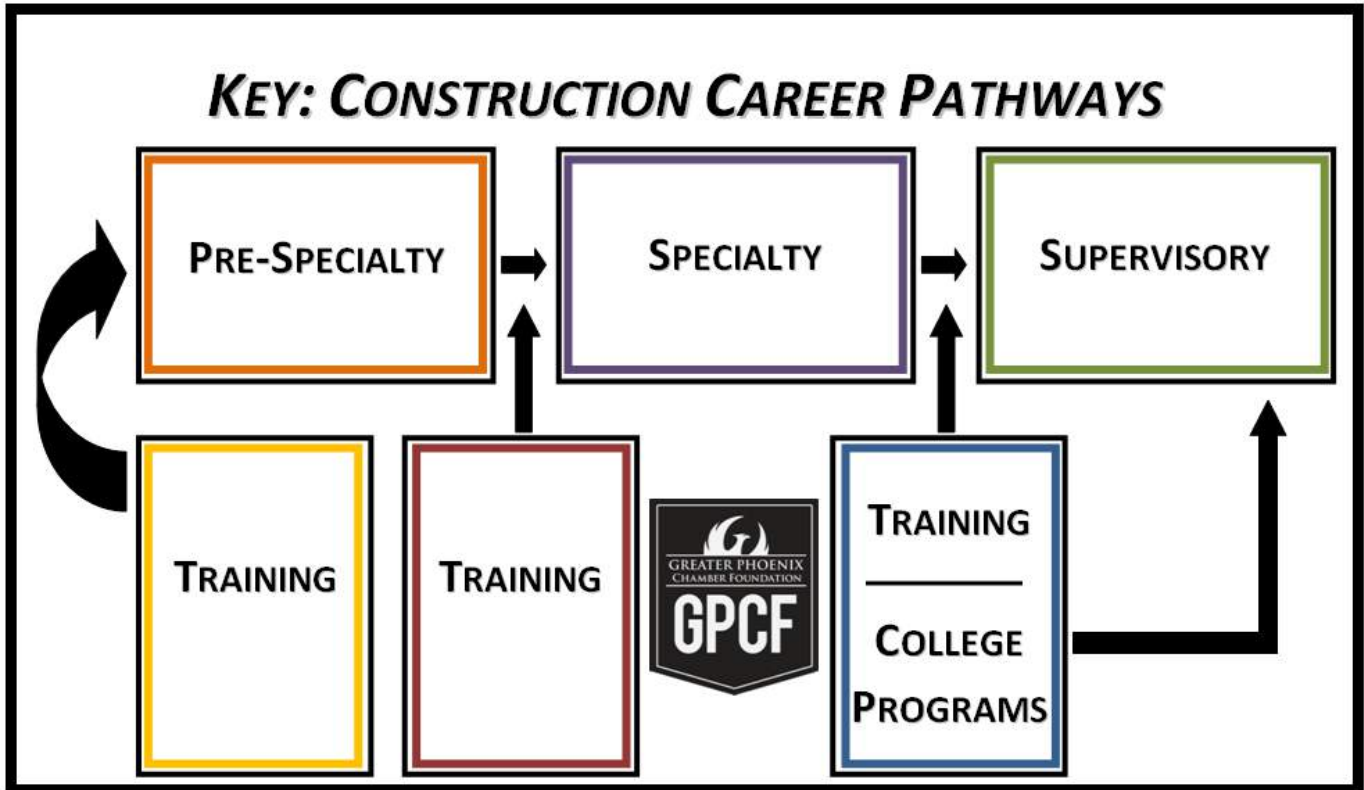




PHOENIX FORWARD »
strengthening the road to prosperity

WORKFORCE COLLABORATIVE: CONSTRUCTION
BUILDING THE TALENT PIPELINE
CAREER PATHWAYS – UPDATED 6/13/17



DATA PROVIDED BY:

PRE-SPECIALTY EMPLOYABILITY SKILLS: THE *MASTER BUILDERS OF IOWA* AND THE *IOWA DEPARTMENT OF EDUCATION*

SPECIALTY SKILL TRADE POSITION AND SUPERVISORY POSITION DEMAND DATA: *US BUREAU OF LABOR STATISTICS*

ALL DATA WAS REVIEWED AND MODIFIED FOR THE GREATER PHOENIX REGION BY THE GPCF CONSTRUCTION WORKFORCE COLLABORATIVE



GREATER PHOENIX CHAMBER FOUNDATION
STRENGTHENING & EXPANDING THE TALENT PIPELINE:

CONSTRUCTION

PRE-SPECIALTY CORE COMPETENCIES

ITEMS IN BOLD HAVE BEEN MARKED AS "ESSENTIAL" TO EMPLOYERS

TECHNICAL SKILLS

- **Demonstrate knowledge regarding the interpretation of information from plans, specifications, environment and site location that affects safety processes and procedures**
- **Understand the basic safety and safety operating procedures necessary for a construction project**
- **Demonstrate competency in the mathematics required for construction layout, including machinery, cut lists, fractions, decimals, area, volume, and percentages**
- **Understand and implement OSHA - 10 training, OSHA 30 Preferred**
- **Recognize and identify some of the basic hand tools and power tools and their proper uses in the construction trade**
- **Demonstrate basic computer skills**
- Basic understanding of what trade skill they would like to pursue
- Understand bigger picture of construction projects outside of skill trade.
- Demonstrate knowledge regarding the essential components of sustainable design and construction
- Demonstrate competency in various measuring systems in the construction field including English, metrics, engineers, and scales used in construction processes and basic surveying
- Read and interpret construction drawings
- Demonstrate basic rigging skills
- Demonstrate the ability to safely handle materials

EMPLOYABILITY SKILLS

- **Reliability and work ethic**
- **Demonstrate integrity and ethical behavior**
- **Use time efficiently to manage workload**
- **Demonstrate accountability for individual performance**
- Life Skills (money management, time management, etc.)
- Identify methods for productive workplace relations in a multi-cultural environment
- Demonstrate critical thinking and problem solving skills
- Define effective relationship skills, have a positive attitude
- Recognize workplace issues such as sexual harassment, stress, and substance abuse
- Assess one's own mastery of skills
- Organization & work flow planning
- Interpersonal Skills
- Bi-Lingual
- Honesty and Loyalty

COMMUNICATION SKILLS

- **Communicate effectively using verbal and written skills**
- **Effectively work in as a participating team member**
- Interpret information and instructions presented in both verbal and written form
- Communicate effectively on the job using electronic communication devices
- Use different perspectives to increase innovation and the quality of work



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SPECIALTY CORE COMPETENCIES

<p><u>CARPENTER:</u></p> <ul style="list-style-type: none"> -Well-versed in studying blueprints, sketches & building plans to determine dimensions and materials needed for carpentry projects -Skilled in shaping and cutting materials to specified measurements for specific projects -Demonstrated ability to use both hand tools and machines to handle cutting duties 	<p><u>PLUMBER:</u></p> <ul style="list-style-type: none"> -Review building plans and specifications to determine the layout for plumbing and related materials - Identify required tools and special equipment - Select the type and size of pipe required -Locate and mark positions for connections and fixtures - Install supports for pipe, fixtures and equipment 	<p><u>HVAC MECHANICS:</u></p> <ul style="list-style-type: none"> -Effective in installing and troubleshooting heating, AC and refrigeration units -Adept at balancing air and water treatment systems in accordance to HVAC protocols -Core understanding of determining causes of malfunctions and correcting them -Strong background in reading and interpreting instructions and safety procedures associated with HVAC processes 	<p><u>ELECTRICIANS:</u></p> <ul style="list-style-type: none"> - Read blueprints or technical diagrams before doing work - Install and maintain wiring and lighting systems - Inspect electrical components, such as transformers and circuit breakers - Identify electrical problems with a variety of testing devices -Repair or replace wiring, equipment, or fixtures using hand and power tools 	<p><u>ROOFERS:</u></p> <ul style="list-style-type: none"> -Inspect problem roofs to determine the best way to repair them -Measure roofs to calculate the quantities of materials needed -Replace damaged or rotting joists or plywood -Install vapor barriers or layers of insulation -Install shingles, asphalt, metal, or other materials to make the roof weatherproof -Align roofing materials with edges of the roof 	<p><u>SHEET METAL WORKERS:</u></p> <ul style="list-style-type: none"> -Select types of sheet metal according to plans -Measure and mark dimensions and reference lines on metal sheets -Drill holes in metal for screws, bolts, and rivets -Install metal sheets with supportive frameworks -Fabricate or alter parts at construction sites -Maneuver and anchor large sheet metal parts 	<p><u>DRYWALL:</u></p> <ul style="list-style-type: none"> -Review design plans to minimize the number of cuts and waste of wallboard -Determine the precise locations of electrical outlets, plumbing, and windows -Cut drywall or ceiling tiles to the right size, using utility knives and power saws -Fasten panels and tiles, using cement adhesive, nails, screws, or clips -Patch, trim, and smooth rough spots and edges
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CONSTRUCTION

SUPERVISORY CORE COMPETENCIES

First Line Supervisors:

- Supervise, coordinate, or schedule the activities of construction or extractive workers
- Read specifications, such as blueprints, to determine construction requirements or to plan procedures
- Inspect work progress & equipment to verify safety or to ensure that specifications are met
- Locate, measure, and mark site locations or placement of structures or equipment
- Ability to apply feedback from foreman and be able to apply it with sound judgment
- Self Starter
- Critical Thinking
- Ability to adapt to change quickly

Project Engineers:

- Knowledge of applicable codes and standards
- Effective computer skills, including proficient use of Word, Excel, PowerPoint, Outlook, DWG Viewer, AutoCAD LT & Photoshop to professional qualification.
- Ability to gather and interpret complex data and resolve uncommon problems.

Project Managers:

- Thorough knowledge of contract documents required to properly plan construction sequencing
- Assign and monitor members of project team to various tasks

Project Superintendents:

- Coordinate subcontractors, architects, & inspectors
- Inspect work in progress

↑ *(Employees from Supervisory College Programs)*