Hidden lines in orthographic projections

Sections 10.04 and 10.07 of Text
Objectives

• To learn how and where to include hidden lines in orthographic projections.
What Are Hidden Lines?

- Build the object represented by this coded plan and view it from corner z.

- Hidden lines are used to depict edges which are not visible from the current viewing angle.

- Hidden lines are dashed lines.

- Can you pick out any edges that would appear as hidden lines in an orthographic multiview drawing?
Hidden Lines

• These are the three views associated with the object you just built.

* A SolidWorks implementation of this object is available on the EEIC website – Hidden Lines 1
Hidden Lines

- Hidden lines are dashed lines used to represent internal features that are obscured by the object.

These hidden lines represent the obscured corner of the notch.

This hidden line shows the hidden edge of the top cut.

These hidden lines show the extents of the hole.

* A SolidWorks implementation of this object is available on the EEIC website – Hidden Lines 2
Line Precedence

• *Visible lines* takes precedence over all other lines

• *Hidden lines* take secondary precedence

• That means that if a visible line and hidden line coincide, only the visible line is shown
Line Precedence Example

- Note that the two potential hidden lines in this sketch fall directly behind visible lines in the right side view.

- The visible lines take precedence and the hidden lines are not shown.
Orthographic Projections

• Use this time and your snap cubes to practice sketching orthographic projections with hidden lines.

• In class assignment
What’s Next

- Due Next Class: GP03 Out-of-Class HWs
- Inclined and Curved Surfaces in Orthographic Projection
  - Adding inclined planes and curved features to orthographic projection
  - Increasing clarity by adding center marks and centerlines
- Point, Edge, and Surface Tracking
  - Identifying corresponding points, edges, and surfaces between orthogonal views
- Take Graphics 4 Quiz on readings