

WELDING (WELD)

WELD 101 # - Basic Metals

Units: 3

Basic techniques of metal forming and fabrication using drill press, lathe, milling machine; soldering; brazing; oxyacetylene and electric arc welding.

Transferability: May not transfer towards an NSHE bachelor's degree

Term Offered: All Semesters

WELD 198 # - Special Topics in Welding

Units: 0.5-6

Various short courses and experimental classes covering a variety of subjects. The course will be a variable credit of one-half to six credits depending on the course content and number of hours required. The course may be repeated for up to six credits.

Transferability: May not transfer towards an NSHE bachelor's degree

Term Offered: AS NEEDED

WELD 211 # - Welding I

Units: 3

This course introduces the learner to the world of welding. The course includes general shop safety and environmental issues; introduction to oxygen/fuel gas supply systems, the oxyfuel cutting process, and the SMAW (Shielded Metal Arc-Welding) process; and an introduction to interpreting basic welding symbols. This course satisfies 4 hours of instruction toward completing the embedded human relations curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A. This course satisfies 8 hours of instruction toward completing the embedded mathematics curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A.

Enrollment Requirements: Corequisite: WELD 212. 20/20 vision (corrected), good hand-eye coordination, general good health.

Term Offered: All Semesters

WELD 212 # - Welding I Practice

Units: 2

The oxyfuel section will develop the student's manual skills necessary to produce high quality flame cuts using manual operated flame cutting equipment and accessories. The student learns and practices the set up processes for the equipment for all phases of oxyfuel cutting. The shielded metal-arc welding (SMAW) section develops entry-level skills for welders. This course specifically develops basic SMAW skills as striking the arc, maintaining proper arc length, adjusting equipment and manipulating the electrode. This course satisfies 3.5 hours of instruction toward completing the embedded human relations curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A. This course satisfies 4 hours of instruction toward completing the embedded mathematics curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 211. May also be taken concurrently with WELD 211.

Term Offered: All Semesters

WELD 221 # - Welding II

Units: 3

This course is a continuation of Welding I and emphasizes SMAW vertical and overhead positions and machine oxyfuel gas cutting. In addition, the course introduces GMAW (gas metal arc welding) and air carbon arc cutting. This course satisfies 4 hours of instruction toward completing the embedded human relations curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A. This course satisfies 8 hours of instruction toward completing the embedded mathematics curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A.

Enrollment Requirements: Prerequisite: WELD 101 or WELD 212 or instructor approval. Corequisite: WELD 222.

Term Offered: All Semesters

WELD 221M # - Welding II

Units: 0.5

This course is a continuation of Welding I and emphasizes SMAW vertical and overhead positions and machine oxyfuel gas cutting. In addition, the course introduces GMAW (gas metal arc welding) and air carbon arc cutting. The student must complete all content for the following six areas in order to meet degree or certificate requirements. 1. Apply quality shielded metal arc welds in all positions in compliance with AWS D1.1 standards. (.5 Credits)2. Introduce advanced flame cuts through the use of machine operated equipment (.5 Credits)3. Introduce Basic Gas Metal Arc Welding safety, equipment and conduct basic operations (.5 Credits)4. Introduce Basic Gas Metal Arc Welding theory and technique for fillet and groove welds. (.5 Credits)5. Introduce air carbon arc cutting equipment and operation (.5 Credits)6. Apply fabrication of simple parts from a basic drawing or sketch using the SMAW, GMAW and machine OFC processes (.5 Credits)Completion of all six areas (total of 3 credits) satisfies 4 hours of instruction toward completing the embedded human relations curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A. Completion of all six areas (total of 3 credits) satisfies 8 hours of instruction toward completing the embedded mathematics curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A.

Enrollment Requirements: Prerequisite: WELD 101 or WELD 212M or instructor approval. Corequisite: WELD 222M.

WELD 222 # - Welding II Practice

Units: 2

This course is designed to give learners the opportunity to hone their skills in oxyfuel machine cutting, SMAW vertical and overhead positions, GMAW basic skills and air carbon arc cutting processes. Ample practice time is allocated to perfect skills and complete lab assignments.

This course satisfies 3.5 hours of instruction toward completing the embedded human relations curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A. This course satisfies 4 hours of instruction toward completing the embedded mathematics curriculum requirements, in accordance with Embedded Curriculum Guidelines Option A.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 221. May be taken concurrently with WELD 221.

Term Offered: ALLSEM&W

WELD 225 # - Independent Study

Units: 1-6

This course is designed for the student who has a particular interest in welding and wants to concentrate in that area. This is a contractual course.

Transferability: May not transfer towards an NSHE bachelor's degree

Term Offered: AS NEEDED

WELD 231 # - Welding III**Units: 3**

This course is a continuation of Welding II and focuses on the GMAW and the FCAW processes. The Air Carbon Arc Cutting section will further develop skills in the process. The student will develop skills required to make fillet and groove welds in all positions using GMAW and FCAW processes. The student will be introduced to the Plasma Arc Cutting Process.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 222 or instructor approval.

Corequisite: WELD 232.

Term Offered: All Semesters

WELD 232 # - Welding III Practice**Units: 2**

This course is designed to give learners the opportunity to hone their skills in the GMAW and FCAW processes in all positions by providing them with hands-on time and individual instruction. The learner will also practice Air Carbon Arc Cutting and Plasma Arc Cutting on ferrous and nonferrous materials. Ample practice time is allocated to perfect skills and complete lab assignments. WELD 232 is required concurrently with WELD 231, but may be taken as a separate course.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 231. May be taken concurrently with WELD 231.

Term Offered: All Semesters

WELD 241 # - Welding IV**Units: 3**

This course is a continuation of WELD 231 and places an emphasis on the GTAW process in all positions on ferrous and nonferrous materials. This course also covers the advanced FCAW process and concentrates on the skills needed to pass the AWS certification test in all positions using the FCAW process. The Student at this level of training may opt to develop skills in the welding of pipe using the SMAW or FCAW processes.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 222 or WELD 232 or instructor approval. Corequisite: WELD 242

Term Offered: All Semesters

WELD 242 # - Welding IV Practice**Units: 2**

This course is designed to give learners the opportunity to work on their skills in the GTAW process, perfect their skills in the FCAW process by providing them with individualized instruction and full hands-on practice in preparation and welding of ferrous and nonferrous materials. At this point in training students may also start developing skills necessary to weld pipe using the SMAW or FCAW processes. Ample practice time is allocated to perfect skills and complete lab assignments. WELD 242 is required concurrently with WELD 241, but may be taken as a separate course. This course may be repeated for up to six credits.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 241. May be taken concurrently with WELD 241.

Term Offered: All Semesters

WELD 250 # - Welding Certification Preparation**Units: 1-12**

This course is a contractual course designed for the advanced student who is pursuing AWS (American Welding Society), ASME (American Society of Mechanical Engineers), or API (American Petroleum Institute) certification(s). This course is also beneficial to the student requiring additional hands-on practice in order to better their individual skill in a selected process or processes. Instruction will be given on an individual basis.

Transferability: May not transfer towards an NSHE bachelor's degree

Enrollment Requirements: Prerequisite: WELD 241 or instructor approval.

Term Offered: All Semesters

WELD 290 # - Internship in Welding**Units: 1-8**

This course is designed for the student who wants to get practical on-the-job training in welding with a local company. 200 working hours per credit.

Transferability: May not transfer towards an NSHE bachelor's degree

Term Offered: AS NEEDED