



BAKER COLLEGE
STUDENT LEARNING OUTCOMES

MATT1350 Introduction to Gas/Arc/Mig/Tig Welding
3 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Demonstrate appropriate safety precautions for welding and cutting.
 - a. Apply necessary safety precautions related to welding and cutting.
 - b. Demonstrate appropriate use of personal protection equipment.
 - c. Properly set-up and tear down welding and cutting machinery.
 - d. Properly prepare materials prior to welding and/or cutting.
2. Evaluate detail and assembly drawings from various welding blueprints.
 - a. Analyze components of working drawing (detail and assembly).
 - b. Interpret working drawings using basic rules of dimensioning, tolerance, and GD&T.
 - c. Demonstrate competency in identifying weld symbols.
3. Demonstrate the appropriate techniques and processes for welding and/or cutting.
 - a. Demonstrate the various uses of plasma arc cutting (PAC) and oxy-acetylene flame cutting (OFC-A).
 - b. Demonstrate the various uses and processes of brazing/soldering, gas metal arcwelding (GMAW), gas tungsten arc welding (GTAW), and shielded metal arc welding (SMAW).
 - c. Determine the appropriate technique and angle needed for various cutting and welding situations.
 - d. Identify various joint fit-ups used in welding (T-joint, lap weld, socket weld)

Big Ideas and Essential Questions

Big Ideas

- Welding and cutting applications
- Various welding positions

Essential Questions

1. How do I ensure my safety and the safety of others during the pipe welding process?
2. How do I determine the appropriate type of welding/cutting process for pipe?
3. How do I determine the appropriate process used for welding and cutting?
4. How do welders determine the quality of a welds and cutting?

These SLOs are not approved for experiential credit.

Effective: Fall 2020