

# WELDING PROCESS TECHNOLOGY (WPT)

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## WPT 111 - Welding Theory I

**Credit Hours: 3, Contact Hours: 3**

Division: Technical

First level lecture for all students enrolled in a Welding Technology Degree or Certificate Program. Course will cover theory and technique for Shielded Metal Arc Welding, Gas Metal Arc Welding, and Oxy Fuel Processes for welding, brazing, and cutting. Group 2 course. Critical Thinking - Direct.

Corequisites: WPT 112

## WPT 112 - Welding Lab I

**Credit Hours: 4, Contact Hours: 8**

Division: Technical

First level lab for all students enrolled in a Welding Technology Degree or Certificate Program. Practical application of Shielded Metal Arc Welding, Gas Metal Arc Welding, and Oxy Fuel Processes for welding, brazing, and cutting. Welds will be performed in all positions and subjected to destructive quality testing. Group 2 course. Quantitative Reasoning.

Corequisites: WPT 111

## WPT 113 - Welding Theory II

**Credit Hours: 3, Contact Hours: 3**

Division: Technical

Second level lecture for all students enrolled in a Welding Technology Degree or Certificate Program. Course will cover theory and technique for Pulsed Gas Metal Arc Welding, Flux Cored Arc Welding, Gas Tungsten Arc Welding, and Arc Cutting Processes. Group 2 course. Quantitative Reasoning.

Required Prerequisite(s): WPT 111

Corequisites: WPT 114

## WPT 114 - Welding Lab II

**Credit Hours: 4, Contact Hours: 8**

Division: Technical

Second level lab for all students enrolled in a Welding Technology Degree or Certificate Program. Practical application of Shielded Metal Arc Welding, Pulsed Gas Metal Arc Welding, Gas Tungsten Arc Welding, and Plasma Arc Cutting. Welds will be performed in all positions and subjected to destructive quality testing. Group 2 course.

Required Prerequisite(s): WPT 111 and WPT 112

Corequisites: WPT 113

## WPT 161 - Welding Qualification Prep

**Credit Hours: 3, Contact Hours: 4**

Division: Technical

Students will learn performance qualification according to American Welding Society (AWS) standards. As part of this course, students may earn various qualifications according to AWS standards adhering to D1.1 (steel) and D1.2 (aluminium) covering multiple processes. Group 2 course. Prerequisites: None. Critical Thinking - Direct.

## WPT 210 - Welding Fabrication and Repair

**Credit Hours: 3, Contact Hours: 5**

Division: Technical

This course provides students an opportunity to apply the process specific welding skills that they have previously mastered to complete fabrication and repairs projects. In addition to welding, students will learn shop metal identification, how to setup and operate shop metal prep and fabricating equipment as well as plan, sketch, order and prepare for a variety of projects. Group 2 course. Critical Thinking - Direct.

Required Prerequisite(s): WPT 121 or WPT 131 or WPT 141 or WPT 142 with a 2.0 or higher or extensive welding experience, verified by welding skill demonstration test

## WPT 211 - Welding Fabrication I

**Credit Hours: 3, Contact Hours: 5**

Division: Technical

First level fabrication class for all students enrolled in the Welding Technology A.A.S. program. Students will learn to apply manufacturing principles and techniques in order to complete assemblies to print specifications. Proper use of common industrial tools and machinery, including CNC cutting table, will be stressed. Group 2 course. Critical Thinking - Direct.

Required Prerequisite(s): WPT 113, WPT 114

## WPT 212 - Welding Fabrication II

**Credit Hours: 3, Contact Hours: 5**

Division: Technical

Second level fabrication class for all students enrolled in the Welding Technology A.A.S. program. Students will take control of a fabrication project from the planning to finishing stages. Emphasis on design, project planning, and efficient execution. Group 2 course. Critical Thinking - Direct.

Required Prerequisite(s): WPT 211

## WPT 213 - Weld Quality Testing

**Credit Hours: 3, Contact Hours: 5**

Division: Technical

Class to cover theory and practical use of common methods of non-destructive examination. Processes include dye penetrant, ultrasonic, magnetic particle, and radiographic testing. Familiarity with prevalent codes and standards will be emphasized. Group 2 course. Critical Thinking - Direct.

Required Prerequisite(s): WPT 211

Recommended Prerequisite(s): DD 101, DD 110

## WPT 260 - Intro to Welding Automation

**Credit Hours: 3, Contact Hours: 5**

Division: Technical

This course provides students an opportunity to learn the theory behind common forms of automation utilized throughout the welding industry. Lab assignments will focus on equipment set-up and operations along with analysis of results. Group 2 course. Critical Thinking - Direct.

Required Prerequisite(s): WPT 113, WPT 114

**WPT 290 - Welding Internship**

**Credit Hours: 2-4, Contact Hours: 2-4**

Division: Technical

The purpose of the internship is to provide on-the-job training for the student who wishes to pursue a career in a technical field of study. The internship will be customized to meet the learning needs of the student and the job requirements of the sponsoring firm. Students spend 10-15 hours per week in this paid, supervised on-the-job training experience. In addition to the required 50 hours per credit at a work site, students participate in semi-monthly seminars. Students must apply one month prior to the semester in which they will complete the internship. Group 2 course. Communications - Direct.

Required Prerequisite(s): 30 credits of program specific courses with a GPA of 3.0 or higher