

KINGSBOROUGH COMMUNITY COLLEGE
The City University of New York

CURRICULUM TRANSMITTAL COVER PAGE

Department: _____ Date: _____

Title Of Course/Degree/Concentration/Certificate: _____

Change(s) Initiated: (Please check)

- | | |
|--|---|
| ☐ Closing of Degree | ☐ Change in Degree or Certificate |
| ☐ Closing of Certificate | ☐ Change in Degree: Adding Concentration |
| ☐ New Certificate Proposal | ☐ Change in Degree: Deleting Concentration |
| ☐ New Degree Proposal | ☐ Change in Prerequisite, Corequisite, and/or Pre/Co-requisite |
| ☐ New Course | ☐ Change in Course Designation |
| ☐ New 82 Course (Pilot Course) | ☐ Change in Course Description |
| ☐ Deletion of Course(s) | ☐ Change in Course Title, Number, Credits and/or Hours |
| | ☐ Change in Academic Policy |
| | ☐ Pathways Submission: |
| | ☐ Life and Physical Science |
| | ☐ Math and Quantitative Reasoning |
| | ☐ A. World Cultures and Global Issues |
| | ☐ B. U.S. Experience in its Diversity |
| | ☐ C. Creative Expression |
| | ☐ D. Individual and Society |
| | ☐ E. Scientific World |
| ☐ Change in Program Learning Outcomes | |
| ☐ Other (please describe): _____ | |

PLEASE ATTACH MATERIAL TO ILLUSTRATE AND EXPLAIN ALL CHANGES

DEPARTMENTAL ACTION

Action by Department and/or Departmental Committee, if required:

Date Approved: _____ Signature, Committee Chairperson: _____

If submitted Curriculum Action affects another Department, signature of the affected Department(s) is required:

Date Approved: 9/4/25 Signature, Department Chairperson: _____

Date Approved: _____ Signature, Department Chairperson: _____

I have reviewed the attached material/proposal

Signature, Department Chairperson: Rina Garmish



TO: Fall 2025 Curriculum Committee

FROM: Prof. Yarmish, Chair, Department of Mathematics & Computer Science
Prof. Jeffrey Lax, Department of Business

DATE: 9/4/2025

RE: Change in number of credits for Business Statistics (MAT/BA 2200)

The Department of Business and the Department of Mathematics & Computer Science are proposing a change in number of credits for Business Statistics (MAT/BA 2200).

FROM:

4 Credits, 4 hours

TO:

3 Credits, 4 hours (2 hours lecture, 2 hours lab)

Rationale for Change: The change in number of credits reflects curricular adjustments to allow for 2 lab hours and 2 lecture hours, as reflected in the course syllabus.

Kingsborough Community College
The City University of New York

Modifications in Credits/Hours for an Existing Course Form

1. Course Number and Title:

MAT/BA 2200 - Business Statistics

2. This Course is **currently** listed as:

 4 Credits 4 Hours (include break-down of lecture, lab, or gym)

3. **Proposed** Change in Credits/Hours (Please check **ONE** appropriate box below based on credits):

It is recommended that you refer to the “College Credits Assigned for Instructional Hours” PDF at
<http://kingsborough.edu/aa/Pages/forms.aspx>

Hours are hours per week in a typical 12-week semester

1-credit:	☐ 1 hour lecture ☐ 2 hours lab/field/gym
2-credits:	☐ 2 hours lecture ☐ 1 hour lecture, 2 hours lab/field ☐ 4 hours lab/field
3-credits:	☐ 3 hours lecture ☒ 2 hours lecture, 2 hours lab/field ☐ 1 hour lecture, 4 hours lab/field ☐ 6 hours lab/field
4-credits:	☐ 4 hours lecture ☐ 3 hours lecture, 2 hours lab/field ☐ 2 hours lecture, 4 hours lab/field ☐ 1 hour lecture, 6 hours lab/field ☐ 8 hours lab/field
More than 4-credits: ☐ Number of credits: ____ (explain mix lecture/lab below) ____ Lecture ____ Lab Explanation: _____	

4. Rationale/Justification for the change in credits/hours for this course:

The change in number of credits reflects curricular adjustments to allow for 2 lab hours and 2 lecture hours, as reflected in the course syllabus.

5. Include the **Current** Syllabus/Topical Course Outline and the **Proposed** Syllabus/Topical Course Outline for the course. **Highlight** areas that have been modified and serve as the justification for the proposed change in credits/hours for the course.

See attachments.

KINGSBOROUGH COMMUNITY COLLEGE

The City University of New York

1. DEPARTMENT, COURSE NUMBER AND TITLE:

Department of Mathematics and Computer Science, MAT 2200, Business Statistics (cross-listed with BA 2200)

2. GENERAL EDUCATION/CUNY COMMON CORE PATHWAYS CATEGORY:

Math and Quantitative Reasoning
Scientific World

3. COURSE TRANSFERS:

Baruch College, STA 2000
BMCC, MAT 150
Bronx Community College, MTH E2112
Brooklyn College, BUS 30.2
City College, ECO 29000
College of Staten Island MTH 113
Hostos Community College, MAT 120
Hunter College, STAT 113
John Jay College of Criminal Justice, STA 250
Laguardia Community College, MAT 121
Lehman College, MAT 132
New York City College of Technology, MAT 1272
Queens College, MATH 113
Queensborough Community College, MA 336
York College, ECON 220

4. COLLEGE CATALOG DESCRIPTION OF COURSE:

Cross-Listed With: BA 2200

An introduction to probability and statistics as they apply to business applications including data summary measures, discrete random variables and probability distributions, sampling methodologies and analysis, hypothesis testing and regression analysis. Special emphasis will be given to solutions of practical business problems.

Students who have completed MAT 19A0 or MAT 2000 or MAT 9100/BIO 9100 will not receive credit for this course.

4 Credits, 4 Hours

5. EQUATED CREDITS: (For Developmental Courses ONLY) N/A

6. COURSE PREREQUISITES, COREQUISITES AND SELECTED POPULATIONS:

A. Prerequisite(s): (1) MAT R300 or (2) MAT 9B0 or (3) MAT 9010 or (4) CUNY Proficiency AND ACCUPLACER (QAS) placement of MAT 900 (as of Fall 2026)

- B. Corequisite(s): N/A
 - C. Pre/Co-requisite(s): N/A
 - D. Open ONLY to selected students: N/A
7. **ENROLLMENT AND RATIONALE:**
- A. Projected enrollment: Approximately 60 students per semester
 - B. Suggested class limits: 20 students
 - C. Frequency course is likely to be offered: Fall and Spring semesters
 - D. Role of course in Department's curriculum and College's mission: Provide students in the Business concentration a firm foundation in the application of statistics to business making decisions.
8. **LIST COURSE(S), IF ANY, TO BE WITHDRAWN WHEN COURSE IS ADOPTED:** N/A
9. **IF COURSE IS AN INTERNSHIP, INDEPENDENT STUDY, OR THE LIKE, PROVIDE AN EXPLANATION AS TO HOW THE STUDENT WILL EARN THE CREDITS AWARDED:**
N/A
10. **PROPOSED TEXTBOOK(S) AND/OR OTHER REQUIRED INSTRUCTIONAL MATERIAL(S):**
Business Statistics: For Contemporary Decision Making, 9th Edition, by Ken Black, published by Wiley, ISBN: 9781119450528
11. **IS THE COURSE REQUIRED FOR A MAJOR, CONCENTRATION OR CERTIFICATE:**
No. Recommended for business majors who plan to transfer to baccalaureate programs.
12. **EXPLANATION OF WHAT STUDENTS WILL KNOW AND BE ABLE TO DO UPON COMPLETION OF COURSE:**
Upon passing the course, students will be able to apply probability and statistics to business applications including data summary measures, discrete random variables and probability distributions, sampling methodologies and analysis, hypothesis testing and regression analysis using a basic scientific calculator.
13. **METHOD(S) OF TEACHING:**
Classes may be conducted either in person or online (synchronous or asynchronous)
14. **ASSIGNMENTS TO STUDENTS:**
Homework assignments and Projects
15. **METHOD OF EVALUATING LEARNING:**
Homework assignments and classroom examinations
16. **TOPICAL COURSE OUTLINE FOR THE 12 WEEK SEMESTER:**
- | <u>Hours</u> | <u>Topics</u> |
|--------------|---------------|
|--------------|---------------|

1-3	Frequency Distributions Construction of a frequency distribution Class limits Cumulative frequency distributions Graphic presentations of frequency distributions
4-7	Descriptive and Summary Measures Frequency Distributions Mean Median Mode Distance measures-quartiles, percentiles Variance and standard deviation
8	Examination
9-15	Introduction to Probability Definitions & terminology Joint probability Marginal probability Counting principles and techniques
16- 20	Discrete Random Variables and Probability Distributions Random variables Characteristics of probability distribution functions Binomial distribution Statistics for Business with Computer Applications Poisson distribution Expected values for probability distributions
21	Examination
22-25	Sampling Methods Fundamentals sampling techniques Sampling error Questioning design
26-28	Estimation

	Confidence interval
29-32	Hypothesis Testing Determining sample size Rationale for hypothesis testing
33	Examination
34-37	Chi-Squared and ANOVA Testing One- and B two B tailed tests
38-43	Regression and Correlation Analysis Notation and methods of calculations Expressing relationships among variables Scatter diagrams Linear regression Estimating using the regression line Correlation analysis B measures of association
44-47	Index Numbers Limitations to regression and correlation analysis Need and use of index numbers Index number construction Common index numbers
48	Review

17. SELECTED BIBLIOGRAPHY AND SOURCE MATERIAL(S):

Black, Ken, Business Statistics Contemporary Decision Making, 2nd ed., West Publishing Company, 1997

Kvanli, Introduction to Business Statistics, 4th ed., South-Western Publishing Company, 1996

Daniel, Wayne W., Business Statistics for Management & Economics, 7th ed., Houghton Mifflin Company, 1995

Weiers, Ronald M., Introduction to Business Statistics, 3rd ed., Brooks/Cole Publishing Company, 1997

Mason, Robert D., Statistical Techniques in Business & Economics Business Statistics software, 9th ed., Richard D. Irwin, 1996

Brightman, Statistics for Business Problem Solving, 2nd ed., Wadsworth Publishing Company, 1994

Oakshott, Les, Essential Elements of Business Statistics, State Mutual Book & Periodical Service, Limited, 1994

Hartman, Walter, Understanding Business Statistics, 2nd ed., Richard D. Irwin, 1993

Department:	Mathematics and Computer Science
Course Designation/Prefix:	MAT/BA (cross-listed with BA 2200)
*Course Number:	2200
Course Title:	Business Statistics
Course Description: (Description should include language similar to Course Learning Outcomes)	An introduction to probability and statistics as they apply to business applications including data summary measures, discrete random variables and probability distributions, sampling methodologies and analysis, hypothesis testing and regression analysis. Special emphasis will be given to solutions of practical business problems. Students who have completed MAT 19A0 or MAT 2010 or MAT 2000 or MAT 9100/BIO 9100 will not receive credit for this course.
Prerequisite(s):	(1) MAT R300 or (2) MAT 9B0 or (3) MAT 9010 or (4) CUNY Proficiency AND ACCUPLACER (QAS) placement of MAT 900
Corequisite(s):	N/A
Pre-/Co-requisite(s):	N/A
Frequency course is to be offered (Select All that Apply)	☒ Fall ☒ Winter ☒ Spring ☒ Summer
Suggested Class Limit:	20

1. Credits and Hours based on MSCHE Guidelines for *College Credits Assigned for Instructional Hours* -***Hours are based on hours per week in a typical 12-week semester :**

3-credits:	☐ 3 hours lecture ☒ 2 hours lecture, 2 hours lab/field ☐ 1 hour lecture, 4 hours lab/field ☐ 6 hours lab/field
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2. **Where** does this course fit? Select from the following:

☒ General Education/Pathways	☐ Life and Physical Science (LPS) ☒ Math and Quantitative Reasoning (MQR) ☐ World Cultures and Global Issues (Group A) ☐ U.S. Experience in its Diversity (Group B) ☐ Creative Expression (Group C) ☐ Individual and Society (Group D) ☒ Scientific World (Group E)
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4. **List the Course Learning Outcomes:**

Course Learning Outcomes
1. Interpret Data (Descriptive Measures / Probability Theory)
2. Communicate Quantitative Analysis (Normal Distribution)
3. Evaluate Solutions (Linear Systems / Regression Analysis)
4. Apply Mathematical Methods (Hypothesis Testing)

5. **Assessment of Course Learning Outcomes:** The Course Learning Outcomes are measurable/demonstrable through the below listed sample assignments/activities. Include percentage breakdown for grading.

REMINDER - Assessment of Course Learning Outcomes are based on a **Common Syllabus** – to allow for any qualified instructor to teach the course.

Course Learning Outcome	Percentage of Grade	Measurement of Learning Outcome (Artifact/Assignment/Activity)
1. Interpret Data	25	Homework / Test
2. Communicate Quantitative Analysis	25	Homework / Test
3. Evaluate Solutions	25	Homework / Test
4. Apply Mathematical Methods	25	Homework / Test

6. **Transfer** – Provide a general explanation of the transferability of this course. Address all of the following in your explanation:

Course satisfies the Required Core: Mathematical and Quantitative Reasoning, and the Flexible Core: Scientific World requirements.

7. Textbook(s):

Business Statistics: For Contemporary Decision Making, 9th Edition, by Ken Black, published by Wiley, ISBN: 9781119450528

8. **Attach a Common Syllabus** that includes the Topical Course Outline for the 12-week semester. This should be **specific** and **explicit** regarding the topics covered and should contain the detailed sample assignments/activities being used to measure the Course Learning Outcomes. **REMINDER** – be mindful to focus on the Course Learning Outcomes, Course Content, and Assessment.

Class Hour (L – Lab)	Topics
1	Variables and Data
2	Measures of Center
3 L	Measures of Variation
4 L	The Five-Number Summary; Boxplots
5	Descriptive Measures for Population; Use of Samples; Business application
6	Discrete Random Variables and Probability Distributions
7 L	The Mean and Standard Deviation of a Discrete Variable
8 L	The Binomial Distribution
9	Review
10	Test
11 L	Probability Basics
12 L	Events
13	Some Rules of Probability with business application
14	Contingency Tables; Joint and Marginal Probabilities
15 L	Conditional Probability
16 L	The Multiplication Rule; Independence
17	Counting Rules
18 L	Review
19	Test
20 L	Introducing Normally Distributed Variables
21	Areas under the Standard Normal Curve
22	Working with Normally Distributed Populations with business application

23 L	Normal Approximation to the Binomial Distribution
24 L	Sampling Error
25	The Mean and Standard Deviation of the Sample Mean
26 L	The Sampling Distribution of the Sample Mean
27 L	Review
28	Test
29	Estimating a Population Mean with business application
30	Confidence Intervals for Mean: Standard Deviation Known
31 L	Confidence Intervals for Mean: Standard Deviation Unknown
32 L	The Nature of Hypothesis Testing
33	Critical-Value Approach to Hypothesis Testing
34	P-Value Approach to Hypothesis Testing
35 L	Hypothesis Tests for Mean: Standard Deviation Known
36 L	Hypothesis Tests for Mean: Standard Deviation Unknown
37	Review
38	Test
39 L	Confidence Intervals for One Population Proportion with business application
40 L	Hypothesis Tests for One Population Proportion
41	Linear Equations with One Independent Variable
42	The Regression Equation
43 L	The Coefficient of Determination
44 L	Linear Correlation
45	Review
46	Test
47 L	Review for Final Exam
48 L	Review for Final Exam

9. Selected Bibliography and Source materials:

Black, Ken, Business Statistics Contemporary Decision Making, 2nd ed., West Publishing Company, 1997

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