ABSE23 : ALGEBRA 1A

General Information

Author:	• Jesus Carino
Course Code (CB01) :	ABSE23
Course Title (CB02) :	ALGEBRA 1A
Department:	ABSE
Proposal Start:	Winter 2025
TOP Code (CB03) :	(4930.62) Secondary Education (Grades 9-12) and G.E.D.
CIP Code:	(53.0201) High School Equivalence Certificate Program.
SAM Code (CB09) :	Non-Occupational
Distance Education Approved:	No
Will this course be taught asynchronously?:	No
Course Control Number (CB00) :	CCC000340101
Curriculum Committee Approval Date:	05/08/2024
Board of Trustees Approval Date:	06/18/2024
Last Cyclical Review Date:	05/08/2024
Course Description and Course Note:	ABSE 23 is an introduction to algebraic reasoning and modeling. Algebraic modeling is introduced with linear functions. This course is designed to meet the needs of students who wish to begin their study of algebra 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 this course is worth 5 credits (.5 unit) towards a high school diploma.
Justification:	Mandatory Revision
Academic Career:	• Noncredit

Academic Senate Discipline

Primary Discipline:	• 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)

Not applicable.

Grading Basis

- Grade Only

Course Support Course Status (CB26)

Course is not a support course

Transferability & Gen. Ed. Options

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)

Other Non-Credit Enhanced Funding.

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	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

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Advisory

ESL40 - ENGLISH AS A SECOND LANGUAGE LEVEL 4

Objectives

- Demonstrate mastery of grammatical structures studied at a level sufficient to pass unit tests and the divisional grammar mastery test for this level.
- Decode 3,000-word reading passages, identify main ideas and supporting details, make inferences, and summarize short passages.

AND

Advisory

ABSE22 - ARITHMETIC 1B (in-development)

Objectives

- Explain and calculate mean, median and mode in the set of numbers.
- Perform conversion factors.
- Find the perimeter and area of the geometric figures.
- Compute problems using positive and negative numbers and algebraic operations.
- Solve equations with one variable.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction	Independent Study

Methods of Instruction	Multimedia

Out of Class Assignments

N/A

Methods of Evaluation	Rationale
Other	Individualized contract
Exam/Quiz/Test	Assessments at the end of each chapter
Exam/Quiz/Test	Unit exams

Textbook Rationale

No updated editions of Common Core textbooks are available.

Textbooks

Author	Title	Publisher	Date	ISBN
Burger, Edward B., et al	Algebra 1 Common Core Edition	Austin: Holt McDougal,	2011	9780547647128
Ron Larson and Laurie Boswell	Big Ideas Math Algebra 1	Big Ideas Learning	2015	978-160840-838-2

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

Description	Instructor-generated background information on the mathematics being studied; duplicated handouts from books with copyright permission.
Author	No value
Citation	No value
Online Resource(s)	No value

Materials Fee

No value

Learning Outcomes and Objectives

Course Objectives

Interpret parts of an expression in terms of its context.

Explain the steps to solve a one-variable equation and construct a viable argument to justify a solution method.

Solve equations and inequalities in one-variable including using coefficients represented by letters.

Solve absolute value equations and inequalities and graph their solutions.

Choose and interpret units consistently in formulas.

Choose and interpret the scale and the origin in graphs.

Define appropriate quantities for the purpose of descriptive modeling.

Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Create linear equations to solve problems.

Represent constraints by equations or inequalities and by systems of equations or inequalities.

Solve for a specific variable in a formula.

Write functions that describe a relationship between two quantities.

Write arithmetic and geometric sequences both recursively and with an explicit formula.

Identify the effects on a graph by changing part of a function.

SLOs

Demonstrate ability and understanding of operations involving rational numbers. 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 Core PLOs	Apply the skills that the Common Core Standards have identified for each course.
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.

Simplify numeric and variable expressions. 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 Core PLOs	Apply the skills that the Common Core Standards have identified for each course.
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.

Solve one-variable linear equations and inequalities. 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 Core PLOs	Apply the skills that the Common Core Standards have identified for each course.
ABSE NCR Adult Basic Education	Compute and solve real world problems using basic operations with whole numbers, fractions, decimals, and percents.

Use linear equations and inequalities to model real-world problems and be able to interpret solutions to such in the context provided by the problems. 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 Core PLOs	Apply the skills that the Common Core Standards have identified for each course.
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.

Solve two-variable systems of linear equations and inequalities. 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 Core PLOs	Apply the skills that the Common Core Standards have identified for each course.
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

Equations (8 hours)

- Equations and formulas
    - Variables and expressions
    - Addition and subtraction in equations
    - Multiplication and division in equations
    - Equations with variables on both sides
    - Equations and graphs
    - Absolute-value equations

Proportion and precision (7 hours)

- Rates, ratios, and proportions
- Applications of proportions
- Precision and accuracy

Inequalities (10 hours)

- Simple inequalities
    - Inequalities and graphs
    - Addition and subtraction in inequalities
    - Multiplication and division in inequalities

Multi-step and compound inequalities (10 hours)

- Two-step and multi-step inequalities
- Inequalities with variables on both sides
- Compound inequalities
- Absolute-value inequalities

Functions (10 hours)

- Function concepts
    - Relationships and graphs
    - Relations and functions
    - The vertical line test
    - Models of variable relationships
    - Functions: written and graphed

Functions and their application (10 hours)

- Scatter plots and trend lines
- Arithmetic sequences

Linear Functions (10 hours)

- Characteristics of linear functions
    - Identification of linear functions
    - Use of intercepts
    - Rate of change and slope
    - The slope formula
    - Direct variation

Use of linear functions (10 hours)

- Slope-intercept form
- Point-slope form
- Line of best fit
- Slopes of parallel and perpendicular lines
- Transforming linear functions
- Absolute value functions

Systems of Equations and Inequalities (13 hours)

- Systems of linear equations
    - Solution of systems by graphing
    - Solution of systems by substitution
    - Solution of systems by elimination
    - Solution of special systems

Linear inequalities (12 hours)

- Solution of linear inequalities

- Solution of systems of linear inequalities

Total hours: 100

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

No

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

No Value

Repeatability

Repeatable

Justification (if repeatable was chosen above)

Non-credit courses

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liason?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No

If yes, in what areas were these changes made:

No Value

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