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 F103, WMT F107, 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.
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

WMT F290  Welding Proficiency Maintenance
3 Credits
Offered Spring
Welding proficiency maintenance 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