

# Bridge Project

**PROJECT OVERVIEW** ▶

**TRUSS BRIDGES** ▶

Bridge Introduction

**MODELLING TRUSSES** ▶

JHU Simulator

**DESIGN/CONSTRUCTION/TEST RULES** ▶

**FORCE ANALYSIS** ▶

Static Force Analysis

Stability

Method of Joints

**OTHER SIMULATORS** ▶

**BRIDGE RUBRIC** ▶

After the conceptual diagrams and the introduction, the students go right into the truss simulator. They evaluate a number of designs and the group settles on one. (In last terms class, 4 different designs were selected by the 6 groups. Detailed drawings are prepared and construction follows.

Problems are usually encountered here and compromises must be made and documented. The quality of the building varies. (Some class time is devoted to techniques, but the bulk of the work is done at other times.) Some groups are very exact and it shows during testing. The background of force analysis is covered during this time.

On testing day, each group presents their bridge and it is evaluated on the Pitsco Structure Tester (other testing methods available.) The best strength to weight ratio wins. (They are permitted to schedule a retest if a glue joint fails since the design was not fully stressed.) Also a class award for the most aesthetic design. Documentation is by individual reports.

The quality of the work has improved significantly since the first project. Excerpts of student reports and testing details will be available soon.