



South Central College

HVAC 2251 Brazing

Common Course Outline

Course Information

Description	This course covers brazing equipment and material. Students will be introduced to the soldering and brazing process, terms, and personal safety.
Total Credits	2
Total Hours	48

Types of Instruction

Instruction Type

Credits/Hours

Lecture

Lab

Institutional Core Competencies

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

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Examine the soldering process and the materials used

Learning Objectives

Discuss the temperature range for soldering

Compare soft solder materials

List applications for soldering

2. Examine the brazing process and the materials used

Learning Objectives

Discuss the temperature range for brazing

Compare brazing alloys

Describe the function and steps that high temperature flux goes through

Determine which brazing alloy will work best on lab projects

3. Explain the differences between ACR and Nominal tubing

Learning Objectives

List the code for wall thickness for ACR and Nominal tubing
Select the correct tubing for the project
Explain what I.D. and O.D. stands for

4. Identify and compare the different styles of torches used in the lab

Learning Objectives

Study the torches that are used in the lab
Compare each torch and the temperatures that they can reach
Start-up and shut-down each of the torches in the lab

5. Illustrate the proper way to cut, prepare tubing for soldering and brazing

Learning Objectives

Demonstrate the proper way to cut tubing
Clean and assemble tubing for brazing
Demonstrate using the three and one tubing bender
Produce flare and swage connections

6. Demonstrate the ability to solder, braze and use proper safety techniques

Learning Objectives

Build a sealed system without leaks
Select the correct alloys and flux for the projects
Demonstrate the ability to solder or braze with either hand

SCC Accessibility Statement

Disability Services provides accommodations and other supports to students with permanent and temporary disabilities that affect their SCC experience. Disabilities may include mental health (anxiety, depression, PTSD), ADHD, learning disabilities, chronic health conditions (migraine, fibromyalgia), sensory disabilities, and temporary disabilities (broken arm, surgery). Common accommodations are extended test time, private room for testing, audiobooks, and sign language interpreter.

Contact us: Faribault A116 (507) 332-5847. North Mankato E112 (507) 389-7222. ds@southcentral.edu
www.southcentral.edu/disability