CE113 Structural Laboratory
Wood Proposal

This Wood Proposal is a Team Assignment. This is to be submitted at the time indicated by the Instructor, but no later than 48 hours before test (so that instructor and lab tech can review for feasibility).

Your team proposal should consist of the following and not exceed 6 pages, not including Appendix with calculations:

1. Team Cover Sheet
2. Summary of Test Idea (~3-4 paragraphs) and discussion of Test Matrix
3. Test Matrix (Table), summarizing:
   A. number of specimens (e.g., 2-3) with Test ID (e.g., B1, B2, B3)
   B. test parameters (e.g., different wood types)
   C. type of test (e.g., bending)
   D. properties to be examined (e.g., compressive strength perpendicular to grain; stiffness)
   E. test result to be acquired (e.g., load-displacement, from which strength and stiffness are determined; failed specimen)
   F. anticipated failure mode (e.g., fracture in flexure)
4. Schematic of test setup, showing specimen with dimensions, load location(s), supports, and instrumentation
5. Instrumentation required (e.g., load cell and LVDT)
6. Materials List, cost estimate, supplier
7. Brief test procedure.
8. List of at least 2 references
9. Calculations/predictions, based on test specimen size and realistic average strength properties from website or other reference (See also Design of Wood Structures, Breyer et al, on reserve in Library), including estimated maximum applied load and other pertinent values. [Appendix]

CE113 Structural Laboratory
Wood Specimens

Wood Specimens are a Team Assignment. Specimens are due on Test Day in accordance with the lab schedule.

1. Specimens should be prepared in accordance with guidelines discussed in Lab, your proposal, and comments from the Instructor, other students, and the laboratory technicians.
2. Please note that all comments about wood experiments are merely suggestions, and are NOT to replace your team decisions for this Student-designed experiment. However, keep in mind restrictions of the lab and number of test specimens. All specimens must be tested in one lab session. Only 2-3 specimens maximum per team are likely to be tested.
3. Specimens should be fully prepared before lab on Test Day. Students should work out issues with specimen fabrication, test setup, instrumentation, and test procedure <u>before</u> coming to lab. This includes all discussions with the laboratory technicians.

Wood Presentation and Handout

Wood Presentation and Handout are a Team Assignment. These are due at the time indicated by the Instructor in accordance with the lab schedule.

Instead of a formal wood report, a presentation and handout are required, as follows:

1. Team Presentation—Students should determine the most effective means to convey test objectives and test matrix, key test results, including failed specimens, and a comparison of predictions to results. Presentations cannot exceed 15 minutes/team and should follow the basic guidelines given for the Steel Beam presentation. However, this presentation is not required to be as "technical" so that sufficient emphasis is placed on creativity/effectiveness.
1. Handout—**Not to exceed 8 pages** (**<u>including</u>** 2-page Appendix), using 11 point font and 1.5 line spacing:
   1) Cover Sheet (1 page), 2) Executive Summary (≤ **<u>1 page</u>**), 3) Figures, Tables, and Plots (≤4 pages): Test Matrix, Test Setup and instrumentation, Test Procedure (as a Table), Specimens Pre- and Post-test, and Test Results compared to Predictions, 4) List of References, and 5) Appendix with Calculations (≤2 pages).
   <u>NOTE: Only one copy is required to be handed out (for instructor).</u>
2. Teams will be graded on effectiveness/creativity of their presentation. Consider how to most effectively impart your learning and also be creative. For example, make a presentation with or without PowerPoint, use the white board, consider a video or special handout, show and tell your specimen, or even write/read a poem about your wood experiment! You have significant flexibility. Demonstrate your learning, but make it interesting and fun!

3. Grading: Grading of your experiment and learning will be based on updated proposal/handout as mentioned in Item 2 above (40%); content of in-class presentation/discussion (35%); and Effectiveness/Creativity of Presentation as evaluated by instructor and class (25%).