Glendale College

Course Outline of Record Report

Course ID - 010654

Revision - November 2025

MATH100+ : College Algebra for STEM with Support

General Information

Author:	• Suzanne Palermo
Course Code (CB01) :	MATH100+
Course Title (CB02) :	College Algebra for STEM with Support
Department:	MATH
Proposal Start:	Fall 2026
TOP Code (CB03) :	(1701.00) Mathematics, General
CIP Code:	(27.0101) Mathematics, General.
SAM Code (CB09) :	E - Non-Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000642842
Curriculum Committee Approval Date:	11/12/2025
Board of Trustees Approval Date:	12/09/2025
Last Cyclical Review Date:	12/13/2023
Course Description and Course Note:	MATH 100+ is a college (transfer) level course in algebra with a built-in support lab component. We cover many topics, including functions and their inverses, transformations of functions, first and second-degree equations and inequalities, logarithmic and exponential equations, graphs of linear and quadratic functions, conic sections, polynomial functions, exponential functions, logarithmic functions, real-world Science, Technology, Engineering, and Mathematics (STEM) applications, remainder and factor theorems, properties and applications of complex numbers, systems of equations, and sequences and series. When appropriate, we will discuss the cultural and historical context for these concepts, and throughout the course, we explore strategies for successful math-classroom experience and critical thinking/problem-solving strategies. Note: No credit will be given for MATH 100+ if you have completed MATH 100, MATH 101E, MATH 110 or MATH 110A AND MATH 110B. The maximum number of units given for MATH 100+ AND MATH 110A or MATH 111 is 6 units.
Justification:	Content Change
Academic Career:	• Credit
Mode of Delivery:	No value
Author:	No value
Course Family:	No value

Academic Senate Discipline

Primary Discipline:	• Mathematics
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

☐ Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

GE Status (CSU) B4, (UC) 2

Transferability

Transferable to both UC and CSU

Transferability Status

Approved

Cal-GETC	Area	Status	Approval Date	Comparable Course
Area 2: Mathematical Concepts and Quantitative Reasoning	Mathematical Concepts and Quantitative Reasoning	Approved	09/02/2025	No Comparable Course defined.

GCC General Education Requirements	Area	Status	Approval Date	Comparable Course
Area 2: Mathematical Concepts and Quantitative Reasoning	Mathematical Concepts and Quantitative Reasoning	Approved	09/02/2025	No Comparable Course defined.

Units and Hours

Summary

Minimum Credit Units (CB07)	4.5
Maximum Credit Units (CB06)	4.5
Total Course In-Class (Contact) Hours	99
Total Course Out-of-Class Hours	144
Total Student Learning Hours	243

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Funding Agency Category (CB23)

Not Applicable.

☐ Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	4	8
Laboratory Hours	1.5	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	72
Laboratory	27
Studio	0
Total	99
Course Out-of-Class Hours	
Lecture	144
Laboratory	0
Studio	0
Total	144

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

Prerequisites, Corequisites, Recommended Corequisites, and Recommended Preparation

Prerequisite

Placement is based on academic background or satisfactory completion of Intermediate Algebra.

Entry Standards

Entry Standards	Description
No value	No value

Course Limitations

Cross Listed or Equivalent Course	Description
MATH 100 - College Algebra for STEM	No Value

Requisite Validation

Upload Statistical Validation and/or other documents (if necessary)

No Value

Specifications

Methods of Instruction

Methods of Instruction	
Methods of Instruction	Lecture
Methods of Instruction	Laboratory
Methods of Instruction	Discussion
Methods of Instruction	Collaborative Learning
Methods of Instruction	Demonstrations
Methods of Instruction	Presentations

Out of Class Assignments

- Homework (eg. problem sets related to course content.)
- Group assignments and projects (e.g. determine the shape and dimensions of maximum area using a string of fixed length, determine if the shoe size and height of a group of students form a linear relationship)
- Graphing calculator and/or computer assignments

Methods of Evaluation	Description of Activity/Interaction
Project/Portfolio	Projects (e.g. engineering presentation on structure of buildings and bridges)
Exam/Quiz/Test	Quizzes
Exam/Quiz/Test	Four to six chapter examinations are required
Exam/Quiz/Test	A comprehensive final examination is required

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Blitzer, Bob	College Algebra	Pearson	2019	9780136165774

Other Instructional Materials (i.e. OER, handouts)

No Value

Learning Outcomes

Course Objectives

Analyze the following functions: polynomial, rational, radical, absolute value, exponential and logarithmic (including definitions, evaluation, and domain and range).

Graph functions, including asymptotic behavior, intercepts, vertices and transformations.

Perform operations on functions.

Find inverses of functions; solve equations including: linear, polynomial, radical, rational, absolute value, exponential and logarithmic.

Solve linear, absolute value, and non-linear inequalities.

Solve linear and non-linear systems of equations and inequalities; apply the Fundamental Theorem of Algebra and related theorems to find the roots of a polynomial.

Model and solve STEM application problems.

Graph and algebraically analyze conic sections.

Use formulas to find sums of finite and infinite series.

SLOs

Solve and graph various functions, equations, and inequalities at the college algebra level. Expected Outcome Performance: 70.0

ESL Upon completion of this program students will:	Apply content knowledge of chosen electives in order to select a degree and/or career pathway.
	Use English reading, writing, listening, and speaking skills at an advanced level of academic proficiency.
ST DV Liberal Arts: Science and Mathematics Emphasis A.A. Degree	Apply mathematical and scientific ideas to analyze real-world situations.

Critically analyze mathematical formulas, models, and graphs and be able to explain solutions clearly and effectively.
Expected Outcome Performance: 70.0

ESL Upon completion of this program students will:	Apply content knowledge of chosen electives in order to select a degree and/or career pathway.
	Use English reading, writing, listening, and speaking skills at an advanced level of academic proficiency.
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Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

Basic Concepts (9 hours)
- Real numbers
- Exponents and radicals
- Algebraic expressions
- Rational expressions
- Mindset (growth, resilience, hardiness, and grit)

Equations and Inequalities (12 hours)
- First degree equations
- Quadratic equations
- Complex numbers
- Other types of equations
- Linear inequalities
- Quadratic and other non-linear inequalities
- Applications to STEM problems (uniform motion, geometry, mixture)
- Math test-taking techniques

Functions and Their Graphs (13 hours)
- Cartesian Coordinate System
- Graphs and equations
- Graphs of functions and relations including transformations
- Quadratic functions
- Operations on functions
- One-to-one functions and inverses
- College math support resources

Polynomial Functions (13 hours)
- The Remainder Theorem and the Factor Theorem
- Synthetic division
- The Fundamental Theorem of Algebra
- Rational roots
- Graphing polynomial functions
- Rational functions
- STEM optimization applications
- Study Skills: Critical thinking skills

Exponential and Logarithmic Functions (12 hours)
- Exponential functions
- Logarithmic functions
- Properties of logarithms
- Exponential and logarithmic equations
- Common and natural logarithms
- Applications to population growth and decay

Systems of Equations (8 hours)
- Systems of linear equations in 2 variables
- Systems of linear equations in more than 2 variables
- Non-linear systems of equations in 2 variables
- Modeling STEM problems using systend of equations

Other Topics (5 hours)
- Conic sections – analytic geometry
- Sequences and series

Total hours: 72

Laboratory/Studio Content

Algebra Review Content (13 hours)

- Review of Factoring
- Review of Exponents
- Review of Simplifying Equations
- Review of Solving Equations

College Algebra Content (14 hours)

- Functions
- Graphing
- Solving Equations

Total hours: 27

Additional Information

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Is it possible this course will have a material fee?

No

I have contacted my library liaison (https://campusguides.glendale.edu/faculty/liaisons):

No

What term(s) will this course be offered?

Fall/Winter/Spring/Summer

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value