



One College Drive, Blythe CA 92225
(760) 921-5500

Course Control Number: CCC000604847		
Course Outline Approval Dates		
Modality	Curriculum Committee	Board of Trustees
Face-to-face	3/14/2019	4/16/2019
Correspondence Ed.	3/14/2019	4/16/2019
Distance Ed.	3/14/2019	4/16/2019

COURSE OUTLINE OF RECORD

Course Information

Course Initiator: Nidhi R. Patel, PhD			
CB01 - Subject and Course #: MAT 095			
CB02 - Course Title: Pre-College Algebra			
New Course: <input checked="" type="checkbox"/>		Non-Substantial: <input type="checkbox"/>	
		Substantial: <input type="checkbox"/>	
Articulation Request: <input type="checkbox"/> UC		<input type="checkbox"/> CSU	
		<input type="checkbox"/> CSU-GE	
		<input type="checkbox"/> IGETC	
Lecture Hours: 90		Laboratory Hours:	
		Clinical/Field Hours:	
CB06/CB07: Course Units: 5.0			
Prerequisites:			
Co-requisites:			
Advisories: Completion of ENG 099 Basic Composition or placement in ENG 100 or ENG 101 based on AB 705 mandates.			
CB03 - TOP Code:		1701.00 - Mathematics, General	
CB04 - Credit Status:		D - Credit - Degree Applicable	
CB05 - Transfer Status:		C - Not Transferable	
CB08 - Basic Skills Status:		B - Course is a basic skills course	
CB09 - SAM Priority Code:		E - Non-Occupational	
CB10 - Cooperative Work:		N - Is not part of Cooperative Work Experience Education Program	
CB11 - Course Classification:		Y - Credit Course	
CB13 - Approved Special:		N - Course is not a special class	
CB21 - Prior Transfer Level:		A - One level below transfer	
CB22 - Noncredit Category:		Y - Credit Course	
CB23 - Funding Agency:		Y - Not Applicable	
CB24- Program Status:		1 - Program Applicable	
Transfer Request:		C= Non-Transferable	

Please select the appropriate box(s) of the modalities in which this course will be offered, and fill out the appropriate sections for that mode.

- ☒ Face-to-Face – Section B
- ☒ Correspondence Education – Section C
- ☒ Distance Education – Section D

JUSTIFICATION OF NEED:

MAT 095 provides students the necessary preparation for transfer level MAT 106, MAT 108, and MAT 110 courses.

CATALOG DESCRIPTION:

This course covers real numbers; algebraic expressions; linear formulas, equations, functions, inequalities, and applications; exponents; factoring polynomials; quadratic equations and inequalities; rational expressions; and systems of linear equations..

COURSE OBJECTIVES:

1. Do calculations involving real numbers
2. Solve algebraic expressions, linear equations, and applications
3. Work with formulas and linear inequalities
4. Graph linear equations and functions
5. Simplify exponents and polynomials
6. Factor polynomials and solve quadratic equations
7. Solve rational expressions
8. Work with systems of linear equations
9. Evaluate roots, radicals, and complex numbers
10. Solve and graph quadratic equations

STUDENT LEARNING OUTCOMES:

1. Write the equation of a line given the slope and a point in the Cartesian plane.
2. Simplify polynomial expressions.
3. Simplify expressions with complex numbers.

A. COURSE OUTLINE AND SCOPE

1. Outline of topics or content:

1. Real Numbers
 - a. The Real Number Line and Inequalities
 - b. Introduction to Absolute Values
 - c. Addition with Real Numbers
 - d. Subtraction with Real Numbers
 - e. Multiplication and Division with Real Numbers
 - f. Exponents, Prime Numbers, and LCM
 - g. Reducing Fractions
 - h. Multiplication and Division with Fractions
 - i. Addition and Subtraction with Fractions
 - j. Order of Operations
 - k. Properties of Real Numbers
2. Algebraic Expressions, Linear Equations, and Applications
 - a. Variables and Algebraic Expressions
 - b. Simplifying Expressions
 - c. Evaluating Algebraic Expressions
 - d. Translating Phrases into Algebraic Expressions
 - e. Solving Linear Equations Using Addition and Subtraction
 - f. Solving Linear Equations Using Multiplication and Division
 - g. Solving Linear Equations
 - h. More Linear Equations: $a x + b = c x + d$

- i. Applications: Number Problems and Consecutive Integers
- j. Applications of Linear Equations: Addition and Subtraction
- k. Applications of Linear Equations: Multiplication and Division
- l. Applications with Percent
- 3. Formulas and Linear Inequalities
 - a. Working with Formulas
 - b. Formulas in Geometry
 - c. Applications
 - d. Solving Linear Inequalities
 - e. Solving Absolute Value Equations
 - f. Solving Absolute Value Inequalities
- 4. Linear Equations and Functions
 - a. Introduction to the Cartesian Coordinate System
 - b. Graphing Linear Equations by Plotting Points
 - c. Graphing Linear Equations in Slope-Intercept Form
 - d. Finding the Equation of a Line
 - e. Graphing Linear Equations in Point-Slope Form
 - f. Introduction to Functions and Function Notation
 - g. Graphing Linear Inequalities
- 5. Exponents and Polynomials
 - a. Simplifying Integer Exponents I
 - b. Simplifying Integer Exponents II
 - c. Scientific Notation
 - d. Identifying and Evaluating Polynomials
 - e. Adding and Subtracting Polynomials
 - f. Multiplying Polynomials
 - g. The FOIL Method
 - h. Special Products
 - i. Division by a Monomial
 - j. The Division Algorithm
- 6. Factoring Polynomials and Solving Quadratic Equations
 - a. Greatest Common Factor of Two or More Terms
 - b. Greatest Common Factor of a Polynomial
 - c. Factoring Expressions by Grouping
 - d. Factoring Trinomials: Leading Coefficient 1
 - e. Factoring Trinomials by Trial and Error
 - f. Factoring Trinomials by Grouping
 - g. Special Factorizations - Squares
 - h. Special Factorizations - Cubes
 - i. Additional Factoring Practice
 - j. Solving Quadratic Equations by Factoring
 - k. Applications of Quadratic Equations
- 7. Rational Expressions
 - a. Defining Rational Expressions
 - b. Multiplication and Division with Rational Expressions
 - c. Addition and Subtraction of Rational Expressions
 - d. Complex Fractions
 - e. Solving Equations: Ratios and Proportions
 - f. Solving Equations with Rational Expressions
 - g. Applications Involving Rational Expressions
 - h. Applications: Variation
- 8. Systems of Linear Equations
 - a. Solving Systems of Linear Equations by Graphing
 - b. Solving Systems of Linear Equations by Substitution
 - c. Solving Systems of Linear Equations by Addition
 - d. Applications: Distance - Rate - Time, Number Problems, Amounts and Costs
 - e. Applications: Interest and Mixture
 - f. Solving Systems of Linear Equations with Three Variables
 - g. Matrices and Gaussian Elimination
 - h. Systems of Linear Inequalities

9. Roots, Radicals, and Complex Numbers
 - a. Evaluating Radicals
 - b. Simplifying Radicals
 - c. Rational Exponents
 - d. Addition and Subtraction with Radicals
 - e. Multiplication with Radicals
 - f. Rationalizing Denominators
 - g. Equations with Radicals
 - h. Functions with Radicals
 - i. Complex Numbers
 - j. Multiplication and Division with Complex Numbers
10. Quadratic Equations
 - a. Quadratic Equations: The Square Root Method
 - b. Quadratic Equations: Completing the Square
 - c. Quadratic Equations: The Quadratic Formula
 - d. Applications: Quadratic Equations
 - e. Equations in Quadratic Form
 - f. Graphing Parabolas
 - g. Solving Quadratic Inequalities
 - h. Solving Inequalities with Rational Expressions

2. If a course contains laboratory or clinical/field hours, list examples of activities or topics:

3. Examples of reading assignments:

Students are expected to read course textbook to improve his/her performance. In addition, students are required to read, analyze, and solve application problems throughout the semester.

4. Examples of writing assignments:

Students will be expected to solve application problems and write the solution in concise and logical way.

5. Appropriate assignments to be completed outside of class:

Homework exercises, math worksheets, and chapter reviews as directed by the instructor.

6. Appropriate assignments that demonstrate critical thinking:

Students will solve application (word) problems to demonstrate critical thinking skills.

7. Other assignments (if applicable):

As assigned by the instructor.

☐ Check if Section B is not applicable

B. FACE-TO-FACE COURSE SECTIONS:

Face-to-face education

Is a mode of delivery in which instruction is delivered in a traditional classroom setting, with instructor and students located simultaneously in the same classroom facility.

1. Describe the methods of instruction:

Instructional techniques that will be implemented, include, but not limited to the following: lectures, classroom discussions, computer-aided exercises, supplemental audio and video for demanding topics, and collaborative group exercises.

2. Describe the methods of evaluating of student performance.

Evaluation of student performance may include, but is not limited to: homework assignments, quizzes, exams, and projects as directed by the instructor.

3. Describe how the confidentiality of the student's work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students' grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

4. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

NOTE: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

☐ Check if Section C is not applicable

C. CORRESPONDENCE EDUCATION COURSE SECTIONS (Correspondence, hybrid correspondence)

Correspondence education

is a mode of delivery in which instructional materials are delivered by mail, courier or electronic transmission to students who are separated from the instructor by distance. Contact between instructor and students is asynchronous.

Hybrid correspondence education

is the combination of correspondence and face-to-face interaction between instructor and student.

1. Describe the methods of instruction.

Methods of instruction for this course will include, but are not limited to: instructional materials delivered by mail, video presentations, phone calls, email correspondence, private consultation, voice-mail, textbook reading assignments, instruction by computer-aided projects, practice worksheets, and supplemental study guides.

2. Describe the methods of evaluating student performance.

Evaluation of student performance may include, but is not limited to: homework assignments, quizzes, exams, and projects as directed by the instructor.

3. Describe how regular, effective contact between the instructor and a student is maintained.

Weekly or biweekly contact between the instructor and student is conducted via the exchange of exercises, reading activities, and lab assignments. The aforementioned materials are distributed to individual students, completed and then graded by the instructor. The instructor makes comments, instructional advice and notes on the materials and returns the graded work to the student for evaluation and subsequent learning. Following each exam, the student is provided with a progress report allowing the student to know with certainty his or her standing in the course.

4. Describe procedures that help verify the individual submitting class work is the same individual enrolled in the course section.

Consistent with policy elements listed in the ACCJC's "Policy on Distance Education and on Correspondence Education," the College verifies the identity of a student who participates in class or coursework by using, at the College's discretion, such methods as a secure log-in and password, proctored examinations, or other technologies or practices that are developed and effective in verifying each student's identification.

5. Describe procedures that evaluate the readiness of a student to succeed in a correspondence or hybrid correspondence course section.

The procedure might consist of a short assessment questionnaire prepared by the instructor and self-administered by the student. The questionnaire would evaluate areas such as working independently, adhering to timelines, and familiarity with working online and with computer technology. The student would use the resulting score to evaluate his or her readiness to take the course in a correspondence or hybrid correspondence instructional mode.

6. Describe how the confidentiality of the student's work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students' grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

7. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

8. If the course requires specialized equipment, including computer and computer software or other equipment, identify the equipment, and describe how it is to be accessed by students.

This course does not require any specialized equipment, however computer with internet access is beneficial for additional

exploration of the topics discussed within this course (specifically the Hawkes Learning System.)

Note: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

☐ Check if Section D is not applicable

D. DISTANCE EDUCATION COURSE SECTIONS (online, ITV, hybrid)

Online education

is a mode of delivery in which all instruction occurs online via the Internet. Student and instructor access to email and the Internet is required. Students are required to complete class work using email, chat rooms, discussion boards and other instructional online venues.

Interactive television (ITV)

is a mode of synchronous delivery in which instruction occurs via interactive television (closed circuit).

Hybrid instruction

is a combination of face-to-face instruction and online instruction.

1. Describe the methods of instruction.

Methods of instruction for this course taught via ITV may include, but are not limited to: instructional materials delivered by the Hawkes Learning System website provided by the publisher and lectures by the instructor.

2. Describe the methods of evaluating of student performance.

Evaluation of student performance may include, but is not limited to: homework assignments, quizzes, exams, and projects as directed by the instructor.

3. Describe how regular, effective contact between the instructor and a student is maintained.

The instructor will have daily and weekly contact with the students via homework assignments, quizzes, exams, and via ITV mode of communication.

4. Describe procedures that help verify the individual submitting class work is the same individual enrolled in the course section.

Consistent with policy elements listed in the ACCJC's "Policy on Distance Education and on Correspondence Education," the College verifies the identity of a student who participates in class or coursework by using and the College's discretion, such methods as a secure log-in and password, proctored examinations, or other technologies or practices that are developed and effective in verifying each student's identification.

5. Describe procedures that evaluate the readiness of a student to succeed in an online, ITV or hybrid course section.

The procedure might consist of a short assessment questionnaire prepared by the instructor and self-administered by the student. The

questionnaire would evaluate areas such as working independently, adhering to timelines, and familiarity with working online and with computer technology. The student would use the resulting score to evaluate his or her readiness to take the course in an ITV mode.

6. Describe how the confidentiality of the student's work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students' grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

7. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

8. If the course requires specialized equipment, including computer and computer software or other equipment, identify the equipment, and describe how it is to be accessed by students.

The students are required to use a computer with a web browser to access the Hawkes Learning System website in this course. It is preferable if the student uses their own computer. If the student does not have a personal computer, they can use the computer available at Palo Verde College campus. The students are responsible to purchase software license from Hawkes Learning System publisher in order to be able to use the software.

Note: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

E. REPRESENTATIVE TEXTBOOKS AND OTHER READING AND STUDY MATERIALS:

List author, title, and current publication date of all representative materials.

Marecek and Anthony-Smith, Elementary Algebra, OpenStax, 2019

Wright, Introductory & Intermediate Algebra, Hawkes Learning, 2012 (or most recent edition)

SIGNATURES

COURSE INITIATOR: _____

DATE: _____

DIVISION CHAIR: _____

DATE: _____

LIBRARY: _____

DATE: _____

CHAIR OF CURRICULUM COMMITTEE: _____

DATE: _____

SUPERINTENDENT/PRESIDENT: _____

DATE: _____