

# SUBJECTS AND COURSES

## COURSE DESCRIPTIONS - WELDING (WDT)

### WDT 108 SMAW Fillet/OFC

SMAW Fillet/PAC/CAC (WDT-109);

This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting. This is a CORE course. **4 Credit Hours**

### WDT 109 SMAW Fillet/PAC/CAC

SMAW Fillet/OFC (WDT-108);

This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of carbon and plasma arc cutting. This is a CORE course. **4 Credit Hours**

### WDT 110 Industrial Blueprint Reading

This course provides students with the understanding and fundamentals of industrial blueprint reading. Emphasis is placed on reading and interpreting lines, views, dimensions, weld joint configurations and weld symbols. Upon completion, students should be able to interpret welding symbols and blueprints as they apply to welding and fabrication. This is a CORE course. **3 Credit Hours**

### WDT 119 GMAW Fillet Theory

This course introduces the student to the gas metal arc and flux cored arc welding process. Emphasis is placed on safe operating practices, handling and storage of compressed gasses, process principles, component identification, various welding techniques and base and filler metal identification. This is a CORE course. **4 Credit Hours**

### WDT 120 SMAW Groove Theory

WDT-108(SMAW Fillet/OFC) with a grade of C or higher

This course provides the student with instruction on joint design, joint preparation, and fit-up of groove welds in accordance with applicable welding codes. Emphasis is placed on safe operation, joint design, joint preparation, and fit-up. Upon completion, students should be able to identify the proper joint design, joint preparation and fit-up groove welds in accordance with applicable welding codes. This is a CORE course. **4 Credit Hours**

### WDT 122 SMAW Fillet/OFC Lab

PREREQUISITE: As required by college. NOTE: There is an approved standardized plan-of-instruction for this course. This course is designed to introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. This course is also designed to instruct students in the safe operation of oxy-fuel cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-3 groups in accordance with applicable welding code and be able to safely operate oxy-fuel equipment and perform those operations as per the applicable welding code. **NaN Credit Hours**

### WDT 124 GMAW Fillet Lab

This course provides instruction and demonstration using the various transfer methods and techniques to gas metal arc and flux cored arc welds. Topics included are safety, equipment set-up, joint design and preparation, and gases. **6 Credit Hours**

### WDT 125 SMAW Groove Lab

WDT-120(SMAW Groove Theory) with a grade of C or higher

This course provides instruction and demonstrations in the shielded metal arc welding process on carbon steel plate and various size F3 and F4 group electrodes in all positions. Emphasis is placed on welding groove joints and using various F3 and F4 group electrodes in all positions. Upon completion, the student should be able to make visually acceptable groove weld joints in accordance with applicable welding codes. **6 Credit Hours**

### WDT 157 Consumable Welding Processes

This course provides instruction and demonstration with the consumable welding processes to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of electrode, current/polarity, shielding gas and base metals. **5 Credit Hours**

### WDT 158 Consumable Wldg Proc Certification

This course provides instruction and demonstration with the consumable welding processes to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of electrode, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using consumable welding processes according to AWS Codes and standards. **6 Credit Hours**

### WDT 166 Flux Core Arc Welding

This course provides instruction and demonstration with the flux core arc welding process to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of filler metals, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using the FCAW welding process, according to AWS Codes and Standards. This course supports CIP code 48.0508. **4 Credit Hours**

### WDT 167 Flux Core Arc Welding Certification

WDT-166(Flux Core Arc Welding) with a grade of C or higher

This course provides instruction and demonstration with the flux core arc welding process to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of filler metals, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using the FCAW welding process, according to AWS Codes and Standards. **6 Credit Hours**

### WDT 180 Special Topics: Welding Application

This course allows the student to plan, execute, and present results of individual projects in welding. Emphasis is placed on enhancing skill attainment in the welding field. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor. Prerequisite(s): As required by College **5 Credit Hours**

### WDT 217 SMAW Carbon Pipe

WDT-120(SMAW Groove Theory) with a grade of C or higher

This course introduces the student to the practices and procedures of welding carbon steel pipe using the shielded metal arc weld (SMAW) process. Emphasis is placed on pipe positions, electrode selection, joint geometry, joint preparation and fit -up. Upon completion, students should be able to identify pipe positions, electrodes, proper joint geometry, joint preparation, and fit-up in accordance with applicable codes. **5 Credit Hours**

**WDT 218 Certification**

WDT-108(SMAW Fillet/OFC) with a grade of C or higher and WDT-119(GMAW Fillet Theory) with a grade of C or higher and WDT-120(SMAW Groove Theory) with a grade of C or higher  
This course is designed to provide the student with the knowledge needed to perform welds using the prescribed welding process. Emphasis is placed on the welding test joints in accordance with the prescribed welding code. Upon completion, students should be able to pass and industry standard welding test in accordance with various applicable welding code requirements. **5 Credit Hours**

**WDT 219 Welding Inspection and Testing**

This course provides the student with inspection skills and knowledge necessary to evaluate welded joints and apply quality control measures as needed. Emphasis is placed on interpreting welding codes, welding procedures, and visual inspection methods. Upon completion, students should be able to visually identify visual acceptable weldments as prescribed by the code or welding specification report. **3 Credit Hours**

**WDT 221 Pipefitting & Fabrication**

This course provides the student with skills and practices necessary for fabricating pipe plans using pipe and fittings. Emphasis is placed on various pipe fittings to include various degree angles. Upon completion, students should be able to fit various pipe fittings, and cut and fabricate tees, and assorted angles. **4 Credit Hours**

**WDT 223 Blueprint Reading for Fabricat**

WDT-110(Industrial Blueprint Reading) with a grade of C or higher  
This course provides a student with advanced skills in identifying and interpreting lines, views, dimensions, notes, bill of materials, and the use of tools of the trade. Emphasis is placed on figuring dimensional tolerances, layout and fitting of different component parts. Upon course completion, a student should be able to interpret, layout, and fabricate from blueprints to given tolerances. **5 Credit Hours**

**WDT 228 Gas Tungsten Arc Welding**

WDT-108(SMAW Fillet/OFC) with a grade of C or higher  
This course provides student with knowledge needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes. **4 Credit Hours**

**WDT 257 SMAW Carbon Pipe Lab**

COREQUISITE: WDT 217 and/or as required by college. NOTE: There is an approved standardized plan-of-instruction for this course. This course is designed to provide the student with the skills in welding carbon steel pipe with shielded metal arc welding techniques in various pipe welding positions. Upon completion, students should be able to perform shielded metal arc welding on carbon steel pipe with the prescribed electrodes in various positions in accordance with the applicable codes. **NaN Credit Hours**

**WDT 258 Certification Lab**

WDT-218(Certification) with a grade of C or higher  
This course provides students with skills needed to perform gas tungsten arc welds using ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes. **6 Credit Hours**

**WDT 268 Gas Tungsten Arc Lab**

This course provides student with skills needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes. **NaN Credit Hours**

**WDT 281 Special Topics:Welding Techno**

This course provides specialized instruction in various areas related to the welding industry. Emphasis is placed on meeting students' needs. **3 Credit Hours**