

- Course Number and Title: ENGR 190. Introduction to Engineering Mathematics
- Catalog Description: Engineering applications involving involved Math topics most heavily used in first and second-year engineering courses. Topics include engineering applications of algebra, trigonometry, vectors, complex numbers, sinusoids and signals, systems of equations and matrices, derivatives, integrals and differential equations.
- Credit Hours: 4 Credits (4)
- Prerequisite(s) / Corequisite(s): Prerequisite(s): MATH 1250G
Corequisite(s): None
- Required: Required for BSME and BSAE Degrees
- Course Availability: Fall and Spring Semesters + Summer
- Instructor (Usual): Dr. Ahmed Kanaan (See <https://et.nmsu.edu/people/people-directory.html>)
- Textbook: Washington, A.J., and Evans, R., *Basic Technical Mathematics with Calculus*, 11th Ed, Pearson, 2017 (ISBN-10: 013443773X or ISBN-13: 978-0134437736)
- Course Learning Objectives: After completing this course, a student should be able to:
 - 1) Solve systems of linear equations by use of matrices.
 - 2) Use complex numbers and periodic functions to solve engineering problems.
 - 3) Solve problems using various coordinate systems.
 - 4) Write and solve problems with 2-D & 3D vectors.
 - 5) Write and solve problems with derivatives.
 - 6) Write and solve problems with integrals.
- Topics Covered: Geometry; trigonometric functions; systems of linear equations; factoring and fractions; quadratic equations; trigonometric functions of any angle; vectors and oblique triangles; exponents and radicals; complex numbers; exponential and logarithmic functions; equations of higher degree; matrices and systems of linear equations; inequalities and variation; sequences and the Binomial Theorem; introduction to statistics; derivatives and applications; integration and applications