WELDING (WEL)

All WEL courses numbered 100 and above may be applied to the major field and elective requirement in the Associate in Arts and Associate in Science degrees.

WEL 101 Welding I (2.5) 1,3
An introduction to the welding industry including, safety, careers, and common terminology. Basic concepts of oxy-fuel welding, cutting, and shielded metal arc welding. Labs include shielded metal arc welding, oxy-fuel welding and brazing in the flat and horizontal positions. Further, oxy-fuel cutting in multiple positions will be covered. (1.2) Proficiency Credit Available (3 LETSIR) Pass/No Credit Available.
In-District Tuition/Fees: $450 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: None
Semester(s) Offered: Fall and Spring

WEL 102 Welding II (4) 2,4
Advanced techniques and skill improvement in oxy-acetylene welding and arc welding. The lab experiences in basic MIG and TIG (Heliarc) welding will be provided. An introduction to weld testing will be included. (1.2) Proficiency Credit Available (3 LETSIR) Pass/No Credit Not Available.
In-District Tuition/Fees: $677 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Grade of C or better in WEL 101 or consent of instructor
Semester(s) Offered: Fall and Spring

WEL 112 Applied Welding Theory (3) 2,2
A course which will provide both practical lab experiences and extensive theory related to all major welding processes. Processes covered include: shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, flux core arc welding, submerged arc welding, plasma arc welding, oxyacetylene welding and others. Students will have the opportunity to receive American Welding Certificates in Welding Fundamentals I, II, and III. (1.2) Proficiency Credit Available (3 EILMST) Pass/No Credit Not Available.
In-District Tuition/Fees: $469 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: WEL 102 or concurrent enrollment in WEL 102
Semester(s) Offered: Varies

WEL 113 Welding Power Sources and Setup (3) 2,2
This course will cover both basic and advanced content related to the five types of welding power sources including: transformers, transformer-rectifiers, inverters, engine-drives, and battery powered machines. Students will learn about electrical components found within each machine, basic machine repairs, and preventative maintenance. Further, students will be required to operate all types of welding power sources using all features currently available in the welding industry. Finally, supplementary equipment in the operation of welding equipment will be covered. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.
In-District Tuition/Fees: $469 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: WEL 102 or concurrent enrollment in WEL 102
Semester(s) Offered: Varies

WEL 208 Welding III (4) 2,4
This course will cover advanced techniques and skills for gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), and shielded metal arc welding (SMAW). The horizontal, vertical, and overhead position welding will be exclusively used. Students will weld on steel, stainless, and aluminum metals. Welder qualification skill development will be covered for GMAW and SMAW. (1.2) Proficiency Credit Available (3 LETSI) Pass/No Credit Not Available.
In-District Tuition/Fees: $667 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Grade of C or better in WEL 102 or consent of instructor
Semester(s) Offered: Fall and Spring

WEL 210 Welding IV (4) 2,4
Students will construct welding projects employing arc, oxy-acetylene, gas metal arc (MIG), gas tungsten arc (TIG), or any combination of these welding processes using a welding blueprint as a guide. (1.2) Proficiency Credit Available (3 LETSI) Pass/No Credit Not Available.
In-District Tuition/Fees: $667 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: WEL-222 and WEL-208 or consent of instructor.
Semester(s) Offered: Varies

WEL 211 TIG Welding Techniques (4) 2,4
This course is for students who need to develop skills in gas tungsten arc welding (TIG). The student will select appropriate machine settings. All position welds on hot and cold rolled and galvanized mild steel, stainless steel, and aluminum and cast iron will be produced. Process variations include standard and pulse mode operation. (1.2) Proficiency Credit Available Pass/No Credit Not Available.
In-District Tuition/Fees: $667 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Grade of C or better in WEL-102 or consent of instructor.
Semester(s) Offered: Varies

WEL 212 MIG Welding Techniques (4) 2,4
This course is for students who need to develop skills in gas metal arc welding (MIG/GMAW). The student will set up welding equipment and produce welds in all positions. Process variations to be used include short circuit, spray transfer and pulsed-spray arc with solid wire and composite (metal-core). Flux-cored arc welding (FCAW) (inner shield and dual shield). Metals to be welded include mild steel, stainless steel, and aluminum. (1.2) Proficiency Credit Available Pass/No Credit Not Available.
In-District Tuition/Fees: $667 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: WEL 101 or consent of instructor
Semester(s) Offered: Varies

WEL 213 Welding Metallurgy (3) 2,2
This course will cover the applications and concepts of basic metallurgy. Topics include characteristics of atoms, atomic structure of elements, properties of metals, crystal structures, and phase changes of metals. Further, students will learn about theory and application of metal identification, weldability of metals, heat treating processes. Testing and hands-on application will be a component of this course. Both ferrous and non-ferrous metals will be covered. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.
In-District Tuition/Fees: $499 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: None
Semester(s) Offered: Fall and Spring

WEL 214 Cutting Processes (2) 1,2
This is a skill building course which will allow the student an opportunity to gain proficiency in all major industrial arc and oxy-fuel cutting processes - manual, semi-automatic and automatic. Processes include Plasma Arc, Air Carbon Arc, Shielded Metal Arc, Exothermic, and Oxy-gasoline Cutting. The student will also learn to operate CNC controls, shears, band saw (vertical and horizontal), cold cut saw, and others. (1.2) Proficiency Credit Available (3 LETSI) Pass/No Credit Not Available.
In-District Tuition/Fees: $391 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Grade of C or better in WEL 101 or consent of instructor
Semester(s) Offered: Varies

WEL 215 Advanced Welding Techniques (4) 2,4
This is a skill development course designed to help the student produce quality welds on cast iron, cast aluminum, stainless steel, aluminum, carbon steel, and other metals requiring special weld treatment. Other weld troubleshooting techniques will be covered starting with precise metal identification, locating and eliminating cracks, visual inspection, and proper pre- and post-weld treatment. Using a turn table for welding is covered. Hardfacing rods and their use will also be included.(1.2) Proficiency Credit Available (3 LETSI) Pass/No Credit Not Available.
In-District Tuition/Fees: $667 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: WEL-208
Semester(s) Offered: Varies

WEL 218 SMAW Qualification (3) 2,2
Welder certification is required by an increasing number of area employers. The purpose of the Shielded Metal Arc Welding (SMAW) class is to help the student attain arc welder certification. Students must pass two guided bend tests to receive certification. This certification will meet the requirements of AWS D1.1 Structural Welding Code (limited thickness) and the needs of many area manufacturers. However, some employers may require additional or re-certification. This course is repeatable 2 times. (1.2) Proficiency Credit Available Pass/No Credit Available.
In-District Tuition/Fees: $554 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Prerequisite: (1) Grade of C or better in WEL 208 or concurrent enrollment in WEL 208; (2) or consent of instructor.
Semester(s) Offered: Fall and Spring

WEL 220 GMAW Qualification (3) 2,2
Welder certification is required by an increasing number of area employers. The purpose of the Gas Metal Arc Welding (GMAW) class is to help the student attain MIG welder certification. Students must pass two guided bend tests to receive certification. This certification will meet the requirements of AWS D1.1 Structural Welding Code (limited thickness) and the needs of many area manufacturers. However, some employers may require additional or re-certification.This course is repeatable 2 times. (1.2) Proficiency Credit Available Pass/No Credit Available.
In-District Tuition/Fees: $554 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: (1) Grade of C or better in WEL 208 or concurrent enrollment in WEL 208; (2) or consent of instructor
Semester(s) Offered: Fall and Spring

WEL 222 Blueprint Reading & Fabrication (4.5) 3,3
Prepares the student to interpret simple sketches to the most complex drawings as applied in the welding trade and to become familiar with welding symbols and their significance. Emphasis will be on developing the ability to transfer the two-dimensional print to the actual three-dimensional object. The student will gain experience in related fabrication mathematical calculations. Proficiency Credit: Available (3 LTREIS) Pass/No Credit: Available.
In-District Tuition/Fees: $696 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: None.
Semester(s) Offered: Fall and Spring

WEL 234 Special Topics in Welding (1-3) .5,1
(.5-1, 1-4) Designed to satisfy specific needs or interests of students and the community. The following guidelines are to be used in selecting topics: 1) adequate and available material on specific topic; 2) comprehensive outlines for each topic; and, 3) course should be designed to increase skill and knowledge in field of welding.This course is repeatable 3 times. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.
In-District Tuition/Fees: $489 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Consent of instructor
Semester(s) Offered: Varies

WEL 240 Independent Study in Welding (1-3) 1,2
The student is to identify a special project and request advice and direction from welding faculty. The course will be carried out under the direction of one or more faculty members who will modify the proposal in accordance with the departmental requirements and equipment limitations for credit involved. This course is repeatable 3 times. Special Note: Due to equipment and lab limitations instructor may deny project or welding process. (1.2) Proficiency Credit: Not Available Pass/No Credit: Not Available.
In-District Tuition/Fees: $494 (effective 2025/26 academic year)
In-district tuition rates are subject to change based on Board approval.
Prerequisite: Grade C or better in WEL 102
Semester(s) Offered: Fall, Spring and Summer