COURSE OUTLINE OF RECORD

Number: MATH A091 **TITLE:** Support for College Algebra

ORIGINATOR: Mariana Voicu **EFF TERM:** Fall 2019

FORMERLY KNOWN AS: **DATE OF OUTLINE/REVIEW:** 11-28-2018

CROSS LISTED COURSE: **TOP NO:** 1702.00

CID:

SEMESTER UNITS: 2.0

HRS LEC: 36.0 **HRS LAB:** 0.0 **HRS OTHER:** 0.0

CONTACT HRS TOTAL: 36.0

STUDY/NON-CONTACT HRS RECOMMENDED: 72.0

CATALOG DESCRIPTION:

A concurrent support course for Math A115, College Algebra, designed to review prerequisite skills necessary for success. Topics include operations with real numbers, an introduction to polynomial, operations with rational and radical expressions, an introduction to polynomials, and solutions to linear equations and inequalities.

JUSTIFICATION FOR COURSE:

AB 705, the guidelines from the Chancellor's Office, and the Academic Senate strongly recommend the creation of a concurrent support course for students enrolling into transfer level mathematics who are identified as underprepared and in need of support. This course is designed to provide underprepared students with concurrent support while they are enrolled in Math A115.

PREREQUISITES:

COREQUISITES:

- MATH A115: College Algebra

ADVISORIES:

ASSIGNED DISCIPLINES:

Mathematics

MATERIAL FEE: Yes [ ] No [X] Amount: $0.00

CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [ ] Credit - Not Degree Applicable [X]

GRADING POLICY: Pass/No Pass [X] Standard Letter [ ] Not Graded [ ] Satisfactory Progress [ ]

OPEN ENTRY/OPEN EXIT: Yes [X] No [ ]

TRANSFER STATUS: CSU Transferable[ ] UC/CSU Transferable[ ] Not Transferable[X]

BASIC SKILLS STATUS: Yes [X] No [ ] **LEVELS BELOW TRANSFER:** 1 level below transfer level

CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable

NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course

OCCUPATIONAL (SAM) CODE: E

REPEATABLE ACCORDING TO STATE GUIDELINES: No [X] Yes [ ] NUMBER REPEATS:

REQUIRED FOR DEGREE OR CERTIFICATE: No [X] Yes [ ]

GE AND TRANSFER REQUIREMENTS MET:

COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. Perform operations on real numbers and algebraic expressions.
2. Graph a function and state its domain and range.

COURSE OBJECTIVES:

1. Address the affective side of learning in order to provide students with the skills necessary to be successful in a transfer level math course.
2. Perform operations with real numbers.
3. Factor and perform operations on polynomials and solve equations involving first and second degree polynomials.
4. Understand and use relations and functions to graph, state domain and range, and perform operations.
5. Simplify expressions and solve equations containing rational and radical terms.
6. Solve systems of linear equations.

COURSE CONTENT:

LECTURE CONTENT:

A. Learning skills
   1. Study skills
   2. Time management
   3. Math anxiety
   4. Test taking skills

B. Operations with real numbers
   1. Addition, subtraction, multiplication, and division of real numbers
   2. Order of operations
   3. Exponential notation
   4. Rules of exponents

C. Introduction to polynomials
   1. Addition, subtraction, multiplication, and division with polynomials
   2. Factoring polynomials including the difference of squares and sum and difference of cubes.
   3. The quadratic formula and completing the square.
   4. Graph linear equations.

D. Operations with rational expressions
   1. Addition, subtraction, multiplication, and division with rational expressions.
   2. Simplify complex fractions.

E. Operations with radical expressions
   1. Simplify radical expressions including nth root
   2. Addition, subtraction, multiplication, and division with radical expressions

F. Introduction to functions
   1. Function notation and evaluation
   2. Domain and range of a function given graphically and algebraically
   3. Algebra of functions: addition, subtraction, multiplication, division, and composition

G. Solve equations and inequalities
   1. Solve linear and quadratic equations
   2. Solve equations involving rational expressions.
   3. Solve equations involving radical expressions.
   4. Solve linear inequalities in one variable and graph the solution set.
   5. Solving systems of linear equations.

H. Exponential and logarithmic functions
   1. Introduction to exponential and logarithmic functions.
   2. Properties of exponential and logarithmic functions.
   3. Solving equations involving exponential and logarithmic terms.

LABORATORY CONTENT:

METHODS OF INSTRUCTION:

A. Lecture:
B. Independent Study:

INSTRUCTIONAL TECHNIQUES:

Lecture, discussion, collaborative learning

COURSE ASSIGNMENTS:

Reading Assignments

Students will spend approximately 1 hour per week reading from the assigned text.

Out-of-class Assignments

Students will spend approximately 2 hours per week on out-of-class assignments including reading and written homework involving problem-solving exercises.

A. Practice problem sets requiring application of course material
B. Preparation assignments that require students to answer specific questions that will be discussed in an upcoming class meeting.

Writing Assignments

Students will spend approximately 1 hour per week on writing assignments.

A. Short-answer questions.
B. Essay questions.
C. Group and/or individual projects.

METHODS OF STUDENT EVALUATION:

Midterm Exam
Final Exam
Short Quizzes
Written Assignments

Demonstration of Critical Thinking:

Group work, quizzes, written tests or comprehensive final exam, and application of skills in support of College Algebra.

Required Writing, Problem Solving, Skills Demonstration:

Group work, quizzes, written tests, or comprehensive final exam.

TEXTS, READINGS, AND RESOURCES:

TextBooks:

1. Sullivan . *College Algebra*, 10th ed. Pearson, 2016

Software:

1. MyMathLab. Pearson, 10th ed.

Other:

1. Instructors may choose to use a software such as MML, ALEKS or Webassign.
2. Other appropriate textbook as chosen by fulltime faculty.

LIBRARY:

Adequate library resources include: Print Materials
Non-Print Materials
Online Materials
Services

Comments:

Attachments:

Attached Files