

WELDING (WLDG)

WLDG 1204 Fundamentals of Oxy-Fuel Welding and Cutting 2 Credits (1 Lec, 3 Lab)

This course covers Oxy-fuel welding and cutting equipment. Includes equipment safety, setup, and maintenance.

Course Type: Technical

WLDG 1305 Art Metals 3 Credits (2 Lec, 2 Lab)

This course covers the fundamentals of conceptualizing and producing utilitarian items in ferrous and non-ferrous metals. Includes skill development through the techniques of sinking, raising, repousse, and piercing to create objects from sheet and stock materials. Also covers welding, brazing, soldering, tinning, polishing, and tool making.

Course Type: Technical

WLDG 1308 Metal Sculpture 3 Credits (2 Lec, 2 Lab)

This course covers techniques and methods of oxy-acetylene and electric welding and cutting to produce metal sculptures. Includes skill development in material forming, welding, brazing, and finishing techniques. Also covers work ethics, artistic styles, and professionalism.

Course Type: Technical

WLDG 1337 Introduction to Welding Metallurgy 3 Credits (2 Lec, 4 Lab)

This course is a study of metals from the ore to the finished product. The emphasis of the course is on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility.

Course Type: Technical

WLDG 1412 Introduction to Flux Cored Arc Welding 4 Credits (2 Lec, 6 Lab)

This course is an overview of terminology, safety procedures, and equipment set-up. Practice in performing T-joints, lap joints, and butt joints using Flux Cored Arc Welding (FCAW) equipment.

Course Type: Technical

WLDG 1413 Introduction to Blueprint Reading 4 Credits (2 Lec, 6 Lab)

This course is a study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes. Includes systems of measurement and industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production.

Course Type: Technical

WLDG 1428 Introduction to Shielded Metal Arc Welding (SMAW) 4 Credits (2 Lec, 6 Lab)

This is an introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction is provided on SMAW fillet welds in various positions.

Course Type: Technical

WLDG 1430 Introduction to Gas Metal Arc Welding (GMAW) 4 Credits (2 Lec, 6 Lab)

This course covers principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools and equipment. Instruction provided in various joint designs.

Course Type: Technical

WLDG 1434 Introduction to Gas Tungsten Arc Welding (GTAW) 4 Credits (2 Lec, 6 Lab)

This is a study of the principles of gas tungsten welding, including setup, GTAW equipment. Instruction is provided in various positions and joint designs.

Course Type: Technical

WLDG 1437 Introduction to Welding Metallurgy 4 Credits (3 Lec, 3 Lab)

This is a study of metals from the ore to the finished product. Emphasis on metal alloys, heat treating, hard surfacing, welding techniques, forging, foundry processes, and mechanical properties of metal including hardness, machinability, and ductility.

Course Type: Technical

WLDG 2406 Intermediate Pipe Welding 4 Credits (2 Lec, 6 Lab)

This is a comprehensive course on the welding of pipe using the shielded metal arc welding (SMAW) process. Welding will be done using various positions. Topics covered include electrode selection, equipment setup, and safe shop practices. Prerequisite or

Co-requisite(s): WLDG 2443

Course Type: Technical

WLDG 2413 Intermediate Welding Using Multiple Processes 4 Credits (2 Lec, 6 Lab)

This course offers instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW), or any other approved welding process. Prerequisite or

Co-requisite(s): WLDG 2451

Course Type: Technical

WLDG 2443 Advanced Shielded Metal Arc Welding (SMAW) 4 Credits (2 Lec, 6 Lab)

This course covers advanced topics based on accepted welding codes. Training is provided with various electrodes in shielded metal arc welding with open V-groove joints in all positions. Prerequisite or

Co-requisite(s): WLDG 1428

Course Type: Technical

WLDG 2451 Advanced Gas Tungsten Arc Welding (GTAW) 4 Credits (2 Lec, 6 Lab)

This course covers advanced topics in GTAW welding, including welding in various positions and directions. Prerequisite or

Co-requisite(s): WLDG 1434

Course Type: Technical

WLDG 2453 Advanced Pipe Welding 4 Credits (2 Lec, 6 Lab)

This course covers advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices, with an emphasis on weld positions 5G and 6G using various electrodes. Prerequisite or

Co-requisite(s): WLDG 2406

Course Type: Technical

WLDG 2455 Advanced Metallurgy 4 Credits (3 Lec, 3 Lab)

This is an advanced study of metallurgy as it applies to fabrication processes. Includes structure, identification, and testing of metals. Also covers temperature changes and their effect on metals, properties of metals, and factors affecting fabrication of various metals.

Prerequisite(s): METL 1305, METL 1405, WLDG 1437 or department chair approval

Course Type: Technical

WLDG 2480 Cooperative Education Welding 4 Credits (1 Lec, 28 Lab)

This course covers career-related activities encountered in the student's area of specialization offered through an individualized agreement among the College, employer, and student. Under the supervision of the College and the employer, the student combines classroom learning with work experience. It includes a lecture component.

Prerequisite(s): Must have Department Chair approval.

Course Type: Technical