Architecture 314
Structures I

Truss Bridge Project Tally Sheet

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Group_____

PRELIMINARY REPORT (re-submit original)	**40**	
Explanation	5	
Illustrations: section (5), elevation (5), 3d view (5)	15	
Analysis: forces (5), sizing (5), weight estimate (5), load capacity (5)	20	
TESTING	**60**	
Bridge < 4 oz is 8 pts and holds at least 50 lbs is 8 pts (else pts scaled down)	16	
Correct materials – wood and glue – solid deck (no holes)	14	
Points awarded (out of 30) based on class rank using formula: [(4/weight OZ)*50 + (load in LBS/50)*9]	30	
FINAL REPORT REQUIREMENTS	**150**	
Preliminary Design Development	**20**	
How initial (preliminary) bridge design was developed	4	
How initial (preliminary) member sizes were chosen	4	
Why bridge design was or was not adjusted from preliminary design	4	
Why member sizes were or were not adjusted from preliminary design	4	
Discussion of how pre-analysis of initial bridge impacted the final design	4	
Revised Bridge Design Analysis	**50**	
Internal axial force calculations/modeling (with proper design loading indicated) (Dr. Frame acceptable)	10	
Derivation of member cross-sectional areas from axial forces	10	
Member size selection from available stock	4	
Est. weight calculation of bridge - including members, glue & fasteners	6	
Method of joints/sections calculation for at least 1 joint (@ reaction is usually easiest based on truss geometry, but could be done elsewhere)	10	
Member crushing calculations/check (show work) using $F'_c=P/A$	4	
Prediction of capacity of bridge and mode of failure	6	
Illustration of Tested (Revised from Preliminary) Design	**20**	
Cross-section of bridge	4	
Elevation(s) of bridge	4	
Dimensions and units labeled in elevation and cross-section	4	
Member sizes labeled (with dimensions)	4	
Member stresses labeled (with units)	4	
Testing Results	**30**	
Weight and height of bridge	5	
Capacity of bridge	5	
Observations of testing	6	
Description of mode of failure	5	
Images of failure	5	
Following the guidelines	4	
Post-Testing Analysis	**30**	
Comparison of testing with predicted capacity and modes of failure	10	
Discussion of discrepancies between results	10	
Suggested improvements for future designs with reasoning discussed	10	
FINAL GRADE	**250**	

Up to 20 pts may be withheld for a lack of clarity or professional quality. **8.5”x11” PAPER ONLY!**