

STAT-83: ESSENTIAL MATHEMATICS FOR STATISTICS

Effective Term

Fall 2026

CC Approval

09/19/2025

AS Approval

10/09/2025

BOT Approval

10/16/2025

SECTION A - Course Data Elements

Send Workflow to Initiator

No

CB04 Credit Status

Credit - Non-degree Applicable

Discipline

Minimum Qualifications	And/Or
Mathematics (Master's Degree)	

Subject Code

STAT - Statistics

Course Number

83

Department

Mathematics

Division

Mathematics (MATH)

Full Course Title

Essential Mathematics for Statistics

Short Title

Essential Math for Statistics

CB03 TOP Code

1702.00 - Mathematics Skills

CB08 Basic Skills Status

NBS - Not Basic Skills

CB09 SAM Code

E - Non-Occupational

Rationale

Updating subject code to align with common course numbering changes.

SECTION B - Course Description

Catalog Course Description

This course is open only to students who concurrently enroll in Statistics. Students will review and apply concepts from arithmetic, algebra and geometry to the understanding of college level statistics. Concepts will be covered using a just-in-time approach for understanding of the corresponding statistics concepts as they are presented in statistics.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit

No

Repeatability

Not Repeatable

Grading Options

Pass/No Pass Only

Allow Audit

Yes

Requisites

Corequisite(s)

Concurrent enrollment in STAT-C1000 or equivalent.

Requisite Justification

Requisite Description

Non-course Requisite

Level of Scrutiny

Requisite Established by Statute/Regulation

Explanation

Required corequisite option as per AB705.

SECTION D - Course Standards

Is this course variable unit?

No

Units

2.00000

Lecture Hours

18.00

Activity Hours

36.00

Outside of Class Hours

54

Total Contact Hours

54

Total Student Hours

108

Distance Education Approval

Is this course offered through Distance Education?

Yes

Online Delivery Methods

DE Modalities	Permanent or Emergency Only?
Entirely Online	Permanent
Hybrid	Permanent
Online with Proctored Exams	Permanent

SECTION E - Course Content**Student Learning Outcomes**

Upon satisfactory completion of the course, students will be able to:	
1.	Perform arithmetic and/or algebraic operations, as needed for statistics calculations.
2.	Generate graphs, such as histograms, dot plots and lines.
3.	Interpret the slope and y-intercept of a linear equation.

Course Objectives

Upon satisfactory completion of the course, students will be able to:	
1.	Perform arithmetic operations involving integers, fractions and decimals.
2.	Convert between number forms such as fraction, decimal, scientific notation and percent notation.
3.	Convert between units of measure.
4.	Use the Order of Operations to evaluate and simplify expressions, such as those used for calculating measures of center and variation.
5.	Solve equations in one variable.
6.	Graph solutions to equations and inequalities on the number line.
7.	Understand and use interval notation to represent compound inequalities.
8.	Solve literal equations.
9.	Graph points on a plane.
10.	Graph linear equations.
11.	Identify and interpret slope and y-intercept.
12.	Understand and use set notation.
13.	Write and compute sums using sigma notation.
14.	Compute the area of a rectangle.
15.	Use appropriate and effective study skills.

Course Content

Using a just-in-time approach, the following content will be covered as needed for success in the corequisite statistics course.

1. Identify integers, fractions, decimals, percentages and irrational numbers.
2. Perform arithmetic operations using fractions and decimals by hand.
3. Round decimals.
4. Reduce fractions to lowest terms.
5. Convert between decimal, fraction and percent notation.
6. Convert between scientific and decimal notation.
7. Calculate and interpret percentages.
8. Convert quantities between units of measurement.
9. Identify variables in context.
10. Evaluate and simplify expressions using the Order of Operations.
11. Evaluate expressions using given values.
12. Evaluate expressions including square roots.
13. Solve equations in one variable.
14. Solve literal equations.
15. Interpret inequality notation.
16. Understand and apply interval and plus/minus notation to the solution of compound inequalities.
17. Identify numbers both in and out of closed and open intervals.
18. Graph points on a plane.

19. Graph scatterplots using application data.
20. Find and interpret the y-intercept from a graph and a given equation.
21. Find and interpret the slope from two points, an equation and a graph.
22. Graph linear equations using points, slope-intercept, and point-slope.
23. Write and solve linear equations to model data.
24. Use set notation.
25. Determine the intersection, union and complement of sets.
26. Use sigma notation.
27. Compute area of rectangles.
28. Effective Student Skills - Students should study.
 - a. Affective Domain exercises including Growth Mindset and Grit
 - b. Effective note taking and study strategies
 - c. Effective time management
 - d. Test-taking strategies
 - e. Campus resources

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Lecture	In class lecture.
Discussion	Discussion of class topics.
Group Work	Practice problems in groups.

Online Adaptation

Types	Examples of learning activities
Lecture	Online lecture.
Discussion	Discussion of class topics.
Group Work	Practice problems in groups.

Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards
 Discussion Boards
 E-mail Communication
 Video or Teleconferencing

Student-Initiated Online Contact Types

Discussions
 Group Work

Course design is accessible

Yes

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Class Participation	Participate in class discussions related to course content.
Lab Activities	Obtain real world data and draw conclusions using statistical analysis.
Homework	Homework problems from the book. Homework worksheets involving the exploration of data.
Other	Additional assessment information: The Mathematics Department maintains a commitment to diverse teaching methods in courses emphasizing vital quantitative skills and qualitative reasoning ability. To that end, it is expected that sufficient formative assessments will be given to students that in frequency, length and rigor adequately assess both quantitative skills and qualitative reasoning.

Assignments

Reading Assignments

Read the section on slope as a rate of change before our next class and be ready to apply those concepts to an in-class activity.

Writing Assignments

Example 1: (Online or Paper Homework) Complete assigned exercises from the applicable section in the text.

Example 2: (Group Project) Graph the given ordered pairs. Draw the line of best fit and then find the equation for the line. Then interpret the slope and y-intercept.

Outside-of-Class Assignments

Other assignments as needed.

SECTION F - Textbooks and Instructional Materials

Material Type

Other required materials/supplies

Description

Use of textbook and materials from concurrently enrolled statistics course or equivalent.

SECTION G - Diversity, Equity and Inclusivity

How does your course and/or course outline of record reflect strategies for accommodating and engaging diverse student populations, advancing equitable outcomes, and fostering inclusion for all students?

Instructors utilize data sets and information from diverse backgrounds and individuals. Instructors use open educational resources and low-cost materials.

Course Codes (Admin Only)

CB00 State ID

CCC000602585

CB10 Cooperative Work Experience Status

N - Is Not Part of a Cooperative Work Experience Education Program

CB11 Course Classification Status

Y - Credit Course

CB13 Special Class Status

N - The Course is Not an Approved Special Class

CB23 Funding Agency Category

Y - Not Applicable (Funding Not Used)

CB24 Program Course Status

Not Program Applicable

Allow Pass/No Pass

Yes

Only Pass/No Pass

Yes