

In this course students will obtain a better knowledge of how to access the programs of the different machines being used. Students will weld in out of position welds. This course will give students more lab time to practice pipe welding. Students will also learn how to pulse gas tungsten arc welding on stainless steel and Aluminum. (Prerequisite: WELD 1045 - Introduction to GTAW or equivalent from another technical college or instructor approval.)

3

80

Lecture	1/16
Lab	2/64

WELD 1045 - Introduction to GTAW or equivalent from another technical college or instructor approval.

Communication - Students will be able to demonstrate appropriate and effective interactions with others to achieve their personal, academic, and professional objectives.

Utilize proper welding gases for the material being welded.

Use the proper angle of the torch to the joint and direction of travel for the type of weld being made in the flat, horizontal, vertical, and overhead positions.  
Apply GTAW - Pulse and frequency settings for the position and material being welded.  
Perform proper weld sequencing to produce an acceptable visual weld.

Examine each weld looking for discontinuities and defects.  
Determine what caused the discontinuity or defect and fix the cause.

Examine the fit-up between material after it has been tacked, break and re tack if fit-up is not acceptable.  
Examine pipe bevel contour to ensure the proper fit up when coping pipe.

Examine weld for spatter left on material to determine if the weld is receiving enough and correct shielding gas.  
Determine the correct steps to take if the arc will not start or stop with pedal.  
Determine what is the cause if the tungsten will not stay in position in the GTAW torch.

Create quality weld test with the pulse mode on stainless steel pipe.  
Identify any causes of various welding defects; make necessary adjustments.

Practice all types of positions GTAW- pulse 1G, 2G, 3G, 4G, on carbon steel, stainless steel, and aluminum.  
Construct final weld coupon for bend testing.

Demonstrate how to cut, prepare and bend the test coupon.  
Obtain the correct material to be used for the bend test according to the weld procedure.

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room C-112, (507) 389-7222; Faribault: Room A-116, (507) 332-5847.

Additional information and forms can be found at: [www.southcentral.edu/disability](http://www.southcentral.edu/disability)

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.

