

Glendale College
Course Outline of Record Report

Course ID 010483
 Revision - March 2025

ABSE35 : Integrated Mathematics 2A

General Information

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Course Code (CB01) :	ABSE35
Course Title (CB02) :	Integrated Mathematics 2A
Department:	ABSE
Proposal Start:	Spring 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?:	Yes
Course Control Number (CB00) :	CCC000613458
Curriculum Committee Approval Date:	03/26/2025
Board of Trustees Approval Date:	06/17/2025
Last Cyclical Review Date:	03/26/2025
Course Description and Course Note:	ABSE 35 focuses on algebraic functions, operations with polynomials, quadratic models, and complex numbers. This course is designed to meet the needs of students who wish to continue their study of Integrated Mathematics and earn high school credit in mathematics. Laboratory 100 hours. Note: This is a self-paced course in an open-entry, open-exit lab environment. Successful completion of the course results in 5 high school credits.
Justification:	Content Change
Academic Career:	<ul style="list-style-type: none"> • Noncredit
Mode of Delivery:	<ul style="list-style-type: none"> • Online
Author:	No value
Course Family:	No value

Academic Senate Discipline

Primary Discipline:	<ul style="list-style-type: none"> • Mathematics-Basic Skills: Non-Credit
Alternate Discipline:	No value
Alternate Discipline:	No value

Course Development

Basic Skill Status (CB08)

Course is 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)

One level below transfer.

Grading Basis

- Grade Only

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Not transferable

Transferability Status

Not transferable

Units and Hours

Summary

Minimum Credit Units (CB07)	0
Maximum Credit Units (CB06)	0
Total Course In-Class (Contact) Hours	100
Total Course Out-of-Class Hours	0
Total Student Learning Hours	100

Credit / Non-Credit Options

Course Type (CB04)

Non-Credit

Noncredit Course Category (CB22)

Elementary and Secondary Basic Skills.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Non-Enhanced Funding.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education

Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	0	0
Laboratory Hours	100	0
Studio Hours	0	0

Course Student Hours

Course Duration (Weeks)	18
Hours per unit divisor	54
Course In-Class (Contact) Hours	
Lecture	0

Laboratory	100
Studio	0
Total	100
Course Out-of-Class Hours	
Lecture	0
Laboratory	0
Studio	0
Total	0

Time Commitment Notes for Students

This is a self-paced course in an open-entry, open-exit lab environment.

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

Advisory

ABSE19 - Integrated Mathematics 1B

Objectives

- Compare linear and exponential growth.
- Interpret the parameters in a linear or exponential function in terms of a context.
- Write arithmetic and geometric sequences both recursively and with an explicit formula.
- Make a variety of formal geometric constructions using a variety of tools.
- Experiment with transformations in the plane.
- Understand congruence in terms of rigid motions.
- Explain triangle congruence in terms of rigid motion.
- Prove theorems about lines and angles, triangles, and parallelograms.

AND

Advisory

ESL30 - ENGLISH AS A SECOND LANGUAGE LEVEL 3 (in-development)

Objectives

- Develop coherence and mechanical accuracy.
- Demonstrate mastery of grammatical structures studied at a level sufficient to pass unit tests and the divisional grammar mastery test for this level.
- Converse at a functional level adequate for everyday use on the campus and in the community.

Entry Standards	
Entry Standards	Description
No value	No value

Course Limitations	
Cross Listed or Equivalent Course	Description
No value	No value

Requisite Validation
Upload Statistical Validation and/or other documents (if necessary)
No Value

Specifications	
Methods of Instruction	
Methods of Instruction	Discussion
Methods of Instruction	Multimedia
Methods of Instruction	Independent Study
Out of Class Assignments	
N/A	
Methods of Evaluation	Description of Activity/Interaction
Other	Individualized contract
Exam/Quiz/Test	Assessments at the end of each chapter
Exam/Quiz/Test	Unit exams

Textbook Rationale

No Value

Textbooks

Author	Title	Publisher	Date	ISBN
Timothy D. Kanold	California Integrated Mathematics 2	Houghton Mifflin Harcourt Publishing Company	2015	9780544389885

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

Description	Instructor generated materials
Author	No value
Citation	No value
Online Resource(s)	No value

Learning Outcomes**Course Objectives**

Determine the domain, range, and end behavior of a function.

Transform the graph of the function $f(x)$.

Solve absolute value equations and inequalities.

Write a radical expression with a rational exponent.

Add, subtract, and multiply monomials, binomials, and polynomials.

Use the graph of a quadratic function to solve its related quadratic equation.

Apply the Zero Product Property to solve quadratic equations in factored form.

Choose a method for solving a given quadratic equation: factoring, using square roots, completing the square, etc.

Solve a system of equations when one equation is linear and the other is quadratic.

Use the linear regression function on a graphing calculator to find the line of best fit for a two variable data set.

Utilize exponential functions to model the increase or decrease of a quantity over time.

Determine whether a given data set is best modeled by a linear, quadratic, or exponential function.

Define a complex number and use them to solve addition, subtraction, and multiplication problems.

Utilize the standard form for the equation of a circle.

Apply the distance formula for deriving equations for both vertical and horizontal parabolas.

Find the inverses of functions from their graphs.

Graph transformations of parent square root functions and parent cube root functions.

SLOs

Analyze piecewise, exponential and quadratic functions using different representations.

Expected Outcome Performance: 70.0

<p><i>ILOs</i> Core ILOs</p>	<p>Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.</p>
	<p>Use quantitative and/or analytical mathematical skills to solve problems and to interpret, evaluate, and process information and data to draw logical conclusions and support claims.</p>

<p><i>ABSE</i> NCR AHS Diploma</p>	<p>Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.</p>
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<p><i>ABSE</i> NCR Adult Basic Education</p>	<p>Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.</p>
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Determine the methods for solving quadratic equations: factoring, using square roots, completing the square, etc.

Expected Outcome Performance: 70.0

<p><i>ABSE</i> NCR AHS Diploma</p>	<p>Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.</p>
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ABSE
NCR Adult Basic
Education

Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.

ILOs
Core ILOs

Use quantitative and/or analytical mathematical skills to solve problems and to interpret, evaluate, and process information and data to draw logical conclusions and support claims.

Construct and compare linear, quadratic and exponential models and utilize them to solve problems.

Expected Outcome Performance: 70.0

ILOs
Core ILOs

Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas.

Use quantitative and/or analytical mathematical skills to solve problems and to interpret, evaluate, and process information and data to draw logical conclusions and support claims.

ABSE
NCR AHS Diploma

Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.

ABSE
NCR Adult Basic
Education

Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.

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

No value

Laboratory/Studio Content

Analyzing Functions (7 hours)

- Domain, Range, and End Behavior
- Characteristics of Function Graphs
- Inverses of Functions

Absolute Value Functions, Equations, and Inequalities (7 hours)

- Graphing Absolute Value Functions

- Solving Absolute Value Equations
- Solving Absolute Value Inequalities

Rational Exponents and Radicals (7 hours)

- Understanding Rational Exponents and Radicals
- Simplifying Expressions with Rational Exponents and Radicals

Adding and Subtracting Polynomials (7 hours)

- Understanding Polynomial Expressions
- Adding Polynomial Expressions
- Subtracting Polynomial Expressions

Multiplying Polynomials (7 hours)

- Multiplying Polynomial Expressions by Monomials
- Multiplying Polynomial Expressions
- Special Products of Binomials

Graphing Quadratic Functions (7 hours)

- Understanding Quadratic Functions
- Transforming Quadratic Functions
- Interpreting Vertex Form and Standard Form

Connecting Intercepts, Zeros and Factors (7 hours)

- Connecting Intercepts and Zeros
- Connecting Intercepts and Linear Factors
- Applying the Zero Product Property to Solve Equations

Using Factors to Solve Quadratic Equations (7 hours)

- Solving Equations by Factoring $x^2 + bx + c$
- Solving Equations by Factoring $ax^2 + bx + c$
- Using Special Factors to Solve Equations

Using Square Roots to Solve Quadratic Equations (11 hours)

- Solving Equations by Taking Square Roots
- Solving Equations by Completing the Square
- Using the Quadratic Formula to Solve Equations
- Choosing a Method for Solving Quadratic Equations
- Solving Nonlinear Systems

Linear, Exponential, and Quadratic Models (12 hours)

- Fitting a Linear Model to Data
- Graphing Exponential Functions
- Modeling Exponential Growth and Decay
- Modeling with Quadratic Functions
- Comparing Linear, Exponential, and Quadratic Models

Quadratic Equations and Complex Numbers (7 hours)

- Solving Quadratic Equations by Taking Square Roots
- Complex Numbers
- Finding Complex Solutions of Quadratic Equations

Quadratic Relations and Systems of Numbers (7 hours)

- Circles
- Parabolas
- Solving Linear-Quadratic Systems

Functions and Inverses (7 hours)

- Graphing Polynomial Functions
- Understanding Inverse Functions
- Graphing Square Root Functions
- Graphing Cube Root Functions

Total Hours: 100

Additional Information

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

Non-credit courses

Is it possible this course will have a material fee?

No

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

Yes

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