GAVILAN COLLEGE
5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: MATH 218 DIVISION: 10 ALSO LISTED AS:

TERM EFFECTIVE: Spring 2022 CURRICULUM APPROVAL DATE: 12/8/2020

SHORT TITLE: Precalculus Support

LONG TITLE: Precalculus Support

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:

A review of the core prerequisite skills, competencies, and concepts needed in Math 8A: First Half of Precalculus. Intended for STEM majors who are concurrently enrolled in MATH 8A: First Half of Precalculus, at Gavilan College. Topics include: a review of computational skills developed in intermediate algebra, factoring, operations on rational and radical expressions, absolute value equations and inequalities, exponential and logarithmic expressions and equations, and an in-depth focus on functions including composition, inverses and graphs. This course is appropriate for students who are confident in their graphing and beginning algebra skills. This course is Pass/No Pass only. Non-degree applicable. Prerequisite: Appropriate placement. Corequisite: Math 8A: First Half of Precalculus.

PREREQUISITES:

COREQUISITES:MATH 8 and MATH 8A

CREDIT STATUS: S - Support course - Credit

GRADING MODES
P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

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 expressions.
Measure of assessment: Homework, Quiz, Exam
Year assessed, or planned year of assessment: 2019
Semester: Spring

2. Solve equations and inequalities.
Measure of assessment: Homework, Quiz, Exam.
Year assessed, or planned year of assessment: 2019
Semester: Spring

3. Solve systems of two equations.
Measure of assessment: Homework, Quiz, Exam.
Year assessed, or planned year of assessment: 2019
Semester: Spring

4, Graph a function and identify its defining elements (including domain and range).
Measure of assessment: Homework, Quiz, Exam.
Year assessed, or planned year of assessment: 2019

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

Curriculum Approval Date: 12/8/2020
DE MODIFICATION ONLY
A just-in-time approach to:
LAB HOURS 6:
Graphing of linear and quadratic functions and finding equations of linear and quadratic functions
Performance Objectives: Students will find intercepts and slope and use this to graph linear equations. They will determine the intercepts, vertex, and axis of symmetry to graph quadratic equations. They will determine the max/min of a quadratic function. Students will use numeric and algebraic methods to find the equations of linear and quadratic functions.
Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.
LAB HOURS 6:
Simplifying algebraic expressions
Performance Objectives: Students will be able to simplify expressions by performing operations on polynomials, rational expressions, and radical expressions, and applying properties of exponents and logarithms.
Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

LAB HOURS: 8

Using graphic, numeric and analytic methods to solve linear, quadratic, and rational equations

Performance Objectives: Students will be able to solve each of the following and express the solution in the appropriate form: absolute value equations and inequalities, quadratic equations (by factoring, by completing the square, using the quadratic formula), and rational equations.

Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

LAB HOURS 6:

Fundamental operations with exponents and radicals and solving equations with exponents and radicals

Performance Objectives: Students will apply the rules of exponents to simplify exponential expressions. They will solve equations involving exponential expressions and radicals and express the solution in the appropriate form.

Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

LAB HOURS 8:

Solving application problems

Performance Objectives: Students will solve and interpret the solutions of application problems involving distance/rate/time. They will use geometric properties (perimeter, area, surface area, volume) and given constraints to relate unknown quantities.

Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

LAB HOURS 4:

Linear systems of equations

Performance Objectives: Students will solve systems of two equations and two unknowns using substitution and elimination methods.

Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

LAB HOURS 8:

Exponential and logarithmic functions, their graphs, their inverse relationship and applications

Performance Objectives: Students will be able to apply properties of exponents and logarithms to solve exponential and logarithmic equations. They will graph exponential and logarithmic functions and use their inverse relationship to obtain the graph of the inverse.

Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

LAB HOURS 8:

Function notation, operations with functions, and graphs of functions

Performance Objectives: Students will simplify functions given a sum, difference, product, quotient, and composition of two functions. Students will analyze a graph in order to determine whether the graph represents a function or is a 1-to-1 function, evaluate the function, determine the domain and range of a function, determine the max or min of a function, determine symmetry. Students will find the domain and range of the following: rational functions, polynomial functions, and functions involving radicals.

Out-of-Class Assignments: Students will complete homework assignments which require them to explain, apply and explore concepts taught in class.

METHODS OF INSTRUCTION:

Lecture, Group work, Discussion

OUT OF CLASS ASSIGNMENTS:

Assignment Description: Lab class does not require out-of-class assignments.

METHODS OF EVALUATION:

Other methods of evaluation

Percent of total grade: 100.00 %

Demonstrated performance in the Math 8A corequisite course. Students will have demonstrated proficiency in simplifying expressions, solving equations, inequalities and systems of equations, and working with functions and graphs. A Pass will be assigned for a grade of 'C' or above in the Math 8A corequisite course. A grade of NP will be assigned for a grade below 'C' in the Math 8A corequisite course.

REPRESENTATIVE TEXTBOOKS:

Required Representative Textbooks

Sullivan & Sullivan. Precalculus: Concepts Through Functions, A Unit Circle Approach to Trigonometry. Pearson,2014.

ISBN: ISBN-10: 0321931041 ISBN-13: 978-0321931047

Reading Level of Text, Grade: 12 Verified by: Jennifer Nari

Recommended Representative Textbooks

Angel & Runde. Intermediate Algebra for College Students. Pearson,2014.

ISBN: ISBN-13: 978-0321927354 ISBN-10: 0321927354

Reading Level of Text, Grade: 12 Verified by: Jennifer Nari

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: A
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: E
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000593566
Sports/Physical Education Course: N
Taxonomy of Program: 170100