MECHENG 548. Applied Nonlinear Dynamics

Advisory Prerequisite: None. Enforced Prerequisite: MECHENG 360; or graduate standing. (3 credits)

Geometrical representation of the dynamics of nonlinear systems. Stability and bifurcation theory for autonomous and periodically forced systems. Chaos and strange attractors. Introduction to pattern formation. Applications to various problems in rigid-body dynamics, flexible structural dynamics, fluid-structure interactions, fluid dynamics, and control of electromechanical systems. **CourseProfile (ATLAS)**