**Lesson Plan Outline Geometry in Construction**

**Title:**

Forms of a Parabola

Transformations of a Parabola

**Objective(s):**

Students will be able to take the equation of a parabola in standard form and graph it.  Students will also be able to use given information (directrix, focus, vertex) to write and graph a parabola

Students will explore how changes in the equation of a parabola and circle affect the equation and vice versa.

**Learning Standard(s):**

[CCSS.MATH.CONTENT.HSG.GPE.A.2](http://www.corestandards.org/Math/Content/HSG/GPE/A/2/)

Derive the equation of a parabola given a focus and directrix.

**Activities:**

Chalk drawing activity to map out a parabola based on a description

Graphs of Circles and Parabolas exploration using technology

**Materials:**

Chalk, String, Tape Measure

Parabolas W.S.