

MATH 100 – Finite Mathematics
Department of Mathematics and Statistics
Hunter College
3.0 hours, 3.0 credits

Course Description: The goal of this can be summarized as follows: a student should be able to critically read articles which use probability and statistics. By the end of the course a student should be able to discuss the examples taken from newspapers, which are listed on the course web page. Topics include combinatorics, probability theory, statistics, expected value.

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:

Finite Mathematics and its Applications, Goldstein, Schneider and Siegel, Fourth Custom Edition for Hunter College.

Topics Covered:

- Chapter 5: Sets and Counting

- Operations on Sets
- Inclusion/Exclusion Principle, De Morgan's Law
- Venn Diagrams
- Multiplication Principle
- Permutations and Combinations
- The Binomial Theorem
- Chapters 6: Probability
 - Experiments and Events
 - Calculating Probabilities of Events
 - Conditional Probability and Independence
 - Tree Diagrams
 - Bayes' Theorem
- Chapter 7: Probability and Statistics
 - Frequency Distributions
 - Histograms
 - Mean, Expected values
 - Variance and Standard Deviation
 - Bernoulli Trials
 - Normal Distribution

Other topics may be added by the instructor as time allows.

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.

There will be three exams and a *cumulative* final exam. Your course grade will be based on your exam scores. 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).