

MID-SOUTH STEEL FABRICATORS COUNCIL MEETING

Career Pathway Implementation Report Overview
And Fitter Pathway Discussion



Industry Demand

Structural Metal Fabricators and Fitters

2016: 360 positions

2026: 372 positions

3% Increase

Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

2016: 521 positions

2026: 494 positions

5% Decrease

Welders, Cutters, and Welder Fitters

2016: 1,198 positions

2026: 1,295 positions

8% Increase

Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

2016: 217 positions

2026: 205 positions

6% Decrease

Layout Workers, Metal and Plastic

2016: 44 positions

2026: 39 positions

11% Decrease

Steel Fabrication Education and Training

- TCAT-Memphis
- Moore Tech
- Southwest Tennessee Community College
(Southwest)
- ASU Mid-South

Why Certifications?

-Students to validate the talent they can bring to the job,

-Educational providers to establish the value of their product, and

-Employers to have a level of certainty about the competencies of an individual before hiring them.

- ***Manufacturing Skill Standards Council (MSSC)***
 - Certified Production Technician (CPT)
- ***American Welding Society Certifications***
 - Gas Metal Arc Welding (**GMAW**) also referred to as **MIG**
 - Gas Tungsten Arc Welding (**GTAW**) also referred to as **TIG**
 - Shielded Metal Arc Welding (**SMAW**) also referred to as **Stick**
 - Flux Cored Arc Welding (**FCAW**) also referred to as **Flux Core**
- ***National Institute of Metalworking Skills (NIMS)***
 - Operating machines (Level 1)
 - Training other machine operators (Level 2)
 - Supervising other machine operators (Level 3)
- ***National Center for Construction Education and Research (NCCER)***

Recommended Steel Fabrication Career Pathway

- **Step 1 – Foundational Skills (Exposure)**

- Step 1 provides generalized, exploratory entry points and preparation for various manufacturing career pathways, including welding, for high school students and transitioning adults.

- **Step 2 – Work-Ready (Entry level)**

- Step 2 in the steel fabrication pathway is best suited to welding positions which typically require minimal formal education followed by on-the-job training. Individuals at this level need exposure to SMAW, GMAW, FCAW, GTAW, and thermal cutting processes in addition to basic safety, welding symbol and blueprint reading, and inspection/testing basics.

- **Step 3 – High-Need Skills (Advanced level)**

- At Step 3, students may choose to continue along a welding track, gaining greater competence in welding processes in more challenging positions, with more challenging metals, and earning higher-level AWS certifications.

- **Step 4 – Subject Matter Expert**

- Step 4 is often achieved only after many years of experience; the individuals in these roles often have extensive institutional knowledge and should be tapped as mentors for the emerging workforce.

Steel Fabrication Career Pathway Draft

Step 1 | Foundational Skills

Generalized, exploratory entry points and preparation for various manufacturing career pathways.

- High School Technical Education
- Industrial Readiness Training (Southwest)

- OSHA 10
- WorkKeys National Career Readiness Certificate (NCRC)
- Manufacturing Skill Standards Council Certified Production Technician (MSSC CPT)

Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic

Wages: \$12.00 - \$17.00 per hour

Step 2 | Work-Ready

Exposure to SMAW, GMAW, FCAW, GTAW, and thermal cutting processes in addition to basic safety, welding symbol and blueprint reading, and inspection/testing basics.

- TCAT-Memphis (One-year program)
- Moore Tech (Certificate)
- ASU Mid-South (Certificate)

AWS D1.1 Structural Steel
NIMS Level 1

Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders

Wages: \$13.00 - \$18.00

Welders, Cutters, Solderers, Brazers

Wages: \$16.00 - \$24.00

Other occupations may include: machine operator, entry-level machinist, and press break operators.

Step 3 | High-Need Skills (Advanced Level)

Develop advanced skills with more challenging metals, processes, and positions

OR

Basic fitter training for students with a “maker” mindset

- Moore Tech (AAS)
- Mid-South (AAS)

AWS Certified Welder – various
NIMS Level 1
Steel Fabricators Council Basic Fitter Certification (in development)

Welders, Cutters, Solderers, Brazers

Wages: \$16.00 - \$24.00

Structural Metal Fabricators and Fitters

Wages: \$13.00 - \$20.00

Layout Workers, Metal and Plastic

Wages: \$15.00 - \$24.00

Other occupations may include: Machinist, maintenance technician, quality assurance technician, and fitter.

Step 4 | Subject Matter Expert

Extensive on-the-job training / work experience

OR

Additional formal education

- University of Memphis
- University of Arkansas Fort Smith

CWI – Inspectors (must have 5+ years’ experience)
CWS – Supervisors
Quality, non-destructive testing examiner
CWEng – Certified Welding Engineer
Steel Fabricators Council Advanced Fitter Certification (in development)

Welders, Cutters, Solderers, Brazers

Wages: \$24.00 and up

Structural Metal Fabricators and Fitters

Wages: \$20.00 and up

Layout Workers, Metal and Plastic

Wages: \$24.00 and up

Welding Engineer

Wages: \$29.00 and up

Fitters Pathway Review

- Validate the competencies and corresponding courses and name missing elements from the coursework or competencies
- Define needed program lengths for entry or advanced fitters
- Discuss moving the program into action at GMACW schools