Homework assignment #6
Due on Tuesday 04/05/2016

Make sure to read all the instructions listed on this document!

Learning objectives

Please study your class notes and the corresponding sections of the textbook before completing the assignment. After completing this assignment, you should be able to:

- Apply modal analysis to find the forced vibration response of a N DOF system
- Find the force vibration response of viscously damped systems

Solve the following problems of the textbook:

- Solve problem 6.95 of the textbook. For this problem:
    - Derive the stiffness and mass matrix
    - Derive the natural frequencies and mass normalized modal vectors
    - Derive the solution using modal analysis
    - Plot the displacements $x_1(t)$ and $x_2(t)$ as a function of time.
- Solve problem 6.99 of the textbook

For each problem, you need to show your work and circle your final answer. Please staple your homework.