

# MATH-83: ESSENTIAL MATHEMATICS FOR STATISTICS

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## Effective Term

Fall 2025

## CC Approval

02/07/2025

## AS Approval

02/13/2025

## BOT Approval

02/20/2025

## COCI Approval

04/30/2025

## SECTION A - Course Data Elements

### CB04 Credit Status

Credit - Non-degree Applicable

### Discipline

#### Minimum Qualifications

Mathematics (Master's Degree)

#### And/Or

### Subject Code

MATH - Mathematics

### Course Number

83

### Department

Mathematics (MATH)

### 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

Common course numbering course update.

## SECTION B - Course Description

### Catalog Course Description

MATH-83 is open only to students who concurrently enroll in STAT-C1000, 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 STAT-C1000. This course is not appropriate for math, science, computer science, business, or engineering majors.

## 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**

Course Not in a Sequence

**Subject**

STAT

**Course #**

C1000

**Level of Scrutiny**

Closely Related Lecture/Lab Courses

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## 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

### 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.

**Other 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 Math 232 or equivalent.

**Course Codes (Admin Only)****ASSIST Update**

No

**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