

WELDING AND MATERIALS TECHNOLOGY (WMT)

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) and 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 in basic oxyacetylene, arc welding and flame cutting.

Attendance at first two classes is mandatory.

Lecture + Lab + Other: 1 + 4 + 0

WMT F105 Welding II

3 Credits

Offered Fall

Arc welding techniques and basic MIG and TIG welding. Attendance at first two classes is mandatory.

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

All positions for multiple pass fillet welds. Study in shielded metal arc (SMAW) focused on vertical, horizontal, and overhead positions with multiple passes using different techniques.

Prerequisites: WMT F103; WMT F105.

Lecture + Lab + Other: 1-3 + 0 + 0

WMT F140 Metal Fabrication

1-3 Credits

Offered Spring

Metal fabrication done by hand and with the aid of equipment is the focus of this class. Plan, layout, bend, form raw metal and fabricate metal projects. Attendance at first two classes is mandatory.

Prerequisites: WMT F103; WMT F105; WMT F160.

Lecture + Lab + Other: 1.5 + 5.5 + 0

WMT F150 Gas Tungsten Arc Welding

1-3 Credits

Offered Spring

Use of tungsten and argon gas for aluminum and stainless steel gas welding, formerly called Heliarc or TIG. This is an entry level gas tungsten arc welding class concentrating on aluminum. Materials will be welded in all four welding positions.

Lecture + Lab + Other: 1.5 + 5.5 + 0

WMT F160 Gas Metal Arc Welding

1-3 Credits

Offered Fall

Prepares student to work with wire-feed processes. Gas metal arc welding focuses on ferrous and nonferrous metals welded in all positions.

Attendance at first two classes is mandatory.

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

Entry-level gas tungsten arc welding concentrating on aluminum. Materials will be welded in all positions. Gas metal arc welding focuses on ferrous and nonferrous metals welded in all positions. Attendance at first two class meetings is mandatory.

Lecture + Lab + Other: 1.5 + 5.5 + 0

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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