Instructor: Dr. Andrew Phillips  
e-mail: andrew.phillips@nmt.edu  
Office: Weir 246  
Office hours: MWF 10-11, M 2-4, W 2-3 or by appointment  
Class time and location: MWF 9-9:50 in MSEC 103

Text: Precalculus: Concepts Through Functions, A Unit Circle Approach to Trigonometry, 3rd edition, by Sullivan and Sullivan. We will cover Chapters 5-8.

Course description: Trigonometric functions, identities, related angles, radian measure, graphs, inverse functions, trigonometric equations, solution of plane triangles.

Prerequisites: MATH 103 passed with a grade of C- or better, or ACT Math score of at least 26 or SAT Math score of at least 590 or a score of 20 or higher on the advanced algebra portion of the math placement test.

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. Each assignment must be submitted with a cover page stapled to the top, only including your name and assignment number.

Exams: There will be four 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 104L is a co-requisite for this class. You may register for any section of lab. It will begin the second week of classes.

Grading: Your grade will be determined as follows: homework 10%, 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.

Sources of help: If you are struggling with the homework or need assistance preparing for an exam, please get help. You can come see me during my office hours or set up an appointment to meet at a special time. Other places for help: the drop in tutoring lab in Weir 220 and the Office of Student Learning in Speare 110 both offer free tutoring.

Reasonable accommodations: New Mexico Tech is committed to protecting the rights of individuals with disabilities. Qualified individuals who require reasonable accommodations are invited to make their needs known to the Office of Counseling and Disability Services (OCDS) as soon as possible. In addition, New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by licensed professionals. To schedule an appointment, please call 575-835-6619.
Respect statement: New Mexico Tech supports freedom of expression within the parameters of a respectful learning environment. As stated in the New Mexico Tech Guide to Conduct and Citizenship: “New Mexico Tech’s primary purpose is education, which includes teaching, research, discussion, learning, and service. An atmosphere of free and open inquiry is essential to the pursuit of education. Tech seeks to protect academic freedom and build on individual responsibility to create and maintain an academic atmosphere that is a purposeful, just, open, disciplined, and caring community.”

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

1. Understand and be able to work with angle measures in degrees and radians;
2. Know the unit circle and right triangle definitions of the 6 trigonometric functions;
3. Know trigonometric functions of commonly used angles;
4. Be able to graph the 6 trigonometric functions and their transformations;
5. Know and be able to use common trigonometric identities;
6. Be able to verify trigonometric identities;
7. Know and be able to use the Law of Sines and the Law of Cosines;
8. Apply trigonometry to modeling and other problems;
9. Know the definition of a vector, be able to write a vector in component form, be able to perform operations on vectors, and be able to solve application problems using vectors;
10. Know and be able to work with the trigonometric forms of complex numbers;
11. Be able to convert between rectangular and polar coordinates and graph using polar coordinates.