Instructor: Dr. Andrew Phillips  
e-mail: andrew.phillips@nmt.edu  
Office hours: Tu 9-10:15 with TA  
Class time: MWF 9-9:50

Text: Precalculus: Concepts Through Functions, A Unit Circle Approach to Trigonometry, 3rd edition, by Sullivan and Sullivan. We will cover Chapters 1-4 and part of Chapter 10.

Course description: Functions and relations, equations and inequalities, determinants and matrices, simultaneous equations, algebra of polynomials, complex numbers.

Homework: There will be written homework assigned every Wednesday and due the following Wednesday in class. Homework assignments and grades will be posted on the Canvas site for this course. No late homework will be accepted for any reason. Your lowest homework grade will be dropped.

Exams: There will be three in-class exams and a cumulative final exam. Calculators and online computing programs (such as Wolfram Alpha) are allowed on homework assignments, but you may only use a simple 4-function calculator with a square root key on the exams. If you are forced to miss an exam for a legitimate reason, please inform me before the scheduled date if this is at all possible. Unnecessary delay will diminish your chances of being allowed a make-up.

Lab: MATH 103LD is a co-requisite for this class and will begin the second week of classes. The lab will be run by the TA and is scheduled for TuTh 9-10:15. The Tuesday lab class will serve as office hours and the Thursday class will be devoted to a lab assignment due at the end of the period.

Grading: Your grade will be determined as follows: homework 20%, lab 20%, each in-class exam 10%, final exam 30%.

Academic honesty: New Mexico Tech’s academic honesty policy for undergraduate students is found starting on page 64 of the NMT undergraduate catalog. You are responsible for knowing, understanding, and following this policy.

Course learning outcomes: Upon completion of this course, students should be able to:

1. Solve equations, inequalities, and systems of equations;
2. Understand and work with functions and relations (including linear, piecewise-defined, absolute value, quadratic, polynomial, rational, radical, exponential, and logarithmic functions);
3. Read and construct graphs by hand and with a calculator or computer software;
4. Identify transformations of functions, write formulas for transformations of functions given as graphs or symbolically, and give the domain and range of transformed functions;
5. Combine functions algebraically and determine the domain and range of the resulting function;
6. Find and evaluate inverse functions and determine their domain and range;
7. Identify where a function is increasing, decreasing, and constant;
8. Work applied problems, including linear modeling problems, optimization problems, and exponential growth and decay problems.