Department of Mathematics Proposed Catalog Changes

October 13, 2015 Graduate Program

1. MATH 511, 512, Numerical Methods for Partial Differential Equations

Proposed: Make two different courses with different descriptions **Justification**: Course description changed to better describe what is currently taught in the course.

Change from:

MATH 511, 512, Numerical Methods for Partial Differential Equations, 3 cr, 3cl hrs each semester

Prerequisites: MATH 410 or consent of instructor

Finite difference methods for parabolic and elliptic partial differential equations. Convergence and stability. Finite element methods. Advanced numerical linear algebra.

Change to:

MATH 511, Numerical Methods for Partial Differential Equations, 3 cr, 3cl hrs

Prerequisites: MATH 410 or consent of instructor

Finite difference or finite element methods for parabolic and elliptic partial differential equations; approximation, stability, and convergence; applications

and

Math 512, Numerical Methods for Wave Propagation, 3 cr, 3cl hrs

Prerequisites: MATH 410 or consent of instructor

Finite volume methods for hyperbolic partial differential equations; Riemann problems; Godunov's and Roe's methods; high resolution methods; applications