Basic Mathematics II

MAT 011  
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 062. Students who score 24 up to 26 on the COMPASS Pre-algebra exam are eligible to take MAT 011.

Student Learning Outcomes and Assessment:

<table>
<thead>
<tr>
<th>Course Student Learning Outcomes</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>1. Homework, quizzes, online problem assignments, midterm, final exam, CPAE.</td>
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<tr>
<td>2. Students should be able to correctly convert between a variety of real number types and formats.</td>
<td>2. Homework, quizzes, online problem assignments, midterm, final exam, CPAE.</td>
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<tr>
<td>3. Students should be able to make estimates and to check the reasonableness of solutions to calculations and problems involving real numbers.</td>
<td>3. Homework, quizzes, online problem assignments, midterm, final exam, CPAE</td>
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<tr>
<td>4. Students should be able to solve applied word problems, including correctly setting up problems and translating between words and algebraic expressions and equations.</td>
<td>4. Homework, quizzes, online problem assignments, midterm, final exam, CPAE</td>
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General Education Outcomes and Assessment:

<table>
<thead>
<tr>
<th>General Education Learning Outcomes</th>
<th>Measurements</th>
</tr>
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<tbody>
<tr>
<td>Communication Skills- Students will be able to write, read, listen and speak critically and effectively.</td>
<td>Homework, quizzes, online problem assignments, midterm, final exam, CPAE</td>
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<tr>
<td>Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.</td>
<td>Homework, quizzes, online problem assignments, midterm, final exam, CPAE</td>
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<tr>
<td>Information &amp; Technology Literacy- Students will be able to collect, evaluate and interpret information and effectively use information technologies.</td>
<td>Homework, quizzes, online problem assignments, midterm, final exam, CPAE</td>
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Required Text and Readings:

**Math Lab Use:** The Math Lab is located in S511. 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 MathXL 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 (at [www.mathxl.com](http://www.mathxl.com)). MathXL can be accessed on any computer that has internet access.

To register once you have a student access card, or to buy access online:

1. Make sure to get the **course ID** for your course from your instructor.
2. Go to [www.mathXL.com](http://www.mathXL.com).
3. Under “New User?” click on **Register** if you already have an access **Buy Now** if you want to purchase one online, and follow the steps complete your purchase.
4. Click **Accept** to agree to the License Agreement and Privacy Policy.
5. On the Access Information Screen, you’ll be asked whether you already have a Pearson Education Account. If you aren’t sure whether you have a Pearson account, select **Not Sure**. Enter your email address and click **Search**. If you have an account, your login information will be sent to your email address within a few moments. You can then change your selection to **Yes**, and enter your login name and password as directed. Otherwise, select **No**.
6. When the new bottom part of the screen appears, if you already have an access code, choose “Access code.” Enter the access code **from your textbook** in the boxes that look like this:

   ![Access Code](image)

   then click **Next**.

8. Enter information about yourself and BMCC (the zip code for BMCC is 10007). Enter the email address you use regularly (it does not have to be your BMCC email address).

Create your own password and username. **It can be any username and password that you want.** Write this username and password in a safe place. **From now on, you will get in by going to [www.mathXL.com](http://www.mathXL.com) and clicking on LOG IN under Returning Users.**

9. When your registration process is complete you will see a confirmation screen. Click **Log In Now** under MathXL or go to [www.mathxl.com](http://www.mathxl.com), enter your login name and password, and click on **Log In**.

10. On the Welcome to MathXL screen, click on **Enter MathXL.**
11. Select “I am taking a course that is using MathXL, and need to enroll instructor’s course.” Type your course ID into the boxes:

   ![Course ID](image)

   then click **Enroll**.

12. After you enter your Course ID, you’ll see the course name. Make sure that the name of the course is correct. Then click **Enroll**.

13. The Enrollment Confirmation screen will show you the course you have enrolled in and may prompt you to run the Browser Check or Installation Wizard. If you are using a computer off campus and logging into MathXL for the first time,** you must click Run Browser Check or Run Installation Wizard now.**

*Updated 7/27/11*
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, pass a departmental Computerized Pre-Algebra Exam (CPAE) with a grade of 60% 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 MathXL) with a score of 70% or better in order to qualify to take the Departmental Final exam (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 as well as the CPAE exam.

Students who qualify to take the final exam will take the test during the 14th week of classes. In order to qualify to take the Computerized Pre-Algebra Exam (CPAE), students must pass the departmental final with a grade of 70% or better, and must not be absent for more than 9 hours of class time. 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, and those students who pass the department final on their second try and also meet all attendance requirements will then be permitted to take the CPAE exam toward the end of 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 four hours of absence (not four days). In the case of excessive absence, the instructor has the option to lower the grade or assign an “R” or “WU” grade.

2. Class Attendance
If you do not attend class at least once in the first three weeks of the course and once in the fourth or fifth weeks, the Office of the Registrar is required to assign a grade of “WU”. Attendance in both regular and remedial courses is mandated by policy of the City University of New York. Instructors are required by New York State law to keep an official record of class attendance.

3. Lateness
Classes begin promptly at the times indicated in the Schedule of Classes. Arrival in classes after the scheduled starting time constitutes a 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. For further information on integrity and behavior, please consult the college bulletin (also available online).

Updated 7/27/11
### Suggested Schedule:

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