

WELDING AND MATERIALS TECHNOLOGY (WMT)

Community and Technical College

Welding and Materials Technology (<https://www.ctc.uaf.edu/programs/weld/>)
907-455-2800

WMT F101 Introduction to Welding

4 Credits
Offered Fall, Spring and Summer
Introduction and orientation to the processes and procedures involved in the welding field including safe operational procedures for shielded metal arc welding (SMAW) (Stick), mixed inert gas (MIG), tungsten inert gas (TIG) and oxy-acetylene welding; in addition to the appropriate personal protective equipment (PPE), terminology related to the welding industry.
Lecture + Lab + Other: 2 + 4 + 0

WMT F102 Intermediate Welding

3 Credits
Offered As Demand Warrants
Continuation of WMT F101.
Prerequisites: WMT F101.
Lecture + Lab + Other: 2 + 2 + 0

WMT F103 Welding I

3 Credits
Offered Fall
Entry-level course that focuses on shop orientation, safety and thermal cutting processes. This class covers Module 2 and 8 of the AWS SENSE standards. Attendance on the first two days of class are mandatory.
Lecture + Lab + Other: 1 + 4 + 0

WMT F105 Welding II

3 Credits
Offered Fall
Welding II focuses on techniques and procedures related to shielded metal arc welding with cellulose type welding rod on mild carbon steel. Module 4 of the AWS SENSE standards are covered in this course.
Prerequisites: WMT F103.
Lecture + Lab + Other: 1 + 4 + 0

WMT F106 Heat Treating/Metal Finishing/Knife Making I

3 Credits
Offered As Demand Warrants
Heat treating, metal finishing. Build two knives, heat treat and finish. Special Conditions: Must have excellent hand-eye coordination. Attendance at first class is mandatory.
Recommended: WMT F117; WMT F241.
Lecture + Lab + Other: 2 + 3 + 0

WMT F117 Oxy-Acetylene Welding and Cutting

3 Credits
Offered As Demand Warrants
Safe oxyacetylene welding techniques and procedures of common metals. Welding of these metals in flat, horizontal, vertical and overhead positions. Attendance at first two class meetings is mandatory.
Lecture + Lab + Other: 2 + 5 + 0

WMT F130 Shielded Metal Arc Welding

1-3 Credits
Offered Fall
Advanced SMAW techniques using low hydrogen welding rod with a focus on structural type weld test procedures. Module 4 of the AWS SENSE standards are covered.
Prerequisites: WMT F103; WMT F105.
Lecture + Lab + Other: 1-3 + 0 + 0

WMT F140 Metal Fabrication

1-3 Credits
Offered Spring
Plan, layout, and fabricate metal projects using multiple welding processes and equipment. Module 3 and 9 of the AWS SENSE standard are covered in this course.
Prerequisites: WMT F103; WMT F105; WMT F160.
Special Notes: Attendance at first two classes is mandatory.
Lecture + Lab + Other: 1.5 + 5.5 + 0

WMT F150 Gas Tungsten Arc Welding

1-3 Credits
Offered Spring
GTAW(TIG) techniques and procedures on ferrous and non ferrous metals. Module 7 of the AWS SENSE standards are covered in this course.
Lecture + Lab + Other: 1.5 + 5.5 + 0

WMT F160 Gas Metal Arc Welding

1-3 Credits
Offered Fall
Solid and flux cored wire fed processes and techniques. Modules 5 and 6 of the AWS SENSE standards are covered in this course.
Lecture + Lab + Other: 1.5 + 5.5 + 0

WMT F206 Heat Treating/Metal Finishing/Knife Making II

3 Credits
Offered As Demand Warrants
Second level of knife making and heat treating using more complex metals and additional equipment. Must have excellent hand-eye coordination. Attendance at first class is mandatory.
Recommended: WMT F106; WMT F117; WMT F241.
Lecture + Lab + Other: 2 + 2 + 0

WMT F210 Pipe Welding

3 Credits
Offered As Demand Warrants
Prepare and weld pipe in an uphill or downhill position.
Lecture + Lab + Other: 2 + 3.5 + 0

WMT F241 Gas Tungsten Arc and Gas Metal Arc Welding

3 Credits
Offered As Demand Warrants
Introductory techniques and procedures for welding on ferrous and non ferrous metals with GMAW and GTAW(TIG) processes. Attendance at first two classes are mandatory.
Lecture + Lab + Other: 1.5 + 5.5 + 0

WMT F290 Welding Proficiency Maintenance

3 Credits
Offered Spring
Maintenance of a high degree of welding proficiency through practice of previously-learned processes with an emphasis on AWS welding certification standards.
Prerequisites: WMT F130; WMT F140.
Lecture + Lab + Other: 2 + 4.5 + 0