MATHEMATICS (MTH)

MTH 510 - Numerical Methods I (3.0 hours)
Introduction to numerical and computational aspects of various mathematical topics: finite precision, solutions of non-linear equations, interpolation, approximation, linear systems of equations, and integration. Cross listed as CS 510.
Prerequisite: CS 101; MTH 207 and 223.

MTH 514 - Partial Differential Equations (3.0 hours)
Theory of, and solution techniques for, partial differential equations of first and second order, including the heat equation, wave equation and Laplace equation in rectangular, cylindrical, and spherical coordinates. Topics include classification of PDE in terms of order, linearity, and homogeneity; solution techniques include separation of variables, Fourier series, and integral operators; and a subset of more advanced topics such as transform methods and numerical methods.
Prerequisite: MTH 224 or 345.