

Glendale College Course Outline of Record Report

Course ID 010485
Revision - March 2025

ABSE37 : Integrated Mathematics 3A

General Information

Author:	<ul style="list-style-type: none"> Jesus Carino Perner, Kimberli
Course Code (CB01) :	ABSE37
Course Title (CB02) :	Integrated Mathematics 3A
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) :	CCC000613460
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:	<p>ABSE 37 focuses on the integration of algebra and geometry through graphing representations and coordinate proofs. Student explore modeling in two and three dimensions; algebraic theorems; polynomial and rational functions, expressions and equations. This course is designed to meet the needs of students who wish to continue their study of Integrated Mathematics and to 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.</p>
Justification:	Content Change
Academic Career:	No value
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

ABSE36 - Integrated Mathematics 2B

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 equidistant for 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.
- Define the relationships between angles formed by lines that intersect a circle.
- Utilize formulas for the volume of 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.

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	Laboratory
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 3	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
Use slope to solve problems involving parallel and perpendicular lines.
Write a coordinate proof.
Use slope and the distance formula in coordinate proofs.
Find the surface area of a prism or cylinder.
Use the formula for the surface area of a sphere to calculate the surface areas of composite figures.

Define and describe inverse functions.

Explain how the Binomial Theorem is useful.

Find the rational roots of a polynomial equation.

Identify the features of a graph of rational functions.

Add, subtract, multiply and divide rational expressions.

Find the inverses of quadratic function and cubic functions.

Simplify expressions containing rational exponents and radicals involving nth roots.

Solve equations involving square roots and cube roots.

SLOs

Interpret polynomial, radical and rational functions using various representations

Expected Outcome Performance: 70.0

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.

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.

Model real-world applications of surface area, composite figures, and density

Expected Outcome Performance: 70.0

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.

ABSE
NCR GED Preparation Solve a variety of word problems, many with graphics, using basic computation, analytical and reasoning skills.

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.

Explain the reasoning of and solutions for radical and rational equations

Expected Outcome Performance: 70.0

ABSE NCR AHS Diploma	Apply mathematical ways of thinking to real world issues and challenges using mathematical modeling and problem solving techniques.
ILOs Core ILOs	Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication. 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 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

Constructions (10 hours)

- Proving Lines are Parallel
- Perpendicular Lines
- Justifying Constructions
- Properties of Parallelograms

Coordinate Proof Using Slope and Distance (15 hours)

- Slope and Parallel Lines
- Slope and Perpendicular Lines
- Coordinate Proof Using Distance with Segments and Triangles
- Coordinate Proof Using Distance with Quadrilaterals
- Perimeter and Area on the Coordinate Plane
- Subdividing Segment in a Given Ratio

Visualizing Solids (10 hours)

- Cross Sections and Solids of Rotation

- Surface Area of Prisms and Cylinders
- Surface Area of Pyramids and Cones
- Surface Area of Spheres

Modeling and Problem Solving (8 hours)

- Scale Factor
- Modeling and Density
- Problem Solving with Constraints

Polynomial Functions (10 hours)

- Transformations of Function Graphs
- Inverses of Functions
- Graphing Cubic Functions
- Graphing Polynomial Functions

Polynomials (12 hours)

- Adding and Subtracting Polynomials
- Multiplying Polynomials
- The Binomial Theorem
- Factoring Polynomials
- Dividing Polynomials

Polynomial Equations (5 hours)

- Finding Rational Solutions of Polynomial Equations
- Finding Complex Solutions of Polynomial Equations

Rational Functions (5 hours)

- Graphing Simple Rational Functions
- Graphing More Complicated Rational Functions

Rational expressions and Equations (8 hours)

- Adding and Subtracting Rational Expressions
- Multiplying and Dividing Rational Expressions
- Solving Rational Equations

Radical Functions (8 hours)

- Inverses of Simple Quadratic and Cubic Functions
- Graphing Square Root Functions
- Graphing Cube Root Functions

Radical Expressions and Equations (9 hours)

- Radical Expressions and Rational Exponents
- Simplifying Radical Expressions
- Solving Radical Equations

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/liasons>):

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