

Advanced Applications on Structural Dynamics

(CIEE 723 / IMSC 024)

Semester Syllabus

Part 1: Course Information

Instructor Information

Instructor: Prof. K.V. Yuen

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Course Description

Revision of structural vibrations, Monte Carlo simulation and its limitations, First-order reliability method (FORM) and second-order reliability method (SORM), Importance sampling and computational issues, Vibration control, System identification and damage detection, Bayesian methods, Other updated topics.

Prerequisite

NA

Course Duration

42 contact hours, 3 hours per week (3-credit course)

Credit: 3

Compulsory/elective course: Elective

Part 2: Course Objectives

In this course several advanced areas in structural dynamics will be introduced. They include reliability analysis, structural vibration control and structural health monitoring. Students will be equipped by state-of-the-art and updated tools and methods to enter the corresponding research fields.

Part 3: Major Assessment Methods

Midterm Exam	40%
Final Report	40%
Presentation	20%