

# AA242B: Mechanical Vibrations

Schedule: Spring 10, Tu-Th 2:00 pm – 3:15 pm

Units : 3



## Course Description

This course is designed for M.S.-level graduate students. It covers the vibrations of discrete systems and continuous structures, and an introduction to the computational dynamics of linear engineering systems. No prior knowledge of structural dynamics is assumed.

## Course Outline

Review of Analytical Dynamics of Discrete Systems – Undamped and Damped Vibrations of N-Degree-of-Freedom Systems – Continuous Systems - Approximation of Continuous Systems by Displacement Methods – Solution Methods for the Eigenvalue Problem - Direct Time-Integration Methods.

## Prerequisites

- ✚ AA 242A or equivalent (recommended but not required).
- ✚ Basic knowledge of linear algebra and ODEs.

## Textbook

- ✚ M. Geradin and D. Rixen, Mechanical Vibrations: Theory and Applications to Structural Dynamics, Second Edition, Wiley, John & Sons, Incorporated, ISBN-13: 9780471975465.
- ✚ Lecture notes and various reading materials.

## Instructor

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