



Architecture & Construction

Industry Definition

The architecture and construction industries comprise establishments that are primarily engaged in the construction of buildings or engineering projects (e.g., highways and utility systems). Architectural services involve the application of construction procedures, zoning regulations, building codes, and building materials to the planning and design of residential and commercial buildings, while the construction industry builds the projects. Construction can be divided into three major sectors. The first is the construction of buildings (both residential and nonresidential). The second involves the design and construction of heavy and civil engineering projects such as utility systems, land subdivision, and highways, streets, and bridges. Firms in these first two sectors manage contracts that include responsibility for all aspects of individual projects and are commonly known as general contractors. The third major sector of the construction industry includes establishments in the specialty trades, which are primarily engaged in activities to produce a specific component (e.g. masonry, painting, and electrical work) of a project.

Industry Profile

In all, the construction industry contains 33 separate sub-sectors engaged in building and design activity. Nationwide, 10.7% of firms fall into architecture and construction, while the sector accounts for 7.0% of employment and 7.4% of wages. The specialty trades make up the largest percentage of employment (61.6%), followed by the construction of buildings (22.8%), heavy and civil engineering construction (12.4%), and architectural services (3.2%). Within the specialty trades, plumbing, heating, and air conditioning contractors make up the largest percentage of employment (18.3%), followed by electrical contractors (18.8%), site preparation (8.1%), and painters (7.9%).

Industry Trends

The architecture and construction industries contribute to about 7.9 million jobs in the U.S. economy and makes up more than 909,000 establishments with \$354 billion in wages. The U.S. Bureau of Labor Statistics projects employment in the construction sector to expand by 1.0% annually between 2006 and 2016 and architectural services to expand 2.3% annually during the same period. Despite the recent downturn, construction is the only aggregate sector in the goods-producing side of the U.S. economy, that includes mining and manufacturing, which is expected to add jobs (over 780,000) between 2006 and 2016.

Local Occupational Trends

The construction sector accounts for 11.4% of total employment in Greater Phoenix compared to 7.0% nationally. Given the size of this industry sector and the region's high population growth rate, occupations in construction trades are expected to grow 50.5% in Greater Phoenix between 2004 and 2014. Boilermakers are expected to grow at the fastest rate (80.0%), followed by roofers (71.2%), reinforcing iron and rebar workers (65.9%), tile and marble setters (64.1%), cement masons (63.9%) and structural iron and steel workers (60.1%). Helper occupations in all construction trades, which are considered a gateway into the profession, are forecasted to grow 48.0% between 2004 and 2014. Turnover in the construction sector in Greater Phoenix is greatest among insulation workers, helpers in construction trades, sheet metal workers, tapers, construction equipment operators, and drywall installers.

About the Maricopa County Community College District (MCCCD)

The Maricopa Community Colleges comprise 10 colleges, 2 skill centers and numerous education centers dedicated to educational excellence, meeting the needs of businesses and the citizens of Maricopa County. Each college is individually accredited, yet part of a larger system — the Maricopa County Community College District. There are approximately 1,000 occupational programs (Associate of Applied Science degrees – AAS and certificates - CERT), 50 academic programs, and 10,593 courses available for offering. For specific information on your program of interest, please visit <http://www.maricopa.edu/academic/curric/>. In addition to the following occupational program list, academic programs related to this industry cluster may be found at this website.

The following programs are those currently available for offering within the 10 community colleges and two skill centers of the Maricopa Community Colleges district. Programs are grouped into broad occupational areas as requested by the colleges, then analyzed by the Center for Workforce Development for inclusion in the Construction & Architecture industry cluster. For specific program information, contact the college(s) listed as participating institutions.

For more information about the Maricopa Community Colleges, please visit: <http://www.maricopa.edu>

College/ Skill Center	Program
Estrella Mountain	Building Inspection, Power Plant Technology
GateWay	Air Conditioning/Refrigeration/Facilities, Bricklaying, Carpentry, Construction Management, Construction Trades: Millwright, Construction Trades: Painting, Construction Trades: Sheet Metal, Electricity, Heat and Frost Insulation, Heavy Equipment Operations, Home Improvement Retail Operations: Flooring, Home Improvement Retail Operations: Kitchen, Home Improvement Retail Operations: Millworks, Ironworking, Mechanical Trades: Heating, Ventilating and Air Conditioning, Mechanical Trades: Plumbing, Mechanical Trades: Sheet Metal, Millwright, Painting, Pipefitter-Refrigeration, Plumbing, Power Plant Technology, Residential and Light Commercial Air Conditioning, Roofing, Sheet Metal, Steamfitting
Glendale	Power Plant Technology
Maricopa Skill Center	Construction Trades with Introduction to HVAC, Construction Trades Worker I, Construction Trades Worker II, Maintenance Carpentry Worker, Maintenance Electrician Worker, Maintenance Electrician Worker with Introduction to HVAC, Maintenance Plumbing Worker
Mesa	Architectural CADD Level III, Architectural Detailing CADD Level III, Architecture, Building Inspection, Construction, Construction Drafting CADD Level III, Construction Drafting I, Construction Drafting II, Construction Drafting III, Plan Review, Pre-Contractor Licensing, Residential Drafting CADD Level II, Surveying and Civil Drafting CADD Level II
Phoenix	Architectural Drafting, Building Safety and Construction Technology, Civil Engineering Technology, Construction Management
Rio Salado	Workforce Development: Carpentry Level I, Workforce Development: Carpentry Level II, Workforce Development: Furniture Construction/Refinishing Level I, Workforce Development: Furniture Construction/Refinishing Level II
Scottsdale	Architectural Technology, Building Safety Technology

2008-2009 Sources: U.S. Bureau of Labor Statistics, Arizona Department of Commerce, Minnesota IMPLAN Group, States' Career Clusters Initiative (SCCI), and the Maricopa Community Colleges Center for Curriculum Transfer and Articulation.