

WELDING, ASSOCIATE OF APPLIED SCIENCE

Program Description

The Two Year AAS Welding Degree program is designed to provide study in the areas of welding, fabrication, production, and piping to prepare students for employment in the welding industries that are required to meet specifications and standards. Related specifications and standards for this degree would include; AWS D1.1, D1.2, D1.6, API 1104, ASME Section IX.

Program Outcomes

Students who successfully complete the Associate of Applied Science in Welding will be able to:

1. Identify basic components of welding systems and welding processes, proper machine setup, and demonstrate trouble shooting when visual acceptance criteria of a weldment has not been met
2. Interpret and apply basic elements of blueprints such as line type identification, symbols, notes, 2D and 3D interpretation, dimensioning and measurement
3. Exhibit "soft skills" such as; timeframe awareness, follow-through and completion of work, positive interactions with fellow classmates, good communication, positive attitude, and good work ethics
4. Demonstrate a knowledge and understanding of safe working conditions, as well as, safety in handling materials, equipment, and personal protective equipment
5. Apply an understanding of Weld Procedure Specifications or WPS's as they relate to material identification, thermal and electrical properties, applications, as well as, understanding which materials will need special procedures for preheat and post heating, filler metal selection, process selection, and other essential variables involved in the fabrication of a weldment
6. Apply an understanding of national standards and guidelines set forth by AWS, ASME, API, OSHA, and other governing organizations that will affect their work

Career Considerations

Related occupations for this program would include: pipe welding and fitting, hydro-electrical and dam construction, waste & fresh water treatment plants, structural and bridge iron workers, aerospace & aviation, inspection & quality control.

Program Course Requirements

| Course | Title | Credits |
|--------------------|--------------------------------|-----------|
| First Year | | |
| First Term | | |
| MFG 108 | Starrett PMI | 2 |
| WLD 101 | Welding Processes-Apps | 4 |
| WLD 111 | Shielded Metal Arc Welding | 4 |
| WLD 131 | Basic Metallurgy | 3 |
| WR 115 | Intro to Expos Writing | 4 |
| Credits | | 17 |
| Second Term | | |
| MTH 052 | Industrial Applications-MTH | 4 |
| WLD 112 | Shld Metal Arc Wldg:Mild Steel | 3 |
| WLD 113 | Shld Metal Arc Wldg:Mld Stl II | 3 |

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| WLD 114 | Shld Metal Arc Wldg:MldStl III | 3 |
| WLD 140 | Blueprint Reading | 3 |
| Credits | | 16 |
| Third Term | | |
| WLD 121 | Gas Metal Arc Welding | 3 |
| WLD 122 | Gas Metal Arc Welding-Pulse | 3 |
| WLD 141 | Flux-Core Arc Wldg(Gas Shld) | 3 |
| WLD 142 | Flux-Core Arc Wldg II Sfl Shld | 3 |
| WLD 150 | GTAW I | 3 |
| Credits | | 15 |
| Second Year | | |
| First Term | | |
| COM 105 | Listening | 3 |
| WLD 123 | Advanced Welding III | 3 |
| WLD 251 | Gas Tungsten Arc Weld II | 3 |
| WLD 261 | Aluminum Arc Welding II | 3 |
| WLD 160 | Aluminum Arc Welding I | 3 |
| Credits | | 15 |
| Second Term | | |
| MFG 111 | Machine Shop I | 3 |
| WLD 124 | Advanced Welding IV | 3 |
| WLD 222 | Pipe Welding-Fitting I | 3 |
| WLD 252 | Gas Tungsten Arc Weld III | 3 |
| WLD 262 | Aluminum Arc Welding III | 3 |
| Credits | | 15 |
| Third Term | | |
| MFG 112 | Machine Shop II | 3 |
| WLD 161 | Welding Problems | 4 |
| WLD 223 | Pipe Welding-Fitting II | 3 |
| WLD 240 | Blueprint Reading - II | 3 |
| WLD 280 | CWE: Welding | 3 |
| Credits | | 16 |
| Total Minimum Credits | | 94 |

Advising Notes

- See advisor to select the program option, required courses and prerequisites

Program Entrance Requirements

- A construction background or prior welding experience are helpful but not a requirement.
- Students with a criminal record are strongly urged to research employability before entering the welding program. If students enter the program with a felony conviction, they should disclose this information to their welding advisor and any Cooperative Work Experience (CWE) employer.