

MATH-85: ELEMENTARY ALGEBRA

Justification for this inactivation request

We are no longer allowed to teach this class (per AB 705). It is not appropriate to have it listed in our catalog and give students false hope.

Effective Term

Fall 2025

CC Approval

09/20/2024

AS Approval

10/24/2024

BOT Approval

11/21/2024

COCI Approval

03/13/2025

SECTION A - Course Data Elements

CB04 Credit Status

Credit - Non-degree Applicable

Discipline

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

Subject Code

MATH - Mathematics

Course Number

85

Department

Mathematics

Division

Mathematics (MATH)

Full Course Title

Elementary Algebra

Short Title

Elementary Algebra

CB03 TOP Code

1702.00 - Mathematics Skills

CB08 Basic Skills Status

NBS - Not Basic Skills

CB09 SAM Code

E - Non-Occupational

SECTION B - Course Description

Catalog Course Description

This course is a review of basic mathematics, operations on real numbers, and algebraic expressions. It includes traditional arithmetic, pre-algebra and an introduction to algebra for students needing to develop or improve basic computational and

quantitative reasoning skills. This course is recommended for students who wish to study business, science, technology, engineering or mathematics and need to learn foundational topics.

SECTION C - Conditions on Enrollment

Open Entry/Open Exit

No

Repeatability

Not Repeatable

Grading Options

Letter Grade or Pass/No Pass

Allow Audit

Yes

Requisites

SECTION D - Course Standards

Is this course variable unit?

No

Units

4.00

Lecture Hours

54.00

Activity Hours

36.00

Outside of Class Hours

126

Total Contact Hours

90

Total Student Hours

216

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.	Graph points in the Cartesian plane and linear equations.
2.	Solve simple equations.
3.	Perform arithmetic operations.

Course Objectives

Upon satisfactory completion of the course, students will be able to:	
1.	Perform operations with real numbers, including decimals, fractions and absolute values;
2.	Use and solve ratios, proportions and percents;
3.	Solve linear equations and inequalities;
4.	Graph points and lines;
5.	Simplify algebraic expressions using the order of operations;
6.	Use exponents and simplify polynomials;
7.	Use geometric formulas for perimeter and area and;
8.	Study for a math class effectively.

Course Content

1. Real numbers
 - a. Addition
 - b. Subtraction
 - c. Multiplication
 - d. Division
 - e. Rounding
2. Decimals
 - a. Addition
 - b. Subtraction
 - c. Multiplication
 - d. Division
 - e. Rounding
3. Fraction
 - a. Addition
 - b. Subtraction
 - c. Multiplication
 - d. Division
4. Percentages
 - a. Ratios and proportions
 - b. Converting between decimals, fractions, and percentages
 - c. Finding percentages using ratios and translation
 - d. Sales tax, tipping, and interest
5. Order of Operations
 - a. Integer exponents
 - b. Scientific notation
 - c. Absolute values
 - d. Simplifying expressions
6. Solving Equations
 - a. Solving one and two step equations
 - b. Contradictions and identities
7. Inequalities
 - a. Solving
 - b. Set builder notation
 - c. Interval notation
 - d. Graphing solutions
8. Cartesian graphing
 - a. Axis and scale
 - b. Plotting points
 - c. Graphing lines by plotting points
 - d. Graphing lines with intercepts
 - e. Slope
 - f. Graphing lines with $y = m x + b$
 - g. Horizontal and vertical lines and their slopes
9. Polynomials

- a. Definitions (term, coefficient, degree)
 - b. Identifying monomials, binomials, and trinomials
 - c. Combining like terms
 - d. Simple adding and subtracting
 - e. Simplifying monomials (reducing and integer exponents)
 - f. Multiplying a polynomial by a monomial
 - g. Factoring out greatest common factors
 - h. Factor trinomials with $a = 1$
10. Geometry
- a. Perimeter (polygons and circles)
 - b. Area of triangles, rectangles, and circles
 - c. Angles in a triangle
11. Study skills / affective domain (this should be integrated into the class, not taught as a separate section)
- a. Growth mindset and grit
 - b. How to study for a math class
 - c. Test taking strategies
 - d. Campus resources

Methods of Instruction

Methods of Instruction

Types	Examples of learning activities
Activity	
Lecture	
Other	Projects

Online Adaptation

Types	Examples of learning activities
Activity	
Directed Study	
Discussion	
Group Work	
Individualized Instruction	
Journal	
Lecture	

Instructor-Initiated Online Contact Types

Announcements/Bulletin Boards
 Chat Rooms
 Discussion Boards
 E-mail Communication
 Telephone Conversations
 Video or Teleconferencing

Student-Initiated Online Contact Types

Chat Rooms
 Group Work

Course design is accessible

Yes

Methods of Evaluation

Methods of Evaluation

Types	Examples of classroom assessments
Exams/Tests	Final Exam Mid Term

Quizzes

Projects

Homework

Other

In face-to-face classes, it is recommended that one hour a week in the Math Success Center be assigned as a homework assignment worth 3 - 5% of the semester grade.

The Mathematics Department maintains a commitment to diverse teaching methods in courses emphasizing vital quantitative skills and qualitative reasoning ability (PEP Program Mission Statement, 2011). 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.

Example questions:

1. A calculator returns a value of 9.32475E-8. Write this value in decimal notation.
2. Graph $y = (-2/3)x - 3$

Assignments

Reading Assignments

Read the section on slope before our next class period and be prepared to do 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 Activity: Graph the given ordered pairs. Find and graph the equation of the line through those points.

SECTION F - Textbooks and Instructional Materials

Material Type

Textbook

Author

Bittinger, M, D. Ellenbogen, B. Johnson

Title

Prealgebra

Edition/Version

7th

Publisher

Pearson

Year

2016

SECTION G - Diversity, Equity and Inclusivity

Course Codes (Admin Only)

CB00 State ID

CCC000602586

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

No