yesprep PUBLIC SCHOOLS

WELDING PATHWAY

Forge Your Future

The Welding Pathway gives students hands-on experience working with **metal, machines, and tools** while earning college credit through a partnership with Houston Community College (HCC). Students learn how to **weld, cut, repair, and build metal parts** using both hand tools and computer-controlled equipment. They practice real skills used in the welding industry and learn how machines are built, maintained, and repaired. This pathway prepares students for entry-level welding jobs, technical careers, or continued training after high school.

WHAT STUDENTS GAIN

- Hands-on experiences that help students make informed college and career decisions
- Opportunity to earn a professional welding certificate, recognized by industry
- 24 college credits through Houston City College (HCC)
- Real-world technical skills used in welding, manufacturing, and skilled trades

CLASSES YOU CAN TAKE

Level I	• **Introduction to Welding**
Level II	• **Welding I**
Level III (Advanced)	• **Welding II**

INDUSTRY-BASED CERTIFICATIONS (IBCS)

Earning an Industry-Based Certifications (IBC) or professional certificates means has a student has learn specific skills and passes an exam or requirement that meets industry standards. This program leads to a:

- **Level 1 Welding Certificate**

CAREER CONNECTED LEARNING

Work-Based Learning Activities	• Job shadow a welder • Intern for a local welding company
Expanded Learning Opportunities	• Tour a welding shop • Participate in a welding project that benefits the community



Texas CTE Career Cluster: Manufacturing

Texas CTE Program of Study: Welding

Endorsement: Successful completion of the Welding program of study will fulfill the requirements of the Business and Industry endorsement.

EXAMPLE POSTSECONDARY OPPORTUNITIES

Apprenticeships
- Welding

Associate Degrees
- Welding Technology
- Building/Construction Site Management
- Operations Management and Supervision

Bachelor's Degrees
- Welding Technology
- Construction Management
- Project Management
- Building/Construction Site Management

Master's & Doctoral Degrees
- Engineering
- Engineering/Industrial Management
- Manufacturing Engineering
- Construction Engineering

- **Houston City College (HCC)** — Associates of Applied Science in Welding Technology
- **University of Houston Downtown** — Bachelor of Science in Construction Management
- **Sam Houston State University** — Bachelor of Science in Construction Science

EXAMPLE CAREERS

Welders, Cutters, Solderers, and Brazers
Median Wage: $56,496
Annual Openings: 5,636
10-Year Growth: 11%

Industrial Production Managers
Median Wage: $134,908
Annual Openings: 1,544
10-Year Growth: 12%

First-Line Supervisors of Production and Operating Workers
Median Wage: $72,237
Annual Openings: 6,566
10-Year Growth: 14%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 1/25/2026

COURSE DESCRIPTIONS

Through this two-year dual credit program, students attend Welding classes at HCC with an HCC Instructor. Each course earns students HCC credit and YES Prep high school credit – resulting in 24 hours of college credit and 5 high school credits.

QUARTER	HCC COLLEGE COURSE	HCC CREDITS	YES PREP HIGH SCHOOL COURSE	HS CREDITS
11TH GRADE				
Quarter 1	**WLDG 1407: Introduction to Welding Using Multiple Process**	4	**J4000A: Introduction to Welding A**	0.5
Basic welding processes. Includes oxy-fuel welding (OFW) and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW).				
Quarter 2	**WLDG 1428: Introduction to Shielded Metal Arc Welding (SMAW)**	4	**J4000B: Introduction to Welding B**	0.5
A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes. Includes systems of measurement and industry standards. Also includes interpretation of plans and drawings used by industry to facilitate field application and production.				
Quarter 3	**WLDG 1413: Introduction to Blueprint Reading for Welders**	4	**J4100A Welding I A**	1
An introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, and various joint designs.				
Quarter 4	**WLDG 1430: Introduction to Gas metal Arc Welding (GMAW)**	4	**J4100B: Welding I B**	1
A study of the principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools/equipment. Instruction in various joint designs.				
12th GRADE				
Quarter 1 **Quarter 2**	**WLDG 1457: Intermediate Shielded Metal Arc Welding (SMAW)**	4	**J5100A: Welding II A**	1
A study of the production of various fillets and groove welds. Preparation of specimens for testing in various positions.				
Quarter 3 **Quarter 4**	**WLDG 2447: Advanced Gas Metal Arc Welding (GMAW)**	4	**J5100B: Welding II B**	1
Advanced topics in GMAW welding, including welding in various positions and directions.				

EARN CTE DISTINCTIONS

CONCENTRATOR

Earn at least 2 credits from 2+ courses in this pathway

ENDORSEMENT ("CTE COMPLETER")

Earn at least 4 total credits in the pathway by taking
- 3+ pathway courses
- 1+ advanced course

CAREER-READY GRADUATE

Earn:
- CTE Completer status (Endorsement)
- an IBC