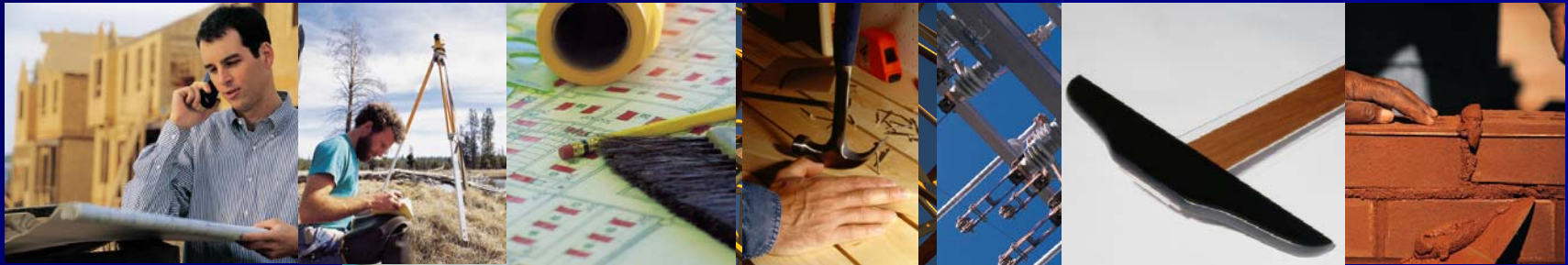


Career Clusters & Pathways



Focusing Education on the Future!

Preparing for Success in Architecture & Construction





- Prepares learners for careers in designing, planning, managing, building and maintaining the built environment.
- People in this cluster work on new structures, restorations, additions, alterations and repairs.
- Architecture and construction comprise one of the largest industries in the U.S.
- This cluster has around 13.8 million jobs. In the next few years, additional jobs will be added.

Necessary Skills and Traits

- Solid background in math, science, and technical skills
- Knowledgeable in their subject



Preparing for Success in Architecture & Construction

**Design Pre-Construction
Construction
Maintenance /Operations**



Preparing for Success in Architecture & Construction

Design Pre-Construction



Career Cluster Area: Architecture & Construction
Career Pathway: **Design Pre-Construction**

Pathway Major Courses

3 + 1

To complete a pathway, one must take **THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.**

■ Pathway Concentration Courses (3)

- Architectural Drawing and Design I
- Civil Engineering Drawing
- Engineering Concepts and Drawings* (Required)
- Introduction to Engineering, Drawing & Design
- Landscape Design
- Solid Modeling and Design

Career Cluster Area: Architecture & Construction

Career Pathway: **Design Pre-Construction**

Pathway Major Courses

3 + 1

To complete a pathway, one must take THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.

■ Pathway Elective Courses (1)

- Advanced Landscape Design
- Apprenticeship/Internship
- Architectural Drawing and Design II*
- Drafting Technology: Introduction
- Engineering Applications
- Engineering Concepts
- Introduction to Construction
- Introduction to Interior Design
- Introduction to Manufacturing/ Engineering Sciences
- Occupational Safety & Fundamentals
- Structural Detailing
- Technical Manufacturing Concepts and Drawings
- Other Pathway Concentration Course

Other Recommended Electives

Design Pre-Construction

- Calculus
- Euclidean Geometry
- Informal Geometry
- Trigonometry
- Visual Arts

Post-Secondary Degrees, Diplomas & Certificates Design Pre-Construction

■ Technical Colleges

- CAD Operator
- Drafting Aide
- Drafting Technology
- Interior Design Assistant
- Interiors
- Landscape Design
- Technology with Advanced Drafting

■ Colleges/Universities

- Agricultural Engineering
- Architecture
- Civil Engineering
- Building Construction
- Drafting
- Engineering
- Landscape Architecture

Careers in Design Pre-Construction

- Civil Engineer
- Industrial Engineer
- Mechanical Drafter
- Electrical Engineer
- Cost Estimator
- Interior Designer
- Architectural & Civil Drafter
- Environmental Designer
- Electronic Engineering Technician
- Environmental Engineer
- Fire Prevention/Protection Engineer
- Regional & Urban Planner Designer
- Drafter
- Modeler
- Programmer
- Preservationist
- Surveyor
- Architect
- Landscape Designer
- Materials Engineer
- Mechanical Engineer
- Landscape Architect
- Computer Aided Designer
- Building Code Official



Employment Outlook

Design Pre-Construction

- Employment is expected to increase for all occupations through the year 2010.
- Overall job opportunities in engineering are expected to be good but will vary by specialty.
- Starting salaries are significantly higher for engineers than those of college graduates in other fields.
- Earnings for drafters vary by specialty and level of responsibility.

Preparing for Success in Architecture & Construction

Construction



Career Cluster Area: Architecture & Construction

Career Pathway: **Construction**

Pathway Major Courses

3 + 1

To complete a pathway, one must take THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.

■ Pathway Concentration Courses (3)

- Carpentry I
- Carpentry II- Habitat
- Electrical I
- Introduction to Construction
- Masonry I
- Occupational Safety & Fundamentals (Required)
- Plumbing I

■ Pathway Elective Courses (1)

- Apprenticeship/Internship
- Architectural Drawing & Design I
- Electrical Systems I
- Introduction to Engineering Drawing
- Intro to Manufacturing/Engineering Science
- Other Pathway Concentration Course

Other Recommended Electives

Construction

- Drafting
- Informal Geometry
- Physics
- Technical Theatre
- Entrepreneurship: Building a Business
- Foundations of Engineering & Technology

Post-Secondary Degrees, Diplomas & Certificates Construction

■ Technical Colleges

- Air Conditioning
- Building & Construction
- Carpentry & Construction Management
- Commercial Construction
- Contracting Management

■ Colleges/Universities

- Architecture & Environmental Design
- Building & Facilities Maintenance
- Electrical Construction & Maintenance

Careers in Construction

- General Contractor
- General Builder
- Estimator
- Equipment Manager
- Construction Inspector
- Carpenter
- Specialty Contractor
- Superintendent
- Project Inspector
- Material Manager
- Subcontractor
- Electrician
- Construction Engineer
- Project Manager
- Manufacturer Representative
- Scheduler
- Service Contractor
- Plumber/Pipe Fitter
- Construction Manager
- Construction Foreman
- Sales & Marketing Manager
- Safety Director
- Field Supervisor
- Painter/Roofer/Paperhanger



Employment Outlook

Construction

- Construction is one of the largest industries in the United States with over 8.3 million jobs.
- Job opportunities are expected to be excellent in the construction industry, due largely to the numerous openings arising each year from experienced construction workers who leave the field and the continued shortage of adequate training programs.
- Construction has a very large number of self-employed workers.

Preparing for Success in Architecture & Construction

Maintenance/Operations



Career Cluster Area: Architecture & Construction

Career Pathway: **Maintenance/Operations**

Pathway Major Courses

3 + 1

To complete a pathway, one must take **THREE Pathway Required Concentration Courses and ONE additional Pathway Elective Course.**

■ Pathway Concentration Courses (3)

- Electrical I
- Introduction to Construction
- Occupational Safety & Fundamentals (Required)
- Plumbing I

■ Pathway Elective Courses (1)

- Apprenticeship/Internship
- Arc Welding Process I
- Carpentry I
- Introduction to Manufacturing/Eng Science
- Other Pathway Concentration Course

Other Recommended Electives

Maintenance/Operations

- Informal Geometry
- Physical Science
- Mechanical/Electrical Systems
- Visual Arts

Post-Secondary Degrees, Diplomas & Certificates Maintenance/Operations

■ Technical Colleges

- Electrical Control Systems
- Masonry
- Mechanical Controls System
- Mechanical Inspector
- Mechanical Technology Maintenance

■ Colleges/Universities

- Electrical Construction Maintenance
- Engineering Technology

Careers in Maintenance/Operations

- General Maintenance Contractor
- Project Manager
- Facilities Engineer
- Electrician
- Concrete Finisher
- Field Supervisor
- Specialty Contractor
- Superintendent
- Project Inspector
- Carpet Installer
- Elevator Installer
- Safety Director
- Construction Engineer
- Construction Foreman
- Demolition Engineer
- Plumber
- Sheet Metal Worker
- Service Contractor
- Construction Manager
- Estimator
- Mason
- Insulation Worker
- Security Installer
- Operation Engineer



Employment Outlook

Maintenance/Operations

- Maintenance/Operations employees hold about three million jobs.
- Applicants with broad skills should have favorable job prospects through the year 2010.
- As automation of machinery becomes more widespread, there is a greater need for repair work than for the installation of new machinery.

Preparing for Success in Architecture & Construction

**Design Pre-Construction
Construction
Maintenance /Operations**



Preparing for Success in Architecture & Construction



HALL CAREER COUNTY CLUSTERS

Focusing Education on the Future!

