

Basic Drafting Skills

Unit Outline

1. Project Team Members:
James Coulter, Michael Lucidore, Della Emanuel, Frank Sylvester
2. Title of Course: Power Technology (7-9)
3. Title of Unit or Project: Basic Drafting Skills
4. Approximate length of Unit or Project: Four weeks
5. Brief description of the Unit or Project with an expected final outcome.

The unit will enable the students to identify the tools and terminology utilized in basic drafting. The student will complete an Isometric and Orthographic drawing and convert them into an Isometric drawing.

6. Major Goals of Unit:

The student will be able to:

- 1) Identify and demonstrate proper use of drafting tools.
- 2) Produce an Isometric drawing using effective drafting techniques.
- 3) Produce an Orthographic drawing using effective drafting techniques.
- 4) Problem solve by converting an Orthographic drawing into an Isometric.
- 5) Convert fractions into decimals.

7. Sequence of balanced and integrated activities for students:

The student will be able to:

- 1) Construct border and title block correctly.
- 2) Lay out an Isometric and Orthographic.
- 3) Construct a finished drawing.
- 4) Demonstrate line construction technique.
- 5) Read and transfer measurements.
- 6) Identify and use dimensioning practices and techniques.

Note: Consider adding activities and assessments having students write about and orally present their drawings to reinforce these essential skills.

8. Checklist or rubric of assessment components for students:

DRAFTING EVALUATION SHEET

NAME:

DATE STARTED:

COMPLETION DATE:

Circle Yes or No
Student Teacher

- | | | | | |
|--|-----|----|-----|----|
| 1. IS THE BORDER & TITLE CORRECT? | Yes | No | Yes | No |
| 2. WERE ALL LINES DARKENED IN WITH 2H PENCILS? | Yes | No | Yes | No |
| 3. IS THE DRAWING NEAT AND FREE OF ERASER MARKS? | Yes | No | Yes | No |
| 4. IS THE DRAWING ACCURATE? | Yes | No | Yes | No |
| 5. ARE ALL NECESSARY HIDDEN LINES PRESENT? | Yes | No | Yes | No |
| 6. CAN YOU SHOW THE PROPER STEPS TO CONSTRUCT THE DRAWING? | Yes | No | Yes | No |
| 7. DID YOU TRY TO IMPROVE THE QUALITY OF THIS DRAWING? | Yes | No | Yes | No |

EACH MISSING ARROW HEAD IS WORTH 2 POINTS
 EACH EXTENSION LINE THAT IS TOUCHING IS WORTH 2 POINTS
 EACH MISPLACED DIMENSION IS WORTH 2 POINTS
 EACH MISPLACED DIMENSION IS WORTH 5 POINTS
 EACH MISSING LINE IS WORTH 5 POINTS

THE GRADE ON THE DRAWING IS A PERCENTAGE BASED ON 100.

9. Specific Standards addressed in this Unit or Project:

<u>Ref. #</u>	<u>Name of Standard</u>	<u>Title of Individual Standard</u>
1.2.5. A, B	PA-RWSL	A. Distinguish between essential and non-essential information. B. Drafting Evaluation
1.6.5. A	PA-RWSL	A. Ask pertinent questions.
1.6.8. A, D	PA-RWSL	A. Analyze information D. Respond to relevant information.
2.3.5 A, B, C	PA-M	A. Select and use appropriate instruments for measuring B. Select and use standard tools to measure. C. Verify specified measurements of objects.
2.6.3 A	PA-M	A. Gather, and organize information.
2.9.5 C	PA-M	C. Identify circles
2.9.8 A	PA-M	A. Construct figures using perpendicular and parallel lines.
3.7.7 A, B	PA-ST	A. Describe safe and appropriate use to tools B. Use appropriate tools correctly
3.7.10 A	PA-ST	A. Select tools necessary to solve drawing problems
13.2.3 F,G	PA- CEW	F. Identify selection for career portfolio. G. Demonstrate manipulative skills
13.2.8 F	PA-CEW	F. Evaluate career portfolio for accuracy