

## ABSE27 : APPLIED MATHEMATICS

### General Information

<b>Author:</b>	• Jesus Carino
<b>Course Code (CB01) :</b>	ABSE27
<b>Course Title (CB02) :</b>	APPLIED MATHEMATICS
<b>Department:</b>	ABSE
<b>Proposal Start:</b>	Spring 2025
<b>TOP Code (CB03) :</b>	(4930.62) Secondary Education (Grades 9-12) and G.E.D.
<b>CIP Code:</b>	(53.0201) High School Equivalence Certificate Program.
<b>SAM Code (CB09) :</b>	Non-Occupational
<b>Distance Education Approved:</b>	No
<b>Will this course be taught asynchronously?:</b>	No
<b>Course Control Number (CB00) :</b>	CCC000313896
<b>Curriculum Committee Approval Date:</b>	05/08/2024
<b>Board of Trustees Approval Date:</b>	07/16/2024
<b>Last Cyclical Review Date:</b>	05/08/2024
<b>Course Description and Course Note:</b>	ABSE 27 is designed to help students use mathematical principles and computations in everyday living and business transactions. This course may be taken as a high school elective in mathematics. It meets the requirements for a high school diploma. 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.
<b>Justification:</b>	Mandatory Revision
<b>Academic Career:</b>	• Noncredit
<b>Author:</b>	

### Academic Senate Discipline

<b>Primary Discipline:</b>	• Mathematics-Basic Skills: Non-Credit
<b>Alternate Discipline:</b>	No value
<b>Alternate Discipline:</b>	No value

### Course Development

<b>Basic Skill Status (CB08)</b>	<b>Course Special Class Status (CB13)</b>	<b>Grading Basis</b>
Course is a basic skills course.	Course is not a special class.	• Grade Only
<input type="checkbox"/> Allow Students to Gain Credit by Exam/Challenge	<b>Pre-Collegiate Level (CB21)</b> Not applicable.	<b>Course Support Course Status (CB26)</b> 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

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

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

<b>Course Duration (Weeks)</b>	18
<b>Hours per unit divisor</b>	54
<b>Course In-Class (Contact) Hours</b>	
Lecture	0
Laboratory	100
Studio	0
<b>Total</b>	100
<b>Course Out-of-Class Hours</b>	
Lecture	0
Laboratory	0
Studio	0
<b>Total</b>	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
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No Value	No Value	No Value	No Value
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## 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.
- Converse at a functional level adequate for everyday use on the campus and in the community.

## Entry Standards

Entry Standards

## Course Limitations

Cross Listed or Equivalent Course

## Specifications

Methods of Instruction

Methods of Instruction	Independent Study
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Methods of Instruction	Multimedia
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Methods of Instruction	Other
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## Out of Class Assignments

N/A

## Methods of Evaluation

Other

Exam/Quiz/Test

## Rationale

Completion of individualized contract

Unit exams

## Textbook Rationale

Updated textbook and instructor materials added.

## Textbooks

### Author

### Title

### Publisher

### Date

### ISBN

Brechner, Robert, Bergman, George.

Contemporary Mathematics for Business and Consumers.

Stamford CT:  
Cengage Learning

2012

128544860X

Robert Brechner, Geroge Bergeman

Contemporary Mathematics for Business & Consumers

Cengage Learning

2019

9780357026441

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

### Description

Instructor-generated materials covering the mathematics being studied, along with handouts duplicated from books obtained with copyright permission.

### Author

No value

### Citation

No value

### Online Resource(s)

No value

## Materials Fee

No value

## Learning Outcomes and Objectives

### Course Objectives

Perform basic operations using whole numbers, decimals, fractions and percents.

Perform basic operations on a calculator.

Estimate answers.

Compute weekly and annual wages.

Calculate the cost of purchases.

Calculate consumer expenses.

Read and interpret W-2 forms.

Construct and analyze a household budget.

Determine yields of investments.

Compute problems with open-ended and closed-ended credit.

Translate words into algebraic expressions.

## SLOs

### Compile and retrieve data from weekly and annual wages in conjunction with household budgets to make wiser financial decisions.

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.

### Interpret W-2 forms and understand how to fill out state and federal forms when reporting income.

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.

### Analyze problems with close-ended and open-ended credit by calculating basic operations involving whole numbers, decimals, and fractions.

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.

<i>ILOs</i>	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.
Core ILOs	

**Evaluate and interpret investment performance (e.g, yield of investments) by using multiple formalities such as the use of technology, formulas, and other traditional ways.** 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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## Course Content

### Lecture Content

No value

### Laboratory/Studio Content

#### Basic Operations (20 hours)

- Whole numbers, decimals, fractions, and percent's
- Fractions, decimal, and percent conversions

#### Checking Accounts (10 hours)

- Checking accounts usage
- Bank statement reconciliation
- Solve Business Problems

#### Using Equations (10 hours)

- Basic equations
- Using equations to solve business related word problems

#### Percent and Their Applications in Business (10 hours)

- Percentage formulas in business problems
- Other business problems involving percent

#### Payroll (10 hours)

- Gross earnings and incentive pay plans
- Payroll deductions
- Payroll expenses and self-employed person's tax responsibility

#### Simple Interest and Promissory Notes (10 hours)

- Simple interest formula
- Computing simple interest
- Promissory notes and discounting

#### Compound Interest and Present Value (10 hours)

- Compound interest
- Present value

#### Consumer and Business Credit (10 hours)

- Open-end credit: charge accounts, credit cards and lines of credit
- Closed-end credit: installment loans

#### Mortgages (10 hours)

- Fixed-rate and adjustable rate mortgages
- Second mortgages, home equity loans and lines of credit

**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 liaison?

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