

Glendale College
Course Outline of Record Report

Course ID 010484
 Revision - March 2025

ABSE36 : Integrated Mathematics 2B

General Information

Author:	<ul style="list-style-type: none"> • Jesus Carino • Perner, Kimberli
Course Code (CB01) :	ABSE36
Course Title (CB02) :	Integrated Mathematics 2B
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) :	CCC000613459
Curriculum Committee Approval Date:	03/26/2025
Board of Trustees Approval Date:	06/01/2025
Last Cyclical Review Date:	03/26/2025
Course Description and Course Note:	<p>ABSE 36 covers topics such as geometric proofs, transformations, right triangle trigonometry, circle properties, and probability. 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 this course results in 5 high school credits.</p>
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**

ABSE35 - Integrated Mathematics 2A

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.

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	Tutorial
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**

Prove and use theorems about angles formed by transversals that intersect parallel lines.

Find the equation of a line that is parallel or perpendicular to a given line.

Use perpendicular bisectors to find the point that is equidistant from all the vertices of a triangle.

Prove conditions to show that a quadrilateral is a rectangle, rhombus, or a square.

Verify experimentally the properties of dilations given by a center and a scale factor.

Show the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

Use congruence and similarity criteria for triangles to solve problems and to prove relationships.

Demonstrate how altitude to the hypotenuse of a right triangle help one use similar right triangles to solve problems.

Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

Utilize the sine and cosine ratios, and their inverses, in calculations involving right triangles.

Determine the measures of central angles and inscribed angles of a circle.

Determine the measures of central angles and inscribed angles of a circle.

Define the relationships between angles formed by lines that intersect a circle.

Utilize formulas for the volume or a prism, cylinder and pyramid.

Calculate the volumes of composite figure that include cones and spheres.

Explain how sets and their relationships are used to calculate probabilities.

Differentiate between independent, dependent and conditional probabilities.

Describe how to use probabilities to make fair decisions.

SLOs

Determine the methods for applying geometric proofs

Expected Outcome Performance: 70.0

<i>ABSE</i> NCR AHS Diploma	Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.
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<i>ABSE</i> NCR Adult Basic Education	Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.
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<i>ILOs</i> 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.
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Analyze various methods of measuring angles, triangles, circles, and arcs

Expected Outcome Performance: 70.0

<i>ILOs</i> 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.
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	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.
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<i>ABSE</i> NCR AHS Diploma	Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.
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<i>ABSE</i> NCR Adult Basic Education	Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.
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Apply techniques of probability in decision making

Expected Outcome Performance: 70.0

<i>ILOs</i> 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.
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	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.
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<i>ABSE</i> NCR AHS Diploma	Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.
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<i>ABSE</i> NCR Adult Basic Education	Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.
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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

No value

Laboratory/Studio Content

Proofs with Lines and Angles (8 hours)

- Angles Formed by Intersecting Lines
- Transversals and Parallel Lines
- Proving Lines are Parallel
- Perpendicular Lines

Proofs with Triangles and Quadrilaterals (17 hours)

- Angles of a Triangle
- Isosceles and Equilateral
- Triangles Triangle Inequalities
- Perpendicular Bisectors of Triangles
- Angle Bisectors of Triangles
- Properties of Parallelograms
- Conditions for Special Quadrilaterals

Similarity and Transformations (8 hours)

- Dilations
- Proving Figures are Similar
- Corresponding Parts of Similar Figures
- AA Similarity of Triangles

Using Similar Triangles (8 hours)

- Triangle Proportionality Theorem
- Subdividing a Segment in a Given Ratio
- Using Proportional Relationships
- Similarity in Right Triangles

Trigonometry with Right Angles (11 hours)

- Tangent Ratio Sine and Cosine Ratios
- Special Right Triangles
- Problem Solving with Trigonometry
- Using a Pythagorean Identity

Angles in Circles (11 hours)

- Central Angles and Inscribed Angles
- Angles in Inscribed Quadrilaterals
- Tangents and Circumscribed Angles
- Segment Relationships in Circles
- Angle Relationships in Circles

Arc Length and Sector Area (7 hours)

- Justifying Circumference and Area of a Circle
- Arc Length and Radian Measure
- Sector Area

Volume Formulas (11 hours)

- Volume of Prisms and Cylinders
- Volume of Pyramids
- Volume of Cones
- Volume of Spheres
- Scale Factor

Introduction to Probability (8 hours)

- Probability and Set Theory
- Permutations and Probability
- Combinations and Probability
- Mutually Exclusive and Overlapping Events

Conditional Probability and Independence of Events (6 hours)

- Conditional Probability
- Independent Events
- Dependent Events

Probability and Decision Making (5 hours)

- Using Probability to Make Fair Decisions
- Analyzing Decisions

Total Hours: 100

Additional Information

Repeatability

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