GAVILAN COLLEGE

5055 Santa Teresa Blvd
Gilroy, CA 95023

Course Outline

COURSE: MATH 219A   DIVISION: 20   ALSO LISTED AS:

TERM EFFECTIVE: Summer 2024   CURRICULUM APPROVAL DATE: 04/09/2024

SHORT TITLE: PREP FOR CALC I

LONG TITLE: Preparation for Calculus I

Units	Number of Weeks	Type	Contact Hours/Week	Total Contact Hours
1 TO 2	18	Lecture:	1 TO 2	18 TO 36
		Lab:	0	0
		Other:	0	0
		Total:	1 TO 2	18 TO 36

Out of Class Hrs:	36.00 TO 72.00
Total Learning Hrs:	54.00 TO 108.00

COURSE DESCRIPTION:

This is a course for students enrolling in MATH 1A: Single Variable Calculus and Analytical Geometry I, who wish to refresh or re-learn fundamental pre-calculus and trigonometry concepts. The focus is on polynomial, rational, trigonometric and inverse trigonometric, exponential and logarithmic functions and equations and the graphs of these functions, with particular emphasis on the mathematical skills needed to do well in Math 1A. This is a Pass/No Pass course.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: T - Support - Degree Applicable

GRADING MODES
        P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

      02 - Lecture and/or discussion

      05 - Hybrid

      71 - Dist. Ed Internet Simultaneous

      72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

By the end of this course, a student should:

1. Simplify and solve polynomial, rational expression, exponential and logarithmic equations and solve associated application problems.

2. Prove trigonometric identities and solve trigonometric and inverse trigonometric equations.

3. Graph and transform polynomial, trigonometric, exponential, logarithmic and other types of functions

COURESE OBJECTIVES:

By the end of this course, a student should:

1. Factor polynomials, solve polynomial equations using factoring and/or the quadratic formula, simplify rational expressions, solve rational equations, and solve applications involving polynomials and rational expressions.

2. Evaluate the difference quotient for polynomial, rational and root functions. Determine whether functions are even, odd or neither graphically and algebraically.

3. Simplify complex fractions.

4. Use properties of logs and exponents to simplify expressions and solve equations. Use logarithmic and exponential functions to solve application problems. Graph exponential and logarithmic functions using transformations.

5. Prove trigonometric identities, solve trigonometric equations, graph trigonometric functions and solve application problems.

6. Use transformations to graph trig, trig inverse, polynomial, rational, exponential, logarithmic and other functions, and identify domain and range of functions.

COURSE CONTENT:

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1 unit course:

Hours: 1

Properties of exponents.

Hours: 2

Graphing polynomial functions

Hours: 2

Solving polynomial equations and studying their applications

Hours: 3

Analyzing and graphing rational functions

Hours: 3

Solving rational equations and studying their applications

Hours: 2

Proving trigonometric identities

Hours: 3

Unit circle, right angle trigonometry and trigonometric equations

Hours: 2

Final exam or project

2 Unit includes material of 1 Unit course plus:

Hours: 3

Inverse functions and graphs

Hours: 3

Inverse trig functions and their graphs

Hours: 1

Properties of logarithmic functions

Hours: 6

Exponential and logarithmic functions and graphs

Hours: 3

Applications of logarithmic and exponential functions to real life problems

Hours: 2

Solving systems of equations

METHODS OF INSTRUCTION:
Lecture, Group work, Discussion

OUT OF CLASS ASSIGNMENTS:
Required Outside Hours: 36 - 72 Hours
1. Analyze and study pertinent textbook material, solved examples and lecture notes.
2. Apply principles and skills covered in class by solving regularly-assigned homework problems.
3. Regularly synthesize course materials in preparation for exams.
4. Implement projects to apply concepts learned in class.

METHODS OF EVALUATION:
Objective examinations
Evaluation Percent 50
Evaluation Description
Quizzes and exams

Problem-solving assignments
Evaluation Percent 50
Evaluation Description
Worksheets and group projects

REPRESENTATIVE TEXTBOOKS:
Precalculus, Concepts Through Functions, A Unit Circle Approach to Trigonometry, 5th Ed., Sullivan and Sullivan, Pearson, 2023.
ISBN: ISBN-13: 9780137945139
Rationale: This book will be used as a reference
Grade 12 Grade Verified by: Ken Wagman

ARTICULATION and CERTIFICATE INFORMATION

       Associate Degree:

       CSU GE:

       IGETC:

       CSU TRANSFER:

              Not Transferable

              Not Transferable

       UC TRANSFER:

              Not Transferable

              Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education: N

Program Status: 2 Stand-alone

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department:

CSU Crosswalk Course Number:

Prior to College Level:

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: E

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000644150

Sports/Physical Education Course: N

Taxonomy of Program: 170200