

Mission Valley ROP

PLTW Course:

Civil Engineering and Architecture

Additional Coursework

The following is an outline of the additional activities, integrated into the standard PLTW curriculum. The addition of these activities was formulated to mimic or prepare students for work that might be encountered in either an undergraduate study of architecture or civil engineering or as an intern or junior level employee in a firm.

1. Measure existing ROP building and prepare hand drafted, scaled as-built drawings, including Floor Plan and Exterior Elevation.
2. Design for a Doghouse: prepare scaled drawings and build a model to scale
3. Perspective, Isometric and Oblique drawings and freehand sketching
4. Design Charrette for various potential improvements about the MVROP campus.
5. Design and build chairs from two sheets of cardboard
6. Design, build a model of and construct with the Construction teacher, exterior benches
7. Build truss bridges of popsicle sticks and test their design strength
8. Design a Culinary Arts building for an expansion of the MVROP campus.
9. Explore local Zoning codes. Become familiar with setbacks and other typical items governed by Zoning departments
10. Students research the ASCE Report Card for America's infrastructure. Reports are made and presented to the class.