

Course Outline

COURSE: GUID 565 **DIVISION:** 30 **ALSO LISTED AS:**

TERM EFFECTIVE: Spring 2018 **CURRICULUM APPROVAL DATE:** 10/23/2017

SHORT TITLE: DIR STUDY LAB ALG II

LONG TITLE: Directed Study Laboratory in Algebra II

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

COURSE DESCRIPTION:

This course is designed for students who have demonstrated difficulty mastering Algebra II and who are eligible to receive Learning Disability Services. Course content parallels Mathematics 235, 240 and 242. Material is presented in a concrete, multi-sensory manner, and the lab allows opportunity for immediate practice, questions, repetition and review. This is a pass/no pass course. Concurrent enrollment in Math 235, Math 240 or equivalent course is required.

PREREQUISITES:

- Completion of MATH 233A, as UG, with a grade of C or better., Concurrent OK
- OR
- Completion of MATH 233B, as UG, with a grade of C or better., Concurrent OK
- OR
- Completion of MATH 233, as UG, with a grade of C or better., Concurrent OK
- OR
- Completion of MATH 235, as UG, with a grade of C or better., Concurrent OK
- OR
- Completion of MATH 240, 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

STUDENT LEARNING OUTCOMES:

1. Solve absolute value equations and inequalities.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

Semester: Spring

2. Analyze and solve radical, quadratic, exponential, and logarithmic equations, as well as systems of linear equations using matrices. Set up equations in all of the above to solve application problems, including investment, solution mixture, distance, population growth, and carbon dating.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

Semester: Spring

3. Demonstrate the skills to graph, solve an equation or list, identify domain, range, points on the graph and whether a graph depicts a function.

Measure of assessment: In class skill demonstration

Year assessed, or planned year of assessment: 2017

Semester: Spring

4. Simplify and perform operations with radicals expressions. Use properties of exponents and logarithms to simplify exponential and logarithmic expressions.

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: 10/23/2017

6 HRS 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:

6 HRS 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:

6 HRS 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:

6 HRS 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:

6 HRS 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 notations 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:

5 HRS 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:

6 HRS 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 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.

Out-of-Class Assignments:

6 HRS 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 HRS Content: Review for the Final Exam.

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

Out-of-Class Assignments: Students will submit monthly class reports summarizing course work completed, knowledge gained, and improvements in study strategies and organizational and time management skills with assistance. Students can use the Plato program online and complete assignments outside the lab with assistance.

METHODS OF INSTRUCTION:

Mini-lecture, demonstrations, discussions, group problem solving self-graded practice quizzes/tests, and guided practice.

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: 49.00 %

49% - 51% Exams; Other: In class problem solving.

Other methods of evaluation

Percent of total grade: 49.00 %

49% - 51% Participation in class discussions, question and answer sessions and completion of practice tests.

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: A

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: E

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000542361

Sports/Physical Education Course: N

Taxonomy of Program: 170100