Welding Technology

WLD1003, WELDING SAFETY/OSHA 10, 3 hours.
Students will explain job/site safety and precautions for job/site hazards; determine the uses of personal protective equipment (PPE); identify the safety equipment and procedures related to safe work practices and environment; identify the safety equipment and protection techniques; explore Hazardous Communications (HazCom) including Material Safety Data Sheets (MSDS).

WLD1013, BASIC SMAW: SHIELDED METAL ARC WELDING, 3 hours.
Through classroom and/or shop/lab learning and assessment activities, students in this course will: describe the Shielded Metal Arc Welding process (SMAW); demonstrate the safe and correct set up of the SMAW workstation; associate SMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; perform basic SMAW welds on selected weld joints; and perform visual inspection of welds.

WLD1023, BASIC GMAW: GAS METAL ARC WELDING, 3 hours.
Through classroom and/or shop/lab learning and assessment activities, students in this course will: explain gas metal arc welding process (GMAW); demonstrate the safe and correct set up of the GMAW workstation; correlate GMAW electrode classifications with base metals and joint criteria; demonstrate proper electrode selection and use based on metal types of thicknesses; build pads of weld beads with selected electrodes in the flat position; build pads of weld beads with selected electrodes in the horizontal position; produce basic GMAW welds on selected weld joints; and conduct visual inspection of GMAW welds.

WLD1033, BLUEPRINT READING (WELDING), 3 hours.
In this course students will be provided exposure to blueprint reading beginning with identification of specific lines, views, abbreviations, symbols, joints and shapes specific to the welding industry. Students will interpret basic 3D sketches using orthographic projection and blueprints and solve mathematics equations and interpret scale ratios. Use of measuring tools and interpreting a Bill of Materials are also components of this course.

WLD2013, BASIC GTAW: GAS TUNGSTEN ARC WELDING, 3 hours.
Through classroom and/or lab/shop learning and assessment activities, students in this course will: explain the gas tungsten arc welding process (GTAW); demonstrate the safe and correct set up of the GTAW workstation; relate GTAW electrode and filler metal classifications with base metals and joint criteria; build proper electrode and filler metal selection and use based on metal types and thicknesses; build pads of weld beads with selected electrodes and filler material in the flat position; build pads of weld beads with selected electrodes and filler material in the horizontal position; perform basic GTAW welds on selected weld joints; and perform visual inspection of GTAW welds.

WLD2023, ADVANCED WELDING (SMAW II:SHIELDED METAL ARC WELDING II), 3 hours.
Advanced topics based on accepted welding codes. Training provided with various electrodes in SMAW processes with open V-groove joints in all positions. The student will describe effects of preheating and post-weld heating; explain precautions used when welding various metals and alloys; distinguish between qualification and certification procedures; and discuss problems of welding discontinuities. The student will demonstrate safe work practices.

WLD2033, SPECIAL WELDING TECHNIQUES, 3 hours.
Study of special procedures in arc welding of steel in the vertical and overhead position. This course also involves the techniques and special procedures in the acetylene welding of cast iron, aluminum, dies cast, magnesium and silver solder.

WLD2123, ADVANCED WELDING (GMAW II: GAS METAL ARC WELDING II), 3 hours.
Advanced topics in GMAW welding, including welding in various positions and directions on plate and pipe with .035, .045 and inner shield wire with various shielding gases. Training provided with dual shield and submerged arc welding (SAW). The student will exhibit expertise in various welding positions on pipe; describe safety rules and equipment used; and describe the effects of welding parameters in GMAW. The student will weld various joint designs and diagnose welding problems and perform visual inspection.

T▶ This course is approved by the Kansas Board of Regents for System Wide Transfer among all Kansas public postsecondary institutions offering an equivalent course. Additional courses may also be eligible for transfer. Please visit the FSCC Registrar to learn more. *Offered on demand only. +Offered in 1 to 3 hour increments.