CIVENV 320 Structural Analysis - Dynamics (Fall 2018)

COURSE SYLLABUS

Instructor : Prof. Sinan Keten
Email : s-keten@northwestern.edu
Office : TECH A133
Office Hours : Wed 2:00PM-3:00PM, or by appointment
Phone : (847)-491-5282
Class Times and Location : MWF 1:00PM-1:50PM, TECH M128
T 9:30AM-10:50AM TECH M164 (extra lecture)

Course Outcomes
At the conclusion of the course, students will be able to:

• Describe the behavior of single and multiple degree of freedom dynamic systems
• Construct and interpret response spectra for dynamic structural behavior
• Complete a limited structural design to resist earthquake loads using the equivalent force method

Prerequisites
CIV_ENV 216 & 221 or equivalent. CIV_ENV 325 or 323 recommended.

Grading

Homework 15%
There will be approximately eight homework assignments over the course of the quarter, due a week after assignment. No due date extensions will be offered, however, the lowest homework assignment score will be dropped from the homework grade.

Project Reports 20%
Approximately two individual or team assignments focusing on earthquake analysis and report writing will be given.

Midterm 25%
1.5 hour midterm exam during Tuesday lab session

Final Exam 35%
Two hour final exam

Teamwork and Participation 5%
Instructor’s assessment of your participation in class and contribution to team products

Homework
• Solutions to the HW will be posted on Canvas after due date.
  Homework not accepted after due date. Lowest HW score will be dropped
• Use engineering paper, write on one side of page only, use pencil, and show work. You are graded on neatness and presentation in addition to results - this is also true in exams.

Website
I will be using Canvas for announcements, updates, and to post grades and HW solutions. Please check Canvas daily to stay up to date, and to confirm accuracy of grade records.

Lab
As needed, the Lab session will be an extra lecture and exam period. Later in the quarter we will transition to workshops focusing on the Programming Report.

Textbook
Required: Anil K. Chopra (2017); Dynamics of Structures: Theory and Applications to Earthquake Engineering; 5th Edition; Pearson Prentice Hall, Inc.