

Course Instructor: **Barry Sebring**

Assistant: **Shelby Sebring**

Email: b.sebring@sabrecs.com

Course Title: ***Engineering Bridges***

Course Description:

Bridges are common in everyday travels—but what makes a good bridge design and what design can cause a disaster? This mini-course will:

(WEEK 1) study bridge design, materials and construction techniques

(WEEK 2) create a properly engineered scale model bridge of their own design for each student. Students will be required to draw a detailed plan for their bridge including all dimensions and angles. Math skills will be used throughout this course.

(WEEK 3) construct, using all wood components, the scale model design of each bridge (students will be required to use Elmer's Glue and X-acto modeling knives to cut the wood and rulers to measure bridge components precisely)

(WEEK 4) load each bridge to failure (break the bridge) using a testing stand where students will gradually add weight to the bridge until it fails (breaks)

Preferred grades of course participants: **5th and 6th grades**

Preferred day: **Thursday**

Maximum Class Size: **12 students**