 6: Signed Numbers and Scientific Notation</b> ; Review and <b>practice exams</b>
Week 14	<b>Department Final Exam</b> ; Exam Review
Week 15	<b>Second try for Final Exam</b>

### 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