Subject:	MATH
Course Number:	505
Descriptive Title:	Math Essentials for STEM: Logarithms and Exponential Functions
Division:	Mathematical Sciences
Department:	Mathematics
Course Disciplines:	Mathematics
Catalog Description:	This noncredit course introduces exponents and exponential functions. Students study logarithms as an inverse function. Students also analyze the graphs of functions and their properties.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	.22
Hours Laboratory (per week):	0
Outside Study Hours:	.44
Total Course Hours:	4
Course Units:	0
Grading Method:	Pass/No Pass/SP
Credit Status:	Noncredit
Transfer CSU:	No
Effective Date:	
Transfer UC:	No
Effective Date:	
General Education ECC:	
Term:	
Other:	
CSU GE:	
Term:	
Other:	
IGETC:	
Term:	
Other:	
Student Learning Outcomes:	Upon completion of this course, students will be able to:

	1. evaluate logarithms. 2. graph exponential and logarithmic functions and their transformations. 3. use to the properties of logarithms to simplify an expression. 4. determine the domain, range and asymptotes of these functions. 5. solve problems involving exponential growth and decay.
Course Objectives:	1. Introduce exponents and exponential functions. 2. Introduce inverse functions and the logarithm. Study the properties of logarithms. 3. State the behavior of these functions and determine their domain, range, and asymptotes. 4. Introduce exponential growth and decay.
Major Topics:	I. Simplifying expressions II. Properties A. Logs B. Exponentials III. Domain, graph, and asymptotes
Total Lecture Hours:	4
Total Laboratory Hours:	0
Total Hours:	4
Primary Method of Evaluation:	2) Problem solving demonstrations (computational or non-computational)
Typical Assignment Using Primary Method of Evaluation:	Simplify ln(x^2(x^2+1)^3/(2x+1)^4)
Critical Thinking Assignment 1:	The population of a certain culture of bacteria doubles every 1.5 hours. If we start with 10 bacteria, how long will it take for the population to reach 1000?
Critical Thinking Assignment 2:	Graph y=log_2(x+2) +1. State the domain, range and asymptote.
Other Evaluation Methods:	Homework Problems, Objective Exam, Quizzes
If Other:	
Instructional Methods:	Demonstration, Discussion, Group Activities, Lecture, Multimedia presentations
If other:	
Work Outside of Class:	Answer questions, Problem solving activity, Skill practice, Study
If Other:	
Up-To-Date Representative Texts:	Teacher-generated materials

Alternative Texts:	
Required Supplementary Readings:	
Other Required Materials:	
Requisite	
Category	
Requisite course:	
Requisite and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	
Requisite Skill and Matching skill(s): Bold the requisite skill(s). if applicable	
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Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). if applicable	
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Matthew Kline
Date:	04/29/2024
Original Board Approval Date:	04/28/2025
Effective Term:	FA 2026