Lectures: Tuesdays and Thursdays 4:00-5:15 pm; Room AERO N250

Homework: There will be roughly 4-5 homework sets in the semester.

Project: Term project will be a central activity in the course. It will involve analytical and numerical analysis of a carefully selected nonlinear vibration system. Each project team will consist of two students (with some exceptions possible). Final results and conclusions will be reported in the form of a conference-style paper and presentation.

Examinations: Two in-class examinations will be given, one around the middle of the semester and one at the end of the semester.

Grading: J qo gy qtm í í í í í 020%
Rtqlgev í í í í í í í 40%
Hktuv Gzco í í í í í 020%
Ugeqpf Gzco í í í í 020%

Prerequisite: ASEN 4123 Mechanical Vibrations or equivalent are recommended but not required

Preliminary Course Outline

-   Overview of Linear Vibrations
    -   Single Degree-of-freedom Systems ó Free Vibrations
    -   Single Degree-of-freedom Systems ó Forced Vibrations
    -   Introduction to Multiple Degree-of-freedom Systems ó Free/Forced Vibrations
    [Class notes]

-   Modeling of Dynamical Systems by Lagrangeøs Equations
    [Class notes]

-   Introduction to Nonlinear Vibrations
    [Class notes; Chapter 1]

-   Free Nonlinear Vibrations of Single Degree-of-freedom Systems ó Undamped
    [Class notes; Chapter 2]

-   Free Nonlinear Vibrations of Single Degree-of-freedom Systems ó Damped
    [Class notes; Chapter 3]

-   Forced Nonlinear Vibrations of Single Degree-of