

### ADVANTAGES

The welding technology program is taught according to the standards set by the American Welders Society (AWS) and is AWS-certified.

### PROGRAM STUDENT LEARNING OUTCOMES

- Demonstrate mathematical operations using accepted mathematical applications.
- Practice shop safety and welding safety.
- Perform straight, bevel and cuts using manual and automatic oxyfuel and plasma equipment.
- Set up and operate constant current welding equipment.
- Set up and operate constant voltage welding equipment.
- Perform fillet and groove welds in all positions on carbon steel plate.
- Perform fillet and groove weld on pipe in all positions.
- Identify and describe the heat relationship to the grain structure of various metals.
- Maintain and develop testing and inspection records.
- Demonstrate layout and fabrication skills resulting from the previous materials used in program.

### DIRECT ENTRY INTO BACCALAUREATE DEGREE PROGRAM

Build on your associate degree to complete a bachelor's 100% online. Alfred State welding technology graduates may enter directly into the technology management BBA degree program. Graduates who have credit for freshman composition, statistics, literature, history, and speech may complete the BBA program in two additional years; others may complete the BBA program in two-and-one-half years.

### OCCUPATIONAL OPPORTUNITIES

Industrial welder	Self-employment
Steel construction	Fabrication welder
Equipment repair	Structural welder

### ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Recommended: In-depth knowledge of basic math skills.

### TECHNICAL STANDARDS

It is essential that students in this degree program can participate fully and safely, with or without reasonable accommodations in all classrooms, laboratory, or field experiences required for completion of the program.

Students in this degree program:

- Must be able to function in a safe manner, not placing themselves, faculty, staff, or other students in jeopardy.
- Must be able to appropriately and safely use standard laboratory equipment, materials, and instrumentation that requires possession of fine motor skills and mobility.
- Must be able to lift 50 pounds of materials up to 5 ft, on to a standard height work bench.
- Must be able to communicate orally with a person 6 to 10 feet away in a shop environment.
- Must be able to diagnose mechanical failures that are distinguished audibly.
- Must be able to understand and retain information found in service repair manuals and diagnostic flow charts.
- Must be able to visually read all displays on welding equipment.
- Must be able to stand for long periods of time.

**This high-tech program focuses on welding processes performed in all positions on both plate and pipe. You will learn proper safety methods, required math, related skills, layout and fit up, welding codes and standards, welding inspection, testing, and drawing/welding symbol interpretation.**

**The first year, students will complete AWS Level I standards for an entry-level welder. The second year will take students toward AWS Levels II - advanced welder and expert welder. Additional techniques such as high-pressure vessel and high-pressure pipe will be taught, as well as other advanced welding techniques.**

### TYPICAL FOUR-SEMESTER PROGRAM

#### First

WELD 1105	Int Shlded Metl Arc Weld (SMAW)	5
WELD 1205	Shielded Metal Arc Weld I	5
WELD 1715	Gas Weld, Cutting & Plasma Cut	5
WELD 1733	Blueprnt Readng,Insp & Test	3
		<b>18</b>

#### Second

WELD 2715	Shld Mtl Arc & Flx Crd Arc Wld	5
WELD 2725	Gas Metal Arc Welding I	5
WELD 2735	Gas Tungsten Arc Welding I	5
WELD 1723	Welders Calculations I	3
		<b>18</b>

#### Third

WELD 3005	Shielded Metal Arc Welding II	5
WELD 3015	GMAW II, FCAW II	5
WELD 3025	Gas Tungsten Arc Welding II	5
WELD 3813	Metlgy, Codes, Certs & Inspect	3
		<b>18</b>

#### Fourth

WELD 4425	GMAW III & GTAW IV	5
WELD 4435	Gas Tungsten Arc Welding III	5
WELD 4445	Welding Fabrication	5
WELD 4013	Senior Project	3
		<b>18</b>

### Graduation requirements

- A student must successfully complete all courses and earn a minimum cumulative index of 2.0, which is equivalent to a "C" average, in the prescribed four-semester program.
- Students are required to have earned a minimum grade of "C" in both WELD 1723 (Welders Calc) and WELD 4013 (Senior Project) to be eligible for graduation. (Articulation is available in WELD 1723)