GAVILAN COLLEGE
5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: GUID 563 DIVISION: 30 ALSO LISTED AS:

TERM EFFECTIVE: Spring 2021 CURRICULUM APPROVAL DATE: 02/09/2021

SHORT TITLE: DIR STUDY LAB ALG I

LONG TITLE: Directed Study Laboratory in Algebra I

Units	Number of Weeks	Type	Contact Hours/Week	Total Contact Hours
1	18	Lecture:	0	0
		Lab:	3	54
		Other:	0	0
		Total:	3	54

COURSE DESCRIPTION:

This course is designed for students who have demonstrated difficulty mastering Algebra I and who are eligible to receive Learning Disability Services. Course content parallels Mathematics 430. Material is presented in a concrete, multi-sensory manner, and the lab allows opportunity for immediate practice, questions, repetition, and review. This a pass/no pass course. Concurrent enrollment in Math 430 or equivalent course is required.

PREREQUISITES:

Completion of MATH 205A, as UG, with a grade of C or better., Concurrent OK
OR
Completion of MATH 205B, as UG, with a grade of C or better., Concurrent OK
OR
Completion of MATH 205, as UG, with a grade of C or better., Concurrent OK
OR
Completion of MATH 430, as UG, with a grade of C or better., Concurrent OK

COREQUISITES:

CREDIT STATUS: C - Credit - Degree Non Applicable

GRADING MODES

P - Pass/No Pass

REPEATABILITY: R - Course may be repeated
Maximum of 99 times, 100 credit hours

SCHEDULE TYPES:

04 - Laboratory/Studio/Activity

047 - Laboratory - LEH 0.7

05 - Hybrid

71 - Dist. Ed Internet Simultaneous

73 - Dist. Ed Internet Delayed LAB

737 - Dist. Ed Internet LAB-LEH 0.7

STUDENT LEARNING OUTCOMES:

1. Simplify and evaluate algebraic expressions. Solve linear equations and inequalities in one variable, including compound inequalities. Evaluate and solve formulas. analyze and solve problems involving applications of linear equations and inequalities in one variable.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

Semester: Spring

2. Demonstrate skills needed to Add/subtract, multiply and divide polynomials and numbers in scientific notation. Simplify exponential expressions using properties of exponents. Solve application problems in all of the above.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

Semester: Spring

3. Identify and solve rational equations. Simplify complex fractions. Set up and solve rational equations for application problems.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

Semester: Spring

4. Analyze and translate verbal expressions into algebraic. Use symbolic language to name algebraic structures.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 02/09/2021

DE MODIFICATION ONLY

4 Hours

Content: Fractions, Operations of real numbers, simplifying expressions.

Student Performance Objectives (SPO): Students will be able to perform mathematical operations with real numbers, evaluate numerical and algebraic expressions using the order of operations, simplify linear expressions.

Out-of-Class Assignments:

7 Hours

Content:

Solving linear equations. Solving linear inequalities including compound inequalities in one variable and expressing the solution algebraically, graphically on the number line, in interval notation and in set builder notation. Translating verbal expressions into algebraic expressions and equations. Evaluating and solving formulas; problem solving strategies involving linear equations and inequalities in one variable. Applications of linear equations/ inequalities.

Student Performance Objectives (SPO): Students will be able to solve linear equations and inequalities, and express the

solution to linear inequalities graphically, algebraically, in set builder notation and in interval format. Students will be able to evaluate formulas, solve formulas for a specified variable and use formulas in problem solving. Student will be able to set up and solve linear equations and inequalities for application problems, including solution mixture, investment, and distance

problems.

Out-of-Class Assignments:

7 Hours

Content: Cartesian coordinate system. Solving linear equations in two variables. Reading the graphs and graphing linear equations in two variables. Finding the slope and intercepts of the line. Slopes of vertical, horizontal, parallel and perpendicular lines. Solving application problems. Slope - intercept equation of a line, point - slope equation of a line, applications. Graphing linear inequalities in two variables, including compound inequalities.

Student Performance Objectives (SPO): Students will be able to solve and graph linear equations in two variables, identify the slope and intercepts of a line given the graph or equation, and identify lines that are parallel and perpendicular Student will be able to find the equation of a line given slope and y-intercept, point and slope, two points, graph of the line or any other information about the line. Solve application problems. Graph solution set to linear inequalities and to compound linear inequalities in two variables.

Out-of-Class Assignments:

7 Hours

Content: Solving systems of linear equations in two variables by graphing, and systems of linear equations in both two and three variables using substitution and elimination. Problem solving strategies involving linear functions and systems of equations. Number, Geometric, Uniform Motion, Investment and Mixture Applications.

Student Performance Objectives (SPO): Students will be able to solve 2x2 systems graphically and identify consistent, inconsistent and dependent systems as well as systems with one solution, no solution and infinitely many solutions. Students will be able to solve 2x2 and 3x3 systems of equations using substitution and elimination, and solve application problems involving systems of equations.

Out-of-Class Assignments:

3 Hours

Content: Utilize the quotient, product , and power rules for exponents and evaluate numerical expressions with

negative and zero exponents. Write numbers in scientific notation and perform operations using a scientific calculator.

Student Performance Objectives (SPO): Students will be able to apply the rules for exponents to simplify an exponential expression, convert from scientific notation to standard notation and vice versa, use a scientific calculator to perform operations with numbers written in scientific notation, and solve application problems involving numbers in scientific notation.

Out-of-Class Assignments:

7 Hours

Content: Introduction to polynomials. Simplifying, adding and subtracting, multiplying, dividing polynomials.

Student Performance Objectives (SPO): Students will be able to identify the degree of a polynomial and put in standard form. Students will be able to simplify, add, subtract, multiply and divide polynomials. Students will be able to divide with long division and/or synthetic division.

Out-of-Class Assignments:

7 Hours

Content: Factoring

polynomials. Factoring the Special Products, Trinomials, and factoring by grouping. Solving polynomial equations by factoring; problem solving strategies involving polynomial equations.

Student Performance Objectives (SPO): Students will be able to factor completely a polynomial expressions, including difference of squares and difference/sum of cubes. Students will be able to do factor by grouping on a trinomial or polynomial. Students will be able to set up and solve polynomial equations for application problems.

7 Hours

Content: Simplifying rational expressions, multiplying,

dividing and adding/subtracting rational expressions, simplifying complex fractions and solving rational equations. Applications of rational equations.

Student Performance Objectives (SPO): Students will be able to simplify a rational expression and indicate where a rational expression is undefined. Students will be able to add, subtract, multiply and divide rational expressions, and simplify complex expressions including complex expressions with negative exponents. Student will be able to solve rational equations and set up a rational equation to solve a word problem.

Out-of-Class Assignments:

5 Hours

Content: Review for the Final Exam.

Student Performance Objectives (SPO): Students will be able to review and re-learn the basic concepts.

METHODS OF INSTRUCTION:

Lecture, problem demonstrations, questions and answers, group problem solving, self-graded practice tests, and interactive computer lab assignments.

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours: 3

Assignment Description:

Students will submit learning styles questionnaire, problem analysis and learning organizer each month.

Students can use the Plato program online and complete assignments outside the lab with assistance.

Students will complete assessment preparation materials prior to exams.

METHODS OF EVALUATION:

Problem-solving assignments

Percent of total grade: 95.00 %

Percent range of total grade: 95 % to 100 % Homework Problems; Quizzes; Exams; Other: Classroom participation

Objective examinations

Percent of total grade: 0.00 %

Percent range of total grade: 0 % to 5 % Multiple Choice; True/False; Other: Conceptual questions

REPRESENTATIVE TEXTBOOKS:

n/a

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:
CSU GE:
IGETC:
CSU TRANSFER:
Not Transferable
UC TRANSFER:
Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: B
Classification: Y
Noncredit Category: Y
Cooperative Education:
Program Status: 2 Stand-alone
Special Class Status: S
CAN:
CAN Sequence:
CSU Crosswalk Course Department:
CSU Crosswalk Course Number:
Prior to College Level: B
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: E
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000542360
Sports/Physical Education Course: N
Taxonomy of Program: 170100