

Course Outline

COURSE: MATH 415 **DIVISION:** 10 **ALSO LISTED AS:**

TERM EFFECTIVE: Spring 2017 **CURRICULUM APPROVAL DATE:** 03/28/2016

SHORT TITLE: MATH IMMERSION REVIEW ALGEBRA

LONG TITLE: Math Immersion Review - Algebraic Concepts

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

COURSE DESCRIPTION:

A remedial mathematics course designed for those students who need to learn, or re-learn the fundamental concepts of math. The primary emphasis is on algebraic expressions, linear/quadratic equations and applications, polynomials, graphing, and functions. This is a pass/no pass course. Units earned in this course do not count toward the associate degree and/or certain certificate requirements. This class is an intense preparation for Math 240, Math 242, Math 8A.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: C - Credit - Degree Non Applicable

GRADING MODES

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

STUDENT LEARNING OUTCOMES:

1. Identify and analyze functions and find their domains and ranges.

Measure: Homework assignment, exam

PLO:

ILO: 2,4,7

GE-LO:

Year assessed or anticipated year of assessment: Spring 2019

2. Analyze and solve linear equations in one and two variables

Measure: HW, exam

PLO:

ILO: 1,2,3

GE-LO:

Year assessed or anticipated year of assessment: Spring 2019

3. Solve a variety of problems involving applications of linear and quadratic functions

Measure: Homework assignment, exam

PLO:

ILO: 2,1

GE-LO:

Year assessed or anticipated year of assessment: Spring 2019

4. Identify and solve quadratic equations.

Measure: class report, exam

PLO:

ILO: 2,7

GE-LO:

Year assessed or anticipated year of assessment: Spring 2019

5. Graph linear and non-linear relations and utilize the graph in problem solving.

Measure: Exams, quizzes, HW assignment and group class work

PLO:

ILO: 2,4,7

GE-LO:

Year assessed or anticipated year of assessment: Spring 2019

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

Curriculum Approval Date: 03/28/2016

1 Unit Class:

5 Hours

Content: Solving linear equations and formulas.

Student Performance Objectives (SPO): Students will be able to evaluate formulas, solve a wide variety of linear equations.

Out-of-Class Assignments: Homework assignment: practice handouts for solving formulas and equations.

5 Hours

Content: Cartesian coordinate system, graphing linear and non-linear relations.

Student Performance Objectives (SPO): Students will be able to plot points, given the equation to graph the relation.

Out-of-Class Assignments: Homework assignment: extensive practice in graphing.

8 Hours

Content: Slopes, intercepts, equations of a line, applications + final test

Student Performance Objectives (SPO): Students will be able to find the equation of a line, solve application problems.

Out-of-Class Assignments: Homework assignment: establishing the equations of the line given a. slope and y-intercept, b. point and slope, c. two points, and d. other types of information about the line. Project : solving real life problems using the linear model.

2 Unit Class:

Covers all the topics of 1 unit class plus:

8 Hours

Content: Functions, inverse functions, domains and ranges of the relations, inverse functions, compositions of the functions.

Student Performance Objectives (SPO): Students will be able to identify the function, find the domain and the range, given two functions f and g , find $f+g$, $f-g$, and fg as well as composite functions.

Out-of-Class Assignments: Homework assignment: operations with functions and functional notation.

8 Hours

Content: Solving systems of equations in two and three variables and applications

Student Performance Objectives (SPO): Students will be able to solve systems of equations using graphing, substitution, and elimination, and solve application problems involving systems of equations.

Out-of-Class Assignments: Homework assignment: solving real life problems involving the systems of equations

2 hours

Final Exam

3 Unit Class

Covers all the topics of 2 Unit class plus:

5 Hours

Content: Operations with polynomials.

Student Performance Objectives (SPO): Students will be able to add, subtract, divide, and multiply polynomials.

Out-of-Class Assignments: Homework assignment: multiplying and dividing polynomials

6 Hours

Content: Factoring Polynomials.

Student Performance Objectives (SPO): Students will be able to factor any polynomial using grouping, special products, factoring out the common factor.

Out-of-Class Assignments: Homework assignment: factoring polynomials.

7 Hours

Content: Solving polynomial equations and applications involving polynomial equations

Student Performance Objectives (SPO): Students will be able to solve polynomial equations by factoring and by using the quadratic formula and applications involving polynomials

Out-of-Class Assignments: Homework assignment: applying quadratic formula for solving the equations and applications.

METHODS OF INSTRUCTION:

Lectures, group work

METHODS OF EVALUATION:

CATEGORY 1 - The types of writing assignments required:

Percent range of total grade: 0 % to %

CATEGORY 2 - The problem-solving assignments required:

Percent range of total grade: 90 % to 100 %

Homework problems

Exams

CATEGORY 3 - The types of skill demonstrations required:

Percent range of total grade: % to %

CATEGORY 4 - The types of objective examinations used in the course:

Percent range of total grade: 0 % to 10 %

Multiple Choice

True/False

Matching Items

Completion

REPRESENTATIVE TEXTBOOKS:

Required:

ALial Hornsby, Beginning and Intermediate Algebra, Addison Wesley, 2015, or other appropriate college level text.

Reading level of text, Grade: 12th Verified by: Ken Wagman

Other textbooks or materials to be purchased by the student: none

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: N

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: 3

Minimum Hours: 1

Course Control Number: CCC000532285

Sports/Physical Education Course: N

Taxonomy of Program: 170100