Western Technical College

31420302 Blueprint Reading

Course Outcome Summary

Course Information

Description	Introduction to reading and interpreting prints and industrial drawings. Interpretation of views, projection, lines, sections, working and assembly drawings relative to manufacturing processes and order of operations.
Career Cluster	Manufacturing
Instructional Level	Technical Diploma Courses
Total Credits	1
Total Hours	36

Textbooks

Blueprint Reading for Machine Trades. 7th Edition. Copyright 2012. Schultz, Russ. Publisher: Pearson. **ISBN-13**:978-0-13-217220-2. Required.

Learner Supplies

Graph paper ¼" squares. **Vendor:** Campus Shop. Required.

Program Outcomes

1. MACH 2. Interpret industrial/engineering drawings
2. MACH 3. Apply precision measuring methods to part inspection

Course Competencies

1. Analyze Engineering drawings.

Assessment Strategies

1.1. Written Product

Criteria

You will know you are successful when

1.1. you review an engineering drawing.
1.2. you identify what is meant by the drawings, different views.
1.3. you indicate what the title block information is for a drawing.
1.4. you list different views of an engineering drawing.
1.5. you identify correct symbols, terms and abbreviations for a drawing.

Learning Objectives

1.a. Analyze engineering drawings.
1.b. Interpret title block information.
1.c. Differentiate the different views of an engineering drawing.
1.d. Distinguish the different symbols, terms, and abbreviations on a print.

2. Sketch objects into accurate Engineered drawings.

Assessment Strategies

2.1. Written Product

Criteria

You will know you are successful when

2.1. you sketch two objects using the correct types of lines to represent features.
2.2. you sketch two objects using correct view placement.
2.3. you complete missing views of two orthographic drawings by viewing the isometric view.
2.4. you complete two sketches to isometric view from orthographic drawings.
2.5. you prepare a written product which is free from spelling and grammar errors.

Learning Objectives

2.a. Sketch objects using the Alphabet of Lines.
2.b. Draw orthographic drawings.
2.c. Draw engineering drawings.
2.d. Draw missing views of objects based on given views.

3. Interpret dimensions on blueprints.

Assessment Strategies

3.1. Written Product

Criteria

You will know you are successful when

3.1. you calculate the overall dimensions of two parts from a print.
3.2. you calculate dimensions that are missing for two parts.
3.3. you calculate included angles and missing angular dimensions on one part.

Learning Objectives

3.a. Compute missing dimensions on a print.
3.b. Compute part feature locations.
3.c. Interpret part feature sizes.
3.d. Interpret angular measurements on prints

4. Develop a part production process plan from an engineering drawing.

Assessment Strategies

4.1. Written Product

Criteria

You will know you are successful when

4.1. you create a process plan list with all the processes required to make one part.
4.2. you create a process plan that includes the size and quantity of material required and any other required parts.
4.3. you create a process plan for one part that includes the tools needed and the calculated feeds and speeds for the tools.
4.4. you create a process plan for one part that includes a written description and diagram of the fixture(s) or work holding devices required for manufacture.

Learning Objectives

4.a. Determine overall size of part for stock selection.
4.b. Determine processes needed to make a part.
4.c. Select tools needed to produce part.
4.d. Determine critical dimensions for inspection.