## CAREER PATHWAYS FOR ADULT EDUCATION

# **ABOUT CAREER PATHWAYS**

Career Pathways combine education, work readiness and job training to attain necessary skills and credentials for specific in-demand occupations or industries. Career Pathway maps illustrate how students can move along a career path in a specific occupational area from adult education through post-secondary or advanced job-training programs and into employment. To advance along a career pathway more quickly, explore opportunities to participate in education and training concurrently. It is suggested that this map be used in conjunction with information on specific education and training programs in Wyoming or in your local area.

Manufacturing, Fabricating & Engineering

Industrial & Engineering Technology Career Cluster

**Sector Description:**

Industries in manufacturing engage in the transformation of goods, materials, or substances into new products.

The transformational process can be physical, chemical or mechanical. Manufacturers often have plants, mills or

factories that produce goods for public consumption. Machines and equipment are typically used in the process

of manufacturing. There are several massive manufacturing industries in the United States including food,

beverage tobacco, textiles, apparel, leather, paper, oil and coal, plastics and rubber, metal, machinery, computers

and electronics, transportation, and furniture. **Name**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 **Sample Entry or Certificate Options**

Welder

 **Sample Associates & Bachelor (or higher) Degree Options**

Production Supervisor

Power Plant Operators

Manager

(Project, Plant, Production, Compliance, Safety)

 **Sequential -or- Concurrent**

#### Adult Education

-Core Skills: Reading, Writing, Math, Science

-English Language Skills

-Career Exploration & Planning

-High School Equivalency Preparation

-Employability Skills & Digital Literacy

-Integrated Education and Training

-Work Experience Trainings

Machine Operator

Machine Operator Supervisor

Engineers

(Design, Electronics, Industrial, Manufacturing, Quality, Environmental, Safety)

Production Worker

Waste Processing Supervisor

Power Plant Supervisor

Structural Metals Fabricator

##### Additional Occupational Options

* Facility Electrician **Customized Pathway-Jobs/Courses**
* Sheet Metal Workers
* Tool & Die Makers
* Computer Maintenance Technician
* Boiler Operators
* Millwright
* Power Plant Operators

## CAREER PATHWAYS FOR ADULT EDUCATION- Manufacturing, Fabricating & Engineering

**ADULT EDUCATION-High School Equivalency (HSE)**

**Median Wages: $10.49 Hourly / $21,818 Annual**

Many jobs require a high school diploma/equivalent. The official HSE tests (GED or HiSET)

require that students demonstrate proficiency in English, reading, writing, math, science

and social studies.

**SKILLS**

* read for comprehension
* understand math and its practical applications to the career
* using scientific rules & methods to solve problems
* effective oral and written communication skills
* strong critical thinking abilities: use of logic and reasoning to identify strengths and

weaknesses of alternative solutions, conclusions or approaches to problems.

* Digitally literate: proficient in Word, Excel and Powerpoint

WELDERS, CUTTERS, SOLDERERS, AND BRAZERS

Median Wages: $22.86 Hourly / $47,540 Annual

**Description**: Use hand welding, flame-cutting, hand-soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.

**Job Duties**

* Weld components in flat, vertical or overhead positions
* Determine required equipment & welding methods, applying knowledge of metallurgy, geometry & welding techniques
* Weld separately or in combination, using aluminum, stainless steel, cast iron & other alloys
* Develop templates & models for welding projects, using mathematical calculations based on blueprint information

**POWERPLANT OPERATORS**

**Median Wages: $44.74 Hourly / $ $93,060 Annual**

**Description:**  Control, operate, or maintain machinery to generate electrical power. Includes auxiliary equipment operators..

**Job Duties**

* Operate energy distribution equipment
* Watch operating equipment to detect malfunctions
* Operate energy production & pumping systems equipment
* Clean, lubricate & inspect production equipment or systems

**OTHER OCCUPATION**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Median Wages:**

**Description**:

**Job Duties**

**MACHINE OPERATOR**

**Median Wages: $19.79 Hourly / $41,171 Annual**

**Description:** Install, fix and operate various types of machinery, perform routine maintenance checks, follow strict safety regulations and guidelines, operate mechanical or computer operated equipment.

**Job Duties**

* Set up & operate machinery
* Perform inspections of manufacturing equipment
* Monitor & maintain warehouse equipment
* Evaluate the efficiency of machinery regularly & identify improvements as needed
* Ensure proper codes are programmed for each product produced

**PRODUCTION SUPERVISOR**

**Median Wages: $31.68 Hourly / $65,893 Annual**

**Description:** Supervise and coordinate the activities of production and operations workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.

**Job Duties**

* Plan work schedules, assignments, and production sequences to meet production goals
* Read and analyze charts, work orders, production schedules, and other records and reports to determine production requirements and to evaluate current production estimates and outputs
* Inspect materials, products, or equipment to detect defects or malfunctions, and enforce safety regulations

**PLANT MANAGER**

**Median Wages: $46.48 Hourly / $96,670 Annual**

**Description:** Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost quality and quantity specifications.

**Job Duties**

* Set and monitor product standards, examining samples of raw products or directing testing during processing, to ensure finished products are of prescribed quality
* Direct or coordinate production, processing, distribution or marketing activities of industrial organizations
* Review processing schedules or production orders to make decisions concerning inventory requirements, staffing requirements, work procedures, or duty assignments, considering budgetary limitations and time constraints.