Subject:	MATH
Course Number:	507
Descriptive Title:	Math Essentials for STEM: Graphing Functions
Division:	Mathematical Sciences
Department:	Mathematics
Course Disciplines:	Mathematics
Catalog Description:	This noncredit course covers graphing functions. Students analyze the graphs of standard functions: linear, quadratic, polynomial, rational, radical, exponential, logarithmic functions, and absolute value function. Topics include domain, range, asymptotes, end behavior, and function transformation. Students study operations on functions like addition, subtraction, multiplication, and division. The course includes an in-depth look at composition with an eye towards the chain rule in calculus.
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. explain and demonstrate the graphs of basic functions and their transformations. 2. find the domain, range, intercepts and asymptotes of standard functions. 3. graph standard functions and their transformations. 4. express a function as a composition of standard function
Course Objectives:	1. Graph standard functions and their transformations. 2. State domain, range, intercepts and asymptotes of a function. 3. Express a function as a composition of standard functions.
Major Topics:	I. Graphing A. Parent functions B. Transformations C. Algebraic operations D. Composition (preparing for chain rule) E. Domain
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:	Let f(x) = x^2 + x, and g(x) = 5x + 1. Find f(x)+g(x), f(x)-g(x), f(x)*g(x), f(x)/g(x), f(g(x)), g(f(x)), and f(f(x)).
Critical Thinking Assignment 1:	Graph y=1-2e^x. State domain, range and asymptotes.
Critical Thinking Assignment 2:	Express y=sin^2(3x) as a composition of standard functions.
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