**BOROUGH OF MANHATTAN COMMUNITY COLLEGE**
City University of New York

**Department of Mathematics**

**Intermediate Algebra and Trigonometry**

**MAT 56**
**Semester:**
**Credits: 0**

**Class hours: 6**

**Instructor Information:**
**Name:**
**Email:**
**Phone:**
**Office:**

**Course Description:**
This course is an intermediate algebra and trigonometry course. It includes such topics as properties of real numbers, polynomials and factoring, equations and inequalities in one and two variables, systems of linear equations and inequalities, rational expressions and functions, rational exponents and roots, quadratic functions, exponential and logarithmic functions, and an introduction to trigonometry.

**Pre/Co-Requisites:**
Pre-requisite: MAT 12 or MAT 51 or the equivalent.

**Student Learning Outcomes and Assessment:**

| Course Student Learning Outcomes | Measurements |
|---|---|
| **1.** Students should be able to solve applied word problems, including correctly setting up problems and translating between words and algebraic expressions and equations. | **1.** Homework, quizzes, online problem assignments, midterm, final exam. |
| **2.** Students should be able to perform operations and solve equations involving algebraic and transcendental expressions in the real numbers, including polynomial, rational, radical, exponential, logarithmic and trigonometric expressions and equations, linear inequalities, systems of equations. | **2.** Homework, quizzes, online problem assignments, midterm, final exam. |
| **3.** Students should be able to represent equations in the real numbers graphically, and translate between graphical and algebraic forms, and use both graphical and algebraic forms to solve problems. | **3.** 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 Readings**:
Charles Mckeague, *Algebra with Trigonometry for College Students*, 5th edition. Brooks Cole, 2002.

**Math Lab Use:** The Math Lab is located in S535. It is dedicated to helping students improve their understanding of mathematics at any level. 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. Your instructor can require you to attend to tutoring in the Math Lab and they can also track how often you visit it and for how long. The Math Lab is typically open any day of the week when BMCC has classes in session; for current hours and more information about the Math Lab, see the webpage at http://www.bmcc.cuny.edu/mathlab/.

**Other Resources:** Practice departmental final exams can be found at
http://www.bmcc.cuny.edu/math/instructional_materials.jsp

**Evaluation and Requirements of Students:**

The final grade in this course will be: R(repeat), S(satisfactory), W(official withdrawal), WU(unofficial withdrawal).

At the beginning of the semester, the instructor will advise the student of the determination of the final grade which will be based on a mandatory final examination worth at least 30% of the final grade and any other criteria specified by the instructor. A **70% or higher** overall course average is a passing course average. The other criteria could include, but are not limited to class work, examinations, quizzes, and projects. Students can obtain copies of a practice departmental final exam in the Math Lab (room S535) or from their instructor. Students are required to attend all scheduled classes. The college's attendance policy, as stated in the catalog, gives instructors the option of assigning a failing grade to students who are excessively absent.

**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 seven hours of absence (not seven days). In the case of excessive absence, the instructor has the option of assigning a "WU" or "R" 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 (Withdrew 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 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 of 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** | **Chapter (see topics covered below)** |
|---|---|
| Week 1 | Basic Properties and Definitions |
| Week 2 | Basic Properties and Definitions |
| Week 3 | Equations and Inequalities in One Variable |
| Week 4 | Equations and Inequalities in Two Variables |
| Week 5 | Systems of Linear Equations,<br>Rational Expressions and Rational Functions |
| Week 6 | Rational Expressions and Rational Functions (cont.) |
| Week 7 | Rational Expressions and Rational Functions (cont.),<br>Rational Exponents and Roots |
| Week 8 | Rational Exponents and Roots (cont.) |
| Week 9 | Rational Exponents and Roots (cont.)<br>Quadratic Functions |
| Week 10 | Quadratic Functions (cont.)<br>Exponential and Logarithmic Functions |
| Week 11 | Exponential and Logarithmic Functions (cont.) |
| Week 12 | Introduction to Trigonometry |
| Week 13 | Introduction to Trigonometry (cont.),<br>Trigonometric Identities |
| Week 14 | Trigonometric Identities (cont.), Triangles |
| Week 15 | Final Exam Review, **Final Exam** |

| **Outline of Topics** | **Pages in Text** |
|---|---|
| Chapter R -Basic Properties and Definitions | |
| Exponents and Scientific Notation | 38 |
| Polynomials, Sums, Differences and Products | 49 |
| Factoring | 61 |
| Special Factoring | 70 |
| Chapter 1 -Equations and Inequalities in One Variable | |

*Optional topic