

# WLD

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## Courses

### WLD 100 Fundamentals of Welding

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fundamental principles of welding and joining processes. Topics include: oxy-acetylene welding and cutting techniques, plasma cutting, track cutting, and welding safety.

Prerequisites: None

### WLD 101 Applied Welding Processes

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course for non-welding majors who want to apply basic welding skills for art, hobbies, or other personal uses. Topics include welding safety, theory, operating principles, and equipment; and techniques for Gas Metal Arc Welding (GMAW), Shielded Metal Arc Welding (SMAW), and metal cutting processes.

Prerequisites: None

### WLD 105 Print Reading and Weld Design

**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on interpreting various types of prints used in the welding industry. Topics include: print reading, measurements, types of welds and joints, welding symbols, technical math, and metric conversions.

Prerequisites: MAT 093 or appropriate placement

### WLD 111 Shielded Metal Arc Welding 1

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on techniques and operations associated with Shielded Metal Arc Welding (SMAW). Topics include: SMAW theory and operating principles, all-position welding of groove welds, and fillet welding using electrodes E6010, E6013, and E7018.

Prerequisites: WLD 100

### WLD 112 Shielded Metal Arc Welding 2

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A continuation of WLD 111 covering techniques and operations associated with Shielded Metal Arc Welding (SMAW). Topics include: all-positions open V-groove welds on plate, and fillet welds.

Prerequisites: WLD 111

### WLD 115 Gas Metal Arc Welding and Flux Cored Arc Welding

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on welding techniques associated with Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW). Topics include: theory, operating principles, equipment, and accessories; GMAW spray transfer techniques; and FCAW-G/GM (dual shielded) and FCAW-S (self-shielded) operations.

Prerequisites: None

Corequisites: WLD 100

### WLD 191 Part-Time Cooperative Education 1: Welding

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their first part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 115

### WLD 192 Part-Time Cooperative Education 2: Welding

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their second part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 191

### WLD 193 Part-Time Cooperative Education 3: Welding

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their third part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 192

### WLD 194 Part-Time Cooperative Education 4: Welding

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fourth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 193

### WLD 195 Part-Time Cooperative Education 5: Welding

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their fifth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 194

### WLD 196 Part-Time Cooperative Education 6: Welding

**1 Credit. 1 Lecture Hour. 20 Lab Hours.**

Students seeking an associate's degree participate in their sixth part-time field learning experience related to their degree. Students are expected to register for academic courses during the same semester. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 195

### WLD 210 Gas Tungsten Arc Welding

**4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on techniques and operations associated with Gas Tungsten Arc Welding (GTAW). Topics include: GTAW theory, machines and set up, GTAW welding on non-ferrous and ferrous materials, and GTAW all-positions welding.

Prerequisites: WLD 100

### WLD 220 Metal Fabrication

**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on metal fabrication techniques used in industry. Topics include: thermal cutting; oxy-fuel gas cutting; plasma arc cutting; basic metal fabrication, layout, assembly, and fit-up; and heat distortion effects.

Prerequisites: WLD 105 and WLD 115

**WLD 231 Pipe Welding 1****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A course on basic techniques associated with pipe welding operations. Topics include: pipe welding theory; pipe welding positions, layout, and preparation; and welding in the 2G and 5G positions with electrodes E6010 and E7018.

Prerequisites: WLD 111

**WLD 232 Pipe Welding 2****4 Credits. 2 Lecture Hours. 6 Lab Hours.**

A continuation of WLD 231 covering techniques associated with pipe welding operations. Topics include: pipe welding theory and nomenclature; safety; advanced pipe welding positions, layout, and preparation; and welding in the 5G and 6G positions using shielded metal arc welding (SMAW) and gas tungsten arc welding (GTAW) processes.

Prerequisites: WLD 231

**WLD 250 Welding Inspection and Codes****3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on welding techniques as applied to the American Welding Society Structural Steel Code D1.1. Topics include: weld discontinuities, visual examination, intermediate layers, completed welds, and required documentation. Students perform welder qualification tests and practice inspecting weld defects.

Prerequisites: WLD 111

**WLD 260 Weldability of Metals****3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on properties of metals that affect weldability. Topics include: carbon steels, low alloy steels, tool steels, and stainless steels; cast iron and non-ferrous metals; processes including pre-heating, post-heating, annealing, normalizing, and hardening; repair welding techniques; and Rockwell hardness testing.

Prerequisites: WLD 100

**WLD 291 Full-Time Cooperative Education 1: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 100

**WLD 292 Full-Time Cooperative Education 2: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 291

**WLD 293 Full-Time Cooperative Education 3: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their third full-time field learning experience related to their degree. Students must follow cooperative education policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 292

**WLD 294 Internship 1: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their first unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 100

**WLD 295 Internship 2: Welding****2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in their second unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: WLD 294