

BOROUGH OF MANHATTAN COMMUNITY COLLEGE

City University of New York

Department of Mathematics**Mathematics Literacy and
Quantitative Reasoning****Class hours: 6****MAT 161.5****Semester:****Credits: 3****Instructor Information:****Name:****Email:****Phone:****Course Description:**

This course aims to teach students how to interpret quantitative information, analyze quantitative data, and make inferences in contexts involving mathematical concepts. Topics include proportional reasoning, interpreting percentages, units and measurement, thinking critically, numbers in the real world, financial management, statistical reasoning, probability, and linear and exponential modeling. This course satisfies the mathematics requirement for the CUNY Pathways. This course **cannot** be used as a pre-requisite for MAT 56 and is not suited for Science, Technology, Engineering or Mathematics (STEM) majors or any major that requires MAT 56.

Pre/Co-Requisites:

Pre-Requisite: ESL 62 and ACR 94.

Students must have passed MAT 8 or been exempt by score on college placement test.

Students must not have passed or been exempt from MAT 12, MAT 14, MAT 41, MAT 51.

Student Learning Outcomes and Assessment:

Course Student Learning Outcomes	Measurements
1. Students will be able to interpret and draw appropriate inferences from quantitative representations, such as formulas, graphs, or tables.	Homework (online), quizzes, modular exams, final exam
2. Students will be able to use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems	
3. Students will be able to represent quantitative problems expressed in natural language in a suitable mathematical format.	
4. Students will be able to effectively communicate quantitative analysis or solutions to mathematical problems in written or oral form.	
5. Students will be able to evaluate solutions to problems for reasonableness using a variety of means, including informed estimation.	
6. Students will be able to apply mathematical methods to problems in other fields of study.	

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 (online), quizzes, modular exams, final exam
Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	
Information & Technology Literacy- Students will be able to collect, evaluate and interpret information and effectively use information technologies.	

Course Requirements:

Updated 5/2017

1. **Workbook:** *Quantitative Literacy and Reasoning workbook*, BMCC Edition 1.0. This workbook was designed by BMCC Quantitative Literacy with some lessons adopted from the materials developed by the Carnegie Foundation & the Charles A. Dana Center. Workbook is provided for students free of charge.
2. **Online Technology:** All students are required to use the **WebAssign** online courseware system. It contains homework, gradebook and an online version of the workbook. Students can purchase access directly from www.webassign.net for \$18. See the steps listed below to gain access to WebAssign.
3. **Calculator:** A **scientific calculator** is required. A TI-30X is recommended. Graphing calculators and calculator applications on portable devices (including smartphones) are not allowed.

Directions to Set-Up WebAssign:

1. Go www.webassign.net and select “Enter Class Key”



2. Enter the Class Key provided by your instructor
3. Create a WebAssign account and purchase the access

Evaluation and Requirements of Students:

The final grade in this course will be a letter grade based on the accumulated percentage calculated based on the weights of categories presented in the table below. At the beginning of the semester, the instructor will advise students on the determination of the class participation grade. A total of five departmental module exams and a cumulative departmental final examination will be given.

Grade Distribution:

Homework:	25 %	Module Exams:	30%
Class Participation:	15 %	Final Exam:	30%

Exemption from MAT 41:

The MAT161.5 Final Examination consists of two parts. The first part assesses the developmental component of the course. Students who fail the course but achieve at least 70% on the first part of this exam will be exempt from MAT 41 and advised to register for MAT161.

Student Services:

1. Math Lab

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.

2. Learning Resource Center (LRC)

To help make your college career a success, the Learning Resource Center (LRC) offers students academic support services to strengthen academic skills and meet their learning needs. LRC offers tutorial and instructional computer lab services and course-specific, non-print supplemental instructional materials. The LRC is located in room S-510 and all services are available free of charge to registered BMCC students. For more info visit <http://www.bmcc.cuny.edu/lrc/>

3. E-Tutoring

E-tutoring is available to all BMCC students. If you e-mail your question, you will receive response within 24 hours Monday to Friday except when classes are not in session. Questions submitted over the weekend, if not answered within 24 hours, will be answered on the following Monday. For further information, please call e-tutoring at 212-220-1380, send an email to e-tutoring@bmcc.cuny.edu or visit <http://www.bmcc.cuny.edu/etutoring/>

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 to lower the grade or assign an “F”, “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 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 Accessibility. 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).

Weeks	Topics Covered	Lesson #
Week 1	Introduction to Quantitative Literacy Logic, Fallacies, Critical Thinking in Everyday Life	1.1 1.2
Week 2	What Percent Affordable Care Act Whose Footprint is Bigger?	1.3 1.4 1.5
Week 3	Interpreting Statements About Percentages Module 1 Review & Module 1 Assessment	1.6 Exam 1
Week 4	How Crowded Are We? Counting Our Votes Measuring Change	2.1 2.2 2.3
Week 5	Picturing Data with Graphs What is Average?	2.4 2.5
Week 6	Inflation and Consumer Price Index Module 2 Review & Module 2 Assessment	2.6 Exam 2
Week 7	What are the Chances? Multiplication rule of probability Addition rule of probability	3.1 3.2 3.3
Week 8	Measure of spread: range, average deviation and standard deviation Quartiles, percentiles and boxplots	3.4 3.5
Week 9	Normal Distribution Module 3 Review & Module 3 Assessment	3.6 Exam 3
Week 10	What is the Correct Dose? The Facts on the Ground The Fixer Upper	4.1 4.2 4.3
Week 11	Balancing Blood Alcohol A Return to Proportional Reasoning Module 4 Review	4.4 4.5
Week 12	Module 4 Assessment Modeling Money More Linear Modeling	Exam 4 5.1 5.2
Week 13	Linear Regression Compounding Interest Makes Cents Finance and Loans	5.3 5.4 5.5
Week 14	Mortgages How Fast? (Modeling population growth) The Rising Seas	5.6 5.7 5.8
Week 15	Module 5 Assessment Review for the Final Exam	Exam 5 (Take Home)
Week 16	Final Exam	Final Exam