2.092/2.093

COMPUTER METHODS IN DYNAMICS

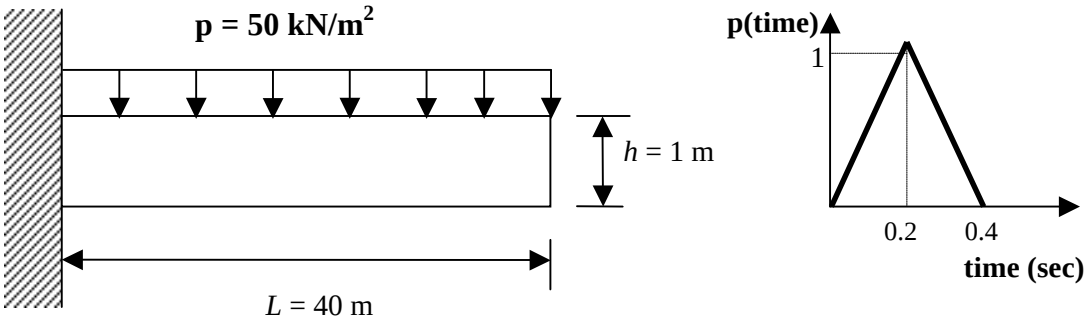
FALL 2006

Homework 8

Instructor:	Prof. K. J. Bathe	Assigned:	Thurs., Nov 9
TA:	Samar Malek	Due:	Thurs., Nov 16

Problem 1 (20 points):

Consider the plane stress problem below. The initial displacement and velocity are zero.



E = 2e11 N/m^2
ν = 0.3
ρ = 1000 kg/m^3
t = 0.01 m

a) Calculate the lowest six frequencies.

b) Calculate the response of the structure using the trapezoidal rule and mode superposition.

c) Make sure your results make physically sense. Compare and discuss your results.

Problem 2 (10 points):

Exercise 9.4, textbook p. 784.