

MATH 102 – Mathematics for Everyday Life

Department of Mathematics and Statistics

Hunter College

3.0 hours, 3.0 credits

Course Description: This is a one semester course intended to expose liberal arts students to some basic tools in mathematics that are relevant and important in real, everyday life. The goals of this course are to strengthen your critical thinking skills and quantitative skills. Students will learn how to model real world problems with mathematics and solve them. Some of the topics included are personal finance, statistical reasoning, population growth, and voting theory. This course satisfies Hunter College's general education requirement: Stage I, Group B, Quantitative Reasoning.

Learning Outcomes: In this course a student will:

- Interpret and draw appropriate inferences from quantitative representations, such as formulas, graphs, or tables.
- Use algebraic, numerical, graphical, or statistical methods to draw accurate conclusions and solve mathematical problems.
- Represent quantitative problems expressed in natural language in a suitable mathematical format.
- Effectively communicate quantitative analysis or solutions to mathematical problems in written or oral form.
- Evaluate solutions to problems for reasonableness using a variety of means, including informed estimation.
- Apply mathematical methods to problems in other fields of study.

Prerequisites: CUNY Math Proficiency.

Textbook:

Using and Understanding Mathematics, A Quantitative Reasoning Approach, 5th edition, Jeffrey Bennett and William Briggs, Addison-Wesley.

Online Homework: This course uses *MyMathLab*, the online homework system offered by Pearson Publishing. Students must obtain the textbook bundled with *MyMathLab* access.

Topics Covered:

CHAPTER 4: Managing Money

- 4A Taking Control of Your Finances
- 4B The Power of Compounding
- 4C Savings Plans and Investments
- 4D Loan Payments, Credit Cards, and Mortgages

CHAPTER 5: Statistical Reasoning

- 5A Fundamentals of Statistics
- 5B Should You Believe a Statistical Study?
- 5C Statistical Tables and Graphs
- 5D Graphics in the Media
- 5E Correlation and Causality

CHAPTER 7:Probability: Living with the Odds

- 7A Fundamentals of Probability
- 7B Combining Probabilities
- 7C The Law of Large Numbers
- 7D Assessing Risk
- 7E Counting and Probability

CHAPTER 8: Exponential Astonishment

- 8A Growth: Linear versus Exponential

8B Doubling Time and Half Life

8C Real Population Growth

8D Logarithmic Scales: Earthquakes, Sounds, and Acids

CHAPTER 12: Mathematics and Politics

12A Voting: Does the Majority Always Rule?

12B Theory of Voting

Final Exam: This course has a comprehensive final exam. The final exam will be on the date scheduled by Hunter College for your particular section.

Suggested policy on Homework, Exams, and Grades:

Homework will be assigned on a regular basis and will count for 10% of your grade. We will use *MyMathLab*, an online homework system. You will soon receive details about how to login to *MyMathLab*.

There will be three exams and a *cumulative* final exam. The exams will count for 90% of your grade. The final will be worth two of the other exams.

Your lowest exam grade will be dropped. (If the final is the lowest grade it will be counted as one exam.) If you miss an exam, that will count as your lowest grade, so it will be dropped. If you miss the final exam you will receive a grade of WU. If you miss *two* exams prior to the final then your status in the course will be in serious jeopardy.

If you stop attending the course and do not withdraw, you will receive a grade of WU.

You may elect to take the course on a credit/no credit basis if you are eligible, but this is subject to the College's rules, which means you that you will not be eligible for credit/no credit grading unless you have attended most class periods, taken all the exams, including the Final Exam, and completed most of the homework.

Academic Integrity: *Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The college is committed to enforcing*

the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

Disabilities: If you have a disability that you believe requires special accommodations: In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/ or Learning) consult the Office of AccessABILITY located in Room E1214B to secure necessary academic accommodations. For further information and assistance please call (212- 772- 4857)/TTY (212- 650- 3230).