

ASEN 5107 Nonlinear Finite Element Methods
Homework 5: The TL Beam Element

Due Thursday February 22, 2007.

Be sure to attach this sheet as cover to your HW

Do three exercises:

8.3 or 8.4 (pick one)

9.3

9.4

Grading weights: Given at start of exercises.

The Mathematica handbook described in the Appendix to Chapter 9 is posted on the web.

My results for Exercise 9.3, which deals with the classical buckling analysis of a cantilever beam-column (the so called linearized-prebuckling model, treated in detail later in the course) are:

N_e	λ_{cr}
1	3.1651
2	2.6039
4	2.4997
8	2.4754
16	2.4694
32	2.4679
exact	$\pi^2/4 = 2.4674$

First Midterm Quiz Announcement (Tentative Dates)

Tentative dates: Take home given Tuesday February 27 on class, covering Chapters 2–9. Due Thursday March 1 in class.