

Department of Mathematics

Introduction to Statistics
Mat 150
Professor:
Office:

Class hours: 4
Credits: 4
Telephone:
Email:

A. Course Description: This course covers basic statistics, including measures of central tendency, measures of dispersion, graphs, correlation, the regression line, confidence intervals, the significance of differences, and hypothesis testing, including z-tests, t-tests, and chi-square tests.

B. Prerequisites

Placement by the CUNY Proficiency Index or MAT 12, MAT 14, MAT 41, or MAT 51.
Students who have passed MAT 150.5 cannot take MAT 150.

C. Required Text and Supplementary Material

Your instructor will select one of the two textbooks below. Some instructors may require the purchase of an e-book with an online homework system.

1. Essentials of Statistics, Sixth Edition, By Mario E. Triola, 2018, Pearson Education, Inc.
2. Elementary Statistics: Picturing the World, Seventh Edition, By Ron Larson and Betsy Farber, 2018, Pearson Education, Inc.

Specific information will be provided on the first day of class. **Students should not purchase any textbook before consulting with the course instructor.**

D. Other Resources

Tutoring is available in the Mathematics Laboratory (S535). A schedule of tutoring hours may be obtained from the lab.

E. Use of Technology

A scientific (TI 83 OR TI 84) or graphing calculator will be required. Cell phone calculators are not allowed.

F. Evaluation and Requirements of Students

Suggested Grade Distribution

- Class Participation 10%
- Homework, quizzes and projects 15%
- Tests 20%
- Midterm 25%
- Final Exam 30%

The instructor will provide the exact grade distribution at the beginning of the semester.

G. Outline of Topics

<i>Class hours</i>	<i>Sections in Triola</i>	<i>Sections in Larson</i>	<i>Topics</i>
2 hours	1.1 – 1.3	1.1 – 1.3	Introduction to Statistics, Types of Data, Data Collection
8 hours	2.1 – 2.4 3.1 – 3.3	2.1 – 2.5	Exploring Data with Tables and Graphs, Measures of Center, Measures of Variation.
4 hours	4.1 – 4.4	3.1 – 3.4	Probability: Addition Rule, Multiplication Rule, Conditional Probability and Counting.
6 hours	5.1 – 5.2	4.1 – 4.2	Discrete Probability Distributions; Random Variables, Binomial Distributions.
8 hours	6.1 – 6.4	5.1 – 5.4	Normal Probability Distributions; Sampling distributions and the Central Limit Theorem.
8 hours	7.1 – 7.2	6.1 – 6.3	Confidence Intervals for Means and Proportions, Estimating Sample Sizes.
8 hours	8.1 – 8.3	7.1 – 7.4	Introduction to Hypothesis Testing, Tests for a Mean, Test for a Proportion.
4 hours	10.1 – 10.2	9.1 – 9.2	Correlation and Regression.
2 hours	11.1 – 11.2	10.1 – 10.2	Chi-squared tests of Independence and Goodness of Fit.

Student Learning Outcomes	Measurements
Students will be able to define the vocabulary, terminology and symbols used in statistics.	Quizzes, tests, labs, homework, or projects
Students will be able to construct and interpret simple statistical charts.	Quizzes, tests, labs, homework, or projects
Students will be able to calculate key statistics and parameters such as measures of central tendency, variation, and position.	Quizzes, tests, labs, homework, or projects
Students will be able to calculate elementary probabilities, as well as probabilities determined from continuous distributions (e.g., the normal distribution and central limit theorem).	Quizzes, tests, labs, homework, or projects
Students will be able to calculate confidence intervals and construct hypothesis tests.	Quizzes, tests, labs, homework, or projects
Students will be able to understand concepts in regression and correlation.	Quizzes, tests, labs, homework, or projects
Students will be able to use critical thinking to evaluate the strengths and weaknesses of statistical studies.	Quizzes, tests, labs, homework, or projects

Below are the college’s general education learning outcomes; the outcomes that are checked in the left-hand column indicate goals that will be covered and assessed in this course.

	General Education Learning Outcomes	Measurements (means of assessment for general education goals)
<input type="checkbox"/>	Communication Skills- Students will be able to write, read, listen and speak critically and effectively.	
<input checked="" type="checkbox"/>	Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	Quizzes, tests, homework, and\or projects
<input type="checkbox"/>	Scientific Reasoning- Students will be able to apply the concepts and methods of the natural sciences.	
<input type="checkbox"/>	Social and Behavioral Sciences- Students will be able to apply the concepts and methods of the social sciences.	
<input type="checkbox"/>	Arts & Humanities- Students will be able to develop knowledge and understanding of the arts and literature through critiques of works of art, music, theatre or literature.	
<input checked="" type="checkbox"/>	Information & Technology Literacy- Students will be able to collect, evaluate and interpret information and effectively use information technologies.	Quizzes, tests, homework, and\or projects
<input type="checkbox"/>	Values- Students will be able to make informed choices based on an understanding of personal values, human diversity, multicultural awareness and social responsibility.	

Class Participation

Participation in the academic activity of each course is a significant component of the learning process and plays a major role in determining overall student academic achievement. Academic activities may include, but are not limited to, attending class, submitting assignments, engaging in in-class or online activities, taking exams, and/or participating in group work. Each instructor has the right to establish their own class participation policy, and it is each student’s responsibility to be familiar with and follow the participation policies for each course.

BMCC is committed to the health and well-being of all students. It is common for everyone to seek assistance at some point in their life, and there are free and confidential services on campus that can help.

Single Stop www.bmcc.cuny.edu/singlestop, room S230, 212-220-8195. If you are having problems with food or housing insecurity, finances, health insurance or anything else that might get in the way of your studies at BMCC, come by the Single Stop Office for advice and assistance. Assistance is also available through the Office of Student Affairs, S350, 212-220- 8130.

Counseling Center www.bmcc.cuny.edu/counseling, room S343, 212-220-8140. Counselors assist students in addressing psychological and adjustment issues (i.e., depression, anxiety, and relationships) and can help with stress, time management and more. Counselors are available for walk-in visits.

Office of Compliance and Diversity www.bmcc.cuny.edu/aac, room S701, 212-220-1236. BMCC is committed to promoting a diverse and inclusive learning environment free of unlawful discrimination/harassment, including sexual harassment, where all students are treated fairly. For

information about BMCC's policies and resources, or to request additional assistance in this area, please visit or call the office, or email olevy@bmcc.cuny.edu, or twade@bmcc.cuny.edu. If you need immediate assistance, please contact BMCC Public safety at 212-220-8080.

Office of Accessibility www.bmcc.cuny.edu/accessibility, room N360 (accessible entrance: 77 Harrison Street), 212-220-8180. This office collaborates with students who have documented disabilities, to coordinate support services, reasonable accommodations, and programs that enable equal access to education and college life. To request an accommodation due to a documented disability, please visit or call the office.

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).