

Assumptions:

Students should be able to:

- Have a basic understanding how to draw a simple isometric with out curves in CAD.
- Read an isometric drawing
- Identify length, width, and height of an isometric drawing
- Change settings in AutoCAD to draw Isometrics

Outcomes:

Students will be able to:

- Sketch isometric circles by hand using the boxing-out method
- Draft isometric circles using CAD
- Appropriate toggle between faces of an isometric object

Materials:

- Computer w/ Autodesk AutoCAD
- Microsoft PowerPoint
- Computer Projector
- Isometric curves worksheet
- Isometric graph paper

Instruction Method:

I will use the demonstration and discovery method of teaching for this lesson. I will demonstrate how to sketch and draft isometric circles then let the students attempt it in class.

Activity:

Today students will be learning about isometric drawings.

- Bellwork : What is wrong with this image? How would you correct it?
- Introduction: Review why we use isometric drawings. Give the second half of a PowerPoint on isometric drawings (isometric circles). Demonstrate the boxing-out method of sketch isometric circles on the dry erase board.
- Review how to set up AutoCAD to draw isometric objects. Turn on the Grid & Snap. Change the grid to isometric. Explain the new steps in drawing. Activate the ELIPSE command. Select ISOCIRCLE and follow the on screen directions. Use CTRL-E or F5 to toggle between faces of the isometric object.

- Hand out Isometric graph paper. Have students sketch the Clamp drawing by hand using the boxing out method. Walk around the room to monitor student progress. Team up students who are struggling with the concept.
- After the students have checked the drawings with you they may then draw the objects in CAD. When students are finished ask them to begin the CAD portion of the lesson (Clamp drawing).
- If students finish the Clamp drawing early they are to start the Strap drawing. This drawing will be in CAD only.

Assessment:

The students will be assessed based on the quality of their drawings, and CAD documents.

Clamp Hand drawing:

Line quality	5pts
Placement	5pts
Use of the boxing out technique	5pts

Total 15pts

Clamp CAD drawing:

Placement	5pts
Units	5pts
Title Block	5pts
Isometric grid and snap	10pts

Total 25pts