Structures I	I
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Arch 324

Name 1			
Name 2			

Name 3

# **Flexural Strain**

### Description

This project produces a graphic representation of the strain diagram for a tension controlled concrete beam.

### Goals

To plot the compression and tension strain levels in a concrete beam

To graphically determine the neutral axis.

To draw the ACI "Whitney" stress block showing C and T forces.

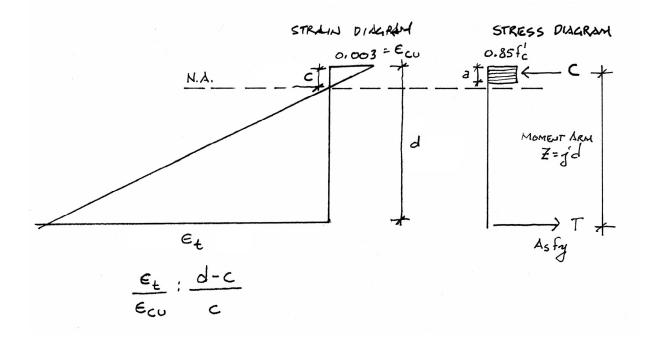
To compare plotted and calculated results.

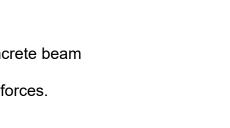
# Procedure

- 1. For the tension controlled beam analysis discussed in lecture, construct the strain diagram with  $\epsilon$  u = 0.003 and  $\epsilon$ t as calculated.
- 2. Use f'c = 6000 psi and fy = 60000 psi
- 3. Graphically determine the c distance from the top to the N.A on your diagram.
- 4. Make a second diagram to show the relationship of C & T forces to the strains.
- 5. Draw the ACI Whitney stress block at "a" distance from the top.
- 6. Show the moment arm and calculate j using jd = z.

# Due

Sunday, March 28





12"

