WELDING (WELD)

WELD 104 Metal Sculpture
Hours: 3 Lecture/Discussion
1 Lab

This course in metal sculpture is designed to develop awareness, knowledge, and skills regarding historical and contemporary three dimensional design concepts on a beginning level. The emphasis is on personal expression through a variety of metals and a wide range of possible applications.

WELD 105 Metalcraft Welding & Forging
Hours: 3 Lecture/Discussion
1 Lab

Equivalent Courses: ART 105, ART 105AC, WELD 105AC
Instruction in metalcraft welding and forging techniques, basic tools for welded craft projects and sculpture, theory of abstract shapes and designs, plus principles of using various metal types will introduce the concepts of metal craft welding.

WELD 107 Forging and Wrought Iron
Hours: 2 Lecture/Discussion
1 Lab

Equivalent Courses: WELD 106, WELD 106AC, WELD 106AD
WELD 107 offers the student both theory and concepts, in addition to the application of artistic metal working. Both the practical and the abstract notions of working hot metal and forging as they are applied to iron sculptures will be covered.

WELD 161 Oxyacetylene Welding
Hours: 3 Lecture/Discussion
3 Lab

Introduction to the concepts and interpretation of principles of oxyacetylene welding, braze welding, brazing soldering, flame spraying and flame cutting of common ferrous and non-ferrous sheet, plate and pipe. Properties of ferrous materials and principles of destructive testing of welded materials complete the program.

WELD 162 Shielded Metal Arc Welding
Hours: 3 Lecture/Discussion
3 Lab

Introduction to the theory and concepts as applied to shielded metal arc welding. Introduction to modern solid shield technology and ferrous filler metals. Students will learn the theory of ferrous metallurgy and its application to shielded metal arc welding. Once students understand the theory and concepts of shielded metal arc welding, they will move into the application of the principles of position and out of position welding.

WELD 171 Specialty Metals Welding
Hours: 3 Lecture/Discussion
3 Lab

The course applies the basic concepts of science to welding specialty metals and non-destructive testing. Theory of electricity, magnetism, atomic structure, and thermodynamics, as used by technicians, are topics covered in this course.

WELD 172 Gas Tungsten Arc Welding
Hours: 3 Lecture/Discussion
3 Lab

Introduction to the theory and concepts as applied to gas tungsten arc welding. Introduction to modern shielding gas technology, non-ferrous filler metals. Students will learn the theory of ferrous metallurgy and its application to destructive testing of welded materials.

WELD 175 Metal Working for Engineers
Hours: 2 Lecture/Discussion
1 Lab

Equivalent Course: WELD 175AB
This course is designed to offer the engineering student the opportunity to learn concepts and principles and to apply them to the basic skills of the welder. Oxyfuel, shielded Metal Arc and Gas Metal Arc Welding basics will be covered.
WELD 181 Blueprint Reading/Metallurgy
Hours: 3 Lecture/Discussion
This course combines the fundamental concepts and theories of blueprint reading relating to the concepts, as well as the application, of welded assemblies. The theory of ferrous metal identification and the concept of preparation of metal samples for identification prepares students entering the fabrication, construction or welding engineering fields.

WELD 265 Welding Upgrade
Hours: 1 - 3 Lecture/Discussion
1 - 3 Lab
Equivalent Course: WELD 264AD
A variable unit course in specific metal joining processes. Various fusion processes will be demonstrated and can be practiced for proficient skill level by students.

WELD 273 Stainless Steel Weld/Repair
Hours: 3 Lecture/Discussion
3 Lab
This course is designed to give welding students training in the practice, theory, and skill of welding stainless steel. Both repair and fabrication, as well as concepts to sanitary tube welding and fabrication, will be covered.

WELD 274 Aluminum Welding
Hours: 3 Lecture/Discussion
3 Lab
The course is designed to give welding students training in the practice, theory and skill in the welding of aluminum, both repair and fabrication, as well as application to all structural shapes and levels of alloys.

WELD 275 Welding Codes/Certification
Hours: 3 Lecture/Discussion
3 Lab
Equivalent Courses: WELD 174AB, WELD 275AB
This welding course is for students to perform certification weldments. American Welding Society certifications will be awarded to students who successfully complete the course. Industry standards and principles of inspection criteria will be covered.

WELD 276 Metal Fabrication
Hours: 3 Lecture/Discussion
1 Lab
Equivalent Courses: WELD 176AD, WELD 276AC
This course is designed for the students to develop the concepts and apply the theories of the skills of a welder fabricator. This is a project-based course that will introduce students to the abstraction of design, layout, pricing and construction of metal projects.

WELD 277 Industrial Piping Systems
Hours: 3 Lecture/Discussion
3 Lab
The modern welding industry serves a multitude of industrial applications. One of the largest of these is the welding of piping systems. This class will introduce students not only to the welding of pipes, but also pipe fitting and all entry-level pipe maintenance skills.

WELD 400 Welding Technology
Hours: 15 Lecture/Discussion
10 Lab
Skills of Shielded Metal Arc (SMAW) and Gas Metal Arc (GMAW) welding in the flat, horizontal, and vertical positions to code specifications. Oxy-fuel flame, plasma, and carbon arc cutting.

WELD 401 Stainless Steel Purge Welding
Hours: 6 Lecture/Discussion
3 Lab
This course will expose students to unique environmental and trade specific challenges of welding food grade stainless steel. Students will have the opportunity to become certified stainless steel purge welders. Additionally, students will have the opportunity to attend 10 hours of OSHA construction training and receive an OSHA 10 card.