

Project 1 / Report 1

Due: 3:35pm, Monday October 17, 2005.

Please use a word processor for preparing your answers. Include the computer printouts as appendices or figures explicitly referenced in the text.

Download the 2005 West Point Bridge Design Software at <http://bridgecontest.usma.edu/download2005.htm> and design a bridge. Try to iterate on your design to minimize the cost and see if you can get your cost below \$250,000. The lowest priced bridge in the qualifying round last year cost was \$150,980.60. See the type of bridge at the results site: <http://bridgecontest.usma.edu/2005results.htm>

It is generally expected that your final design will not fail under the standard loading.

Discuss your design philosophy in a brief report. The report should

- 1) Describe your initial solution.
- 2) Describe your rationale for making changes.
- 3) Characterize your final design in terms of:
 - a. Type of truss
 - b. Type(s) of material
 - c. Type(s) of cross sections
- 4) Present a critique of your final design. What are the design's strengths and weaknesses? What would you change if you had more time? How would you go about the process if you were starting again? What did you learn?
- 5) Include a print out your solution by selecting "Print the Design" under the File menu and also print out "Load Test Results" under the Report menu

GRADING SHEET – PROJECT 1/ REPORT 1

CIEG 125 - Introduction to Civil Engineering.

NAME: _____

This sheet MUST be stapled to the front of your homework.

		Points awarded	Max points
General Presentation (10 points total)	Name, Date, Assignment #		2
	Neatness (don't forget to staple the sheets together in the correct order!)		3
	Logical Presentation		2
	Spelling/Grammar		3
1) Initial solution			15
2) Rationale			25
3) Characteristics			15
4) Critique	Strengths		5
	Weaknesses		5
	Changes		5
	Process		10
	Learning		10
Inclusion of printouts			5
BONUS Points			
Design	Min $((250 - \text{cost}) / (250 - 150,980.60)) * 10, 0$		Max 10
TOTAL			100 + bonus max 10