Business Statistics
Course Description, Requirements & Syllabus

Instructor: Pranabes Probeshika Dutta
Lecture time and venue: TuTh 10:45-12 noon at B - Vert 12-155
Office hours: By appointment
Email: pranabes.dutta@baruch.cuny.edu

COURSE DESCRIPTION

This course provides students with the statistical tools and concepts needed in business applications. Topics include: proper tabular and chart presentation; interpretation of descriptive measures; applications of probability and the normal distribution; confidence interval estimation; hypothesis testing; and simple linear regression models. Emphasis is on understanding data analysis and interpretation. Computations are facilitated using standard spreadsheet software, a valuable tool for the students. Discussions on ethical issues are integrated throughout the course. This course will enhance skills in critical thinking, as well as oral and written communication. Techniques learned in this course can be immediately used by the student.

COURSE OBJECTIVES

➢ To provide the student with a fundamental background in both descriptive and inferential statistical methods that are useful in all areas of their business studies.

➢ To make the student proficient in the use of the computer software.

➢ To enhance the student's skills in critical thinking.

COURSE MATERIALS

TEXT: The Practice of Statistics for Business and Economics 5th edition
Layth C. Alwan; Bruce A. Craig; George P. McCabe

Custom Package Title
The Practice of Statistics for Business and Economics 5e & Achieve for The Practice of Statistics for Business and Economics 5e (1-Term Online) for Baruch College CUNY

Students may select one of the two available options.

ISBN	Price	Includes
9781319591212	$87.99	Loose leaf + Achieve access
9781319591236	$66.99	Achieve access only

 Course code for registering: gqpmr5

GRADING POLICY

Midterms	25% each
Final	35%
Homework	15%

Make-up will not be allowed unless approved by the Office of the Dean of Students (DoS). A missed exam or homework will automatically result in a zero.

EARLY/MAKE-UP EXAM POLICY

In some limited circumstances, a student may request to take an exam early or to take a make-up exam. All requests must be made to the Office of the Dean of Students (DoS). The DoS will contact the instructor.

HOMEWORK ASSIGNMENTS

1. All homework assignments will be provided via MacMillan Achieve Platform.
2. You must need your **CUNY email address** for using Achieve.
3. If you are not enrolled in Achieve by **9/15/2025**, you will receive WU grades.

FINAL EXAMS

1. **Online Format**: The final exam will be administered online.
2. **Comprehensiveness**: The exam covers material from the entire course (cumulative).
3. **Excel**: During the exam, you may use Excel.
4. **Practice exam available**: Familiarize yourself with the online platform by taking the practice exam (link or instructions on how to access it).
5. **Reliable technology needed**: It's your responsibility to ensure your computer is ready for the exam and has a reliable internet connection.

STUDENTS WITH DISABILITIES

Baruch has a continuing commitment to providing reasonable accommodation for students with disabilities. Students with disabilities who may need some accommodation to fully participate in this class should contact Student Disability Services as soon as possible at disability.services@baruch.cuny.edu or call 646-312-4590. Students who need accommodation should contact the instructor as soon as possible.

ACADEMIC INTEGRITY

Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the college's educational mission and the students' personal and intellectual growth. Baruch students are expected to bear individual responsibility for their work and to uphold the ideal of academic integrity. Any student who attempts to compromise or devalue the academic process will be sanctioned. Please see the Baruch College Website for Further Information: http://www.baruch.cuny.edu/academic/academic_honesty.html

BBA Learning Goals

➢ Analytical skills: Students will possess the analytical and critical thinking skills to evaluate issues faced in business and professional careers.

➢ Technological skills: Students will possess the necessary technological skills to analyze problems, develop solutions and convey information.

➢ Communication Skills: Oral: Students will have the necessary oral communication skills to convey ideas and information effectively and persuasively.

> ➢ Communication Skills: Written: Students will have the necessary written communication skills to convey ideas and information effectively and persuasively.

> ➢ Civic Awareness and Ethical Decision-Making: Students will have the knowledge base and analytical skills to guide them when faced with ethical dilemmas in business. Students will have an awareness of political, civic and public policy issues affecting business.

RELIGIOUS ACCOMMODATIONS

REQUESTS FOR ACCOMMODATIONS

1. Students requesting a religious accommodation should contact the Office for Student Affairs at the College or unit in which they are enrolled. The Chief Student Affairs Officer, or a designee, and the student will engage in an interactive process with the goal of finding an acceptable accommodation.

2. Consistent with New York State Education Law § 224-a, students who are absent from school because of a religious belief will be given the equivalent opportunity, without any additional fee charged, to register for classes or make up any examination, study or work requirements missed because of such absence on any particular day or days.

3. Employees and applicants requesting a religious accommodation should contact the Office of Human Resources at the College or unit where they are employed or applying. The Director of Human Resources, or a designee, and the employee/applicant will engage in an interactive process with the goal of finding an acceptable accommodation. Classified civil service candidates who are required to take an exam or attend a hiring pool and are seeking an accommodation should follow the written instructions provided on the exam application, hiring pool instructions, or contact the HR Advisory Services unit in the Office of Human Resources Management in the Central Office.

4. Individuals requesting accommodations may be required to submit an intake form. In the case of requests for religious accommodations, the interactive process may include a consideration of a variety of factors, such as the individual's religious practices and the functions and requirements of the academic program or job. Reasonable accommodations may include, but are not limited to, flexible arrival and/or departure times, permission to make up a test or lecture, leave or assignment changes, time and/or space to pray, or an accommodation relating to appearance or dress.

5. CUNY generally will not question that a request for religious accommodation is based on a sincerely held belief. However, if CUNY has genuine reason to doubt that a belief qualifies as religious, or is sincerely held, CUNY may make a limited inquiry, asking for supporting documentation. The documentation submitted may include the requestor's first-hand explanation, or explanations from others, such as a religious official or clergy member, who are aware of the religious practice or belief.

6. A grant or denial of the request must be made in as soon as practicable, taking into account the urgency of the request, and sent in writing to the individual making the request, either stating the accommodation, or for denials, the reason(s) the request was denied.

APPEALS
Students, employees, and applicants may appeal a denial of their accommodation request by filing a complaint with the Chief Diversity Officer at their College or unit. The Chief Diversity Officer, or a designee, will mediate to try to resolve the issues between the individual and the College to find an acceptable accommodation. If a mutually acceptable accommodation cannot be determined, then the Chief Diversity Officer, or a designee, will investigate the complaint and make a recommendation to the College President, or if the employee works at the Central Office, then to the Vice Chancellor for

Human Resources Management. The College President or Vice Chancellor for Human Resources Management will make the final determination concerning the complaint. If the employee is covered by a collective bargaining agreement, the employee may discuss the matter with a union representative and exercise any rights available under such agreement.

ACADEMIC SUPPORT

Visiting Baruch's academic support services is correlated with higher grades. I encourage all students in this course to take advantage of these services: visit the tutors at SACC, work with the consultants at the Writing Center and Tools for Clear Speech and take advantage of office hours! Visit early and often!
Early in the semester, I will receive a survey that asks me to identify students who might be struggling in class. Those I name will be prompted by an email or text to visit one of our support services. Please respond to those invitations to meet with a tutor or consultant. Students who visit these services do better in their classes than students who do not.

There's no need to wait for an alert message to get help—you can start working with tutors from the start of the semester. Want more information? Try these links:

- SACC (Student Academic Consulting Center): SACC supports the academic success of undergraduates at Baruch College through small group peer tutoring and other programs, serving students in a wide variety of subjects across the curriculum. https://sacc.baruch.cuny.edu/
- Writing Center: The Writing Center offers free support to all Baruch students. Our professional consultants work collaboratively with you to deepen your writing and English language skills. https://blogs.baruch.cuny.edu/writingcenter/
- Tools for Clear Speech: TfCS offers a broad range of free tutorial sessions, workshops, and online practice to enhance the oral communication skills of Baruch's non-native English-speakers, multilinguals, and English language learners. https://tfcs.baruch.cuny.edu/

Mathematical and Quantitative Reasoning Learning Outcomes

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

BBA Learning Goals

ASSURANCE OF LEARNING

BBA Learning Goals	Significant Part of Course	Moderate Part of Course	Minimal Part of Course	Not Part of Course
Analytical skills	o			
Technological skills	o			
Oral communication skills		o		
Written communication skills		o		
Civic awareness and ethical decision-making		o		
Global awareness				o

Tentative Schedule

Topic I (1 Week)	**Examining Distributions**
	1.1 Data
	1.2 Displaying Distributions with Graphs
	1.3 Describing Distributions with Numbers
	1.4 Density Curves and the Normal Distributions

Topic II (1 Week) **Examining Relationships**
2.1 Scatterplots
2.2 Correlation
2.3 Least-Squares Regression
2.4 Cautions about Correlation and Regression
2.5 Data Analysis for Two-Way Tables

TOPIC III (1 Week) **Producing Data**
3.1 Sources of Data
3.2 Designing Samples
3.3 Designing Experiments
3.4 Data Ethics

TOPIC IV (3 Weeks) **Probability, Probability Distributions, Random Variables**
4 Probability: The Study of Randomness

5 Random Variables and Probability Distributions
5.1 Random Variables
5.2 Means and Variances of Random Variables
5.3 Common Discrete Distributions: Binomial distribution only   (excludes any material related to Poisson)

TOPIC V (1.5 Week) **Sampling Distributions**
6.1 Toward Statistical Inference
6.2 The Sampling Distribution of the Sample Mean

6.3 The Sampling Distribution of the Sample Proportion

TOPIC VI   **Introduction to Inference**
(1.5 Week)   7.1 Estimating with Confidence
                 7.2 Tests of Significance
                 7.4 Prediction Intervals

TOPIC VII   **Inference**
(2 Week)   *8 Inference for Means*
                 8.1 Inference for the Mean of a Population
                 8.2 Comparing Two Means
                 8.3 Additional Topics on Inference
                 10 Inference for Proportions
                 10.1 Inference for a Single Proportion
                 10.2 Comparing Two Proportions

TOPIC VIII   **Regression**
(2 Weeks)   *12 Inference for Regression*
                 12.1 Inference about the Regression Model
                 12.2 Using the Regression Line
                 12.3 Some Details of Regression Inference
                 13 Multiple Regression
                 13.1 Data Analysis for Multiple Regression
                 13.2 Inference for Multiple Regression