

### Course Outline

**COURSE:** MATH 216      **DIVISION:** 10      **ALSO LISTED AS:**

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

**SHORT TITLE:** Business Calculus Support

**LONG TITLE:** Business Calculus Support

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
2	18	Lecture:	2	36
		Lab:	0	0
		Other:	0	0
		Total:	2	36

**COURSE DESCRIPTION:**

A review of the core prerequisite skills needed in business calculus. Intended for students who are concurrently enrolled in Math 6: Calculus for Business, Economics, and Social Sciences at Gavilan College. Topics include the following: polynomial, rational and radical expressions and equations, linear and quadratic equations and inequalities, exponential and logarithmic expressions and equations, functions, and graphs of linear, quadratic, exponential, and logarithmic functions. 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 6: Calculus for Business, Economics, and Social Sciences.

**PREREQUISITES:**

**COREQUISITES:**  
 MATH 6

**CREDIT STATUS:** S - Support course - Credit

**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:**

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

3. Graph equations and functions.

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:

HOURS: 3

Content: Simplifying polynomial, rational, and radical expressions

Student Performance Objectives: Students will be able to add, subtract, multiply, and divide polynomial, rational, and radical expressions.

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

HOURS: 4

Content: Simplifying exponential and logarithmic expressions

Student Performance Objectives: Students will apply the rules of exponents to simplify exponential expressions. They will apply properties of logarithms to simplify logarithmic expressions.

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

HOURS: 6

Content: Solving linear, quadratic, and rational equations and inequalities

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

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

HOURS 6

Content: Solving radical, exponential, and logarithmic equations

Student Performance Objectives: Students will solve equations involving radicals. Students will be able to apply properties of exponents and logarithms to solve exponential and logarithmic equations.

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

HOURS: 6

Content: Functions, operations with functions, and graphs of functions

Student 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 quadratic function. 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.

HOURS: 9

Content: Graphing linear, quadratic, exponential, and logarithmic functions

Student Performance Objectives: Students will find intercepts and slope and use this to graph linear functions. They will determine the intercepts, vertex, and axis of symmetry to graph quadratic functions. They will determine the max/min of a quadratic function. Students will use algebraic methods to find the equations of linear functions given two points or a point and a slope. Students will graph exponential and logarithmic functions, exploiting the fact that they are inverses of each other, and determine the domain and range.

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

HOURS: 2

Final Exam

**METHODS OF INSTRUCTION:**

Lecture, Group work, Discussion

**OUT OF CLASS ASSIGNMENTS:**

Required Outside Hours: 72

Assignment Description:

1. Analyze and study pertinent text 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. Projects to apply concepts learned in class.

**METHODS OF EVALUATION:**

Other methods of evaluation

Percent of total grade: 100.00 %

Demonstrated performance in the Math 6 corequisite course. A Pass will be assigned for a grade of 'C' or above in the Math 6 corequisite course. A grade of NP will be assigned for a grade below 'C' in the Math 6 corequisite course.

**REPRESENTATIVE TEXTBOOKS:**

Required Representative Textbooks

Barnett. Calculus for Business, Economics, Life Sciences and Social Sciences (12th Edition). Pearson,2010.

ISBN: ISBN-13: 978-0321613998 ISBN-10: 0321613996

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: 1 Program Applicable

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: CCC000595594

Sports/Physical Education Course: N

Taxonomy of Program: 170100