



Building Trades and Construction Industry Sector

A strong demand for workers continues in the Building Trades and Construction industry sector, and that demand increases as populations, businesses, and local economies expand. According to the U.S. Bureau of Labor Statistics, construction is among the top ten of the nation's industries, constituting almost 5 percent of the total national gross domestic product. In California, the long-term (2004–14) occupational projection for the Building Trades and Construction industry includes a need to fill 17,790 new jobs and provide 17,920 replacement workers as members of the current workforce retire or leave. In some trades in the state, an increase of more than 30 percent in the number of available jobs is expected over the next 10 years. Nationally, more than one million construction jobs will be created over the next decade, with job categories ranging from laborers to engineers to contractors.

In Building Trades and Construction industry sector classes, activities range from general or exploratory skills to job-specific skills that prepare students to select and pursue career paths through postsecondary training, work experience education, apprenticeships, and postsecondary education. The classes incorporate and apply academic core content to career-related education. These interdisciplinary approaches provide students with strong foundation skills and advanced skills in the career field of their choice, allowing students to exit programs and enter occupations directly or pursue further specialty training.

Building Trades and Construction Industry Sector Pathways:

- *Cabinetmaking and Wood Products*
- *Engineering and Heavy Construction*
- *Mechanical Construction*
- *Residential and Commercial Construction*

Entry Level Careers

(with high school diploma)

Carpenter Apprentice
Cabinetmaking Apprentice
Machine Operator
Draftsman
Electrical Repair Person
Electronic Equipment Installer
Maintenance Technician
Laborer

Technical Level Careers

(with AA or AS degree or certificate)

Electronic Technician
Maintenance Supervisor
Heating/Ventilation/AC (HVAC) Technician
Environmental Materials Technician
Electrician
Construction Supervisor
Computerized Numerical Control Tech
CAD Technician
Building Constructor
Cabinetmaking Journeyman
Automated Control System Technician
Furniture Maker
Production Manager
Iron Worker
Heavy Construction Journeyman
Plumber
Contractor

Professional Level Careers

(with BS or BA degree)

Quality Control Manager
Environmental and Safety Manager
Product Designer
Manufacturing Engineer
Construction Manager
Building Instructor
Architect
Engineer
Designer
Building Trades Instructor
Construction Manager
Business Owner



Cabinetmaking and Wood Products Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> ▪ Exploring Technology ▪ Technology Core ▪ Wood Technology 	<ul style="list-style-type: none"> ▪ Woodworking 1 ▪ Woodworking 2 	<ul style="list-style-type: none"> ▪ Cabinetmaking ▪ Furniture Design 	<ul style="list-style-type: none"> ▪ Cabinetmaking Apprentice+ ▪ Machine Operator 	<ul style="list-style-type: none"> ▪ Cabinetmaking Journeyman+ ▪ CNC Technician 	<ul style="list-style-type: none"> ▪ Cabinetmaking Instructor+ ▪ Designer ▪ Engineer

Engineering and Heavy Construction Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> ▪ Exploring Technology ▪ Technology Core 	<ul style="list-style-type: none"> ▪ Construction 1 ▪ Wood 1 	<ul style="list-style-type: none"> ▪ Equipment Operator ▪ Carpentry 	<ul style="list-style-type: none"> ▪ Apprentice Engineer+ ▪ Laborer 	<ul style="list-style-type: none"> ▪ Contractor+ ▪ Electrician+ ▪ Heavy Construction Journeyman+ ▪ Iron Worker ▪ Plumber+ 	<ul style="list-style-type: none"> ▪ Business Owner ▪ Engineer ▪ Engineering and Heavy Construction Instructor+

Mechanical Construction Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> ▪ Exploring Technology ▪ Technology Core ▪ Construction 1 	<ul style="list-style-type: none"> ▪ Construction 1 ▪ Construction 2 	<ul style="list-style-type: none"> ▪ Building Construction ▪ Electrical Wiring ▪ Plumbing 	<ul style="list-style-type: none"> ▪ Electrician's Helper ▪ Mechanical Construction Apprentice+ 	<ul style="list-style-type: none"> ▪ Electrician+ ▪ HVAC Technician+ ▪ Mechanical Construction Journeyman+ ▪ Plumber+ 	<ul style="list-style-type: none"> ▪ Contractor+ ▪ Engineer+ ▪ Mechanical Construction Instructor+

Residential and Commercial Construction Pathway

Sample CTE Courses*

Education Level and Related Occupations**

Introductory	Concentration	Capstone	High School Diploma	Certification and/or AA Degree	Bachelor's Degree or Higher
<ul style="list-style-type: none"> ▪ Construction 1 ▪ Exploring Technology ▪ Construction 1 	<ul style="list-style-type: none"> ▪ Construction 2 	<ul style="list-style-type: none"> ▪ Carpentry ▪ Construction Technology 	<ul style="list-style-type: none"> ▪ Carpenter Apprentice+ ▪ Heavy Equipment Operator ▪ Laborer 	<ul style="list-style-type: none"> ▪ Carpenter Journeyman+ ▪ Contractor+ ▪ Iron Worker ▪ Surveyor ▪ Welder+ 	<ul style="list-style-type: none"> ▪ Carpentry Instructor+ ▪ Engineer

*Sample CTE Courses are from the Career Technical Education Framework for California Public Schools (California Department of Education: 2007, <http://www.cde.ca.gov/re/pn/fd/>)

**Visit ASSIST (www2.assist.org/browseAreas.do) for community college and UC/CSU information and California Career Zone (www.cacareerzone.org) for occupation information.

+This occupation requires certification or licensure.

Related Career Technical Student Organization: SkillsUSA (<http://www.skillsusa.com>)

Additional Industry Sector information available through the California Industrial and Technology Education Consortium (<http://www.citeonline.org>).

CAREER OPPORTUNITIES IN BUILDING TRADES AND CONSTRUCTION INDUSTRY SECTOR



10 TIPS FOR CHOOSING THE RIGHT CAREER FOR YOU

How does a person know what career to work toward? There is no perfect answer, but the following 10 tips will get you off to a good start.

- 1 Get to know yourself** – Complete more than one self-assessment test.
- 2 Identify your strengths and weaknesses** – What do you do well and what do you not do well?
- 3 Develop an inventory of careers** – Write down some careers that might interest you.
- 4 Research different careers** – Talk to others and use the Internet.
- 5 Write the pros and cons** – List positives and negatives about the careers that interest you.
- 6 Network** – Discuss your ideas with others.
- 7 Talk with people who work in your area of interest** – Family and friends are great resources.
- 8 Find a mentor** – Find someone with whom you can discuss your career selection.
- 9 Experiment** – Take a related class or part-time job.
- 10 Don't give up** – "If there is a will, there is a way."



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Do you like to build things? Are you comfortable working on a project until all the pieces fit together? If you answered yes, the Building Trades and Construction Industry Sector may hold the career for you. The four pathways provide opportunities with a variety of construction skills directly associated with completing building projects. High school curriculum in this sector integrates academic and technical preparation and leads to hands-on, work-based instruction. Project and work-based instruction offers opportunities in work experience, community classroom, or other internship types of instruction.

Web sites for further information:

www.californiacareers.info

www.whodouwant2be.com

www.californiacolleges.edu

www.edd.ca.gov/Jobs_and_Training/

Career Pathways



Engineering and Heavy Construction Pathway

Typical engineering and heavy construction careers focus on the planning and construction of complex projects associated with roads, highways, and subdivisions. Creating and following specifications and blueprints, as well as complying with state and local building codes, are all important elements of this career.

CAREERS/CAREER AREAS:

- Surveying
- Ironworker
- Welding
- Rough Carpenter
- Heavy Equipment Operator
- Cement Mason
- Mechanical and Civil Engineer/Technician



Cabinetmaking and Wood Products Pathway

The Cabinetmaking and Wood Products Pathway provides learning opportunities for students considering careers in cabinet construction, millwork, and wood products; and covers the construction of both custom and production products. Planning and layout; following plans; and use of hand, power, and stationary tools are all parts of the training process.

CAREERS/CAREER AREAS:

- Estimator
- Millwork
- Furniture Making
- Cabinetmaking
- Rough or Finish Carpentry
- CNC Technician/Engineer



Mechanical Construction Pathway

Mechanical construction is the general term used to describe the skills associated with the plumbing, electrical, heating, cooling, ventilation, refrigeration, and piping careers. Planning, fabrication, installation, and maintenance of related facilities and equipment are all part of the career skills necessary for success in this pathway.

CAREERS/CAREER AREAS:

- Plumber
- Electrician
- Heating
- Refrigeration



Residential and Commercial Construction Pathway

Large and small residential and commercial construction projects are the bread and butter of the construction industry. Many skilled workers with diverse specialty skills take a project from start to finish. The majority of the skill areas in this pathway are classified as individual trades.

CAREERS/CAREER AREAS:

- Carpenter
- Floor and Tile Installer
- Glazier
- Insulation Worker
- Plumber
- Pipefitter
- Surveyor
- Ironworker/Steelworker
- Roofer
- Structural Engineer
- Building Inspector
- Painter and Paperhanger
- Brick, Block, and Stone Mason
- Dry Wall and Ceiling Installer
- Plaster and Stucco Specialist





BUILDING TRADES AND CONSTRUCTION

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The information below is just a small sample of the many great employment related resources available on the State of California website www.edd.ca.gov. We encourage you to visit the website and explore the available information.

Occupation Title	Employment Levels in 2006	Projected Employment level 2016	Projected Job Growth	Percent of Job Growth	2008 Hourly ¹ Mean Wage	2008 ² Weekly Mean Wage	2008 ³ Monthly Mean Wage	2008 Annual Mean Wage
Brickmasons & Blockmasons	13,400	14,800	1,400	10.4%	\$22.52	\$900.80	\$3,783.36	\$45,400.32
Cabinetmakers & Bench Carpenters	17,800	19,100	1,300	7.3%	\$15.06	\$602.40	\$2,530.08	\$30,360.96
Carpenters	210,000	235,700	25,700	12.2%	\$24.67	\$986.80	\$4,144.56	\$49,734.72
Civil Engineers	34,100	39,200	5,100	15%	\$39.91	\$1,596.40	\$6,704.88	\$80,458.56
Construction & Building Inspectors	12,500	15,100	2,600	20.8%	\$31.46	\$1,258.40	\$5,285.28	\$63,423.36
Construction Laborers	171,300	199,800	28,500	16.6%	\$17.80	\$712.00	\$2,990.40	\$35,884.80
Construction Managers	47,100	55,200	8,100	17.2%	\$49.96	\$1,998.40	\$8,393.28	\$100,719.36
Electricians	68,300	75,300	7,000	10.2%	\$26.42	\$1,056.80	\$4,438.56	\$53,262.72
Engineers, All Others	29,200	31,700	2,500	8.6%	\$45.91	\$1,836.40	\$7,712.88	\$92,554.56
Floor Sanders & Finishers	2,100	2,100	0	0%	\$19.36	\$774.40	\$3,252.48	\$39,029.76
Furniture Finishers	4,300	4,600	300	7%	\$12.66	\$506.40	\$2,126.88	\$25,522.56
Glaziers	7,500	8,300	800	10.7%	\$24.10	\$964.00	\$4,048.80	\$48,585.60
Heating/Air Conditioning & Refrigeration Workers	19,700	22,200	2,500	12.7%	\$22.81	\$912.40	\$3,832.08	\$45,984.96
Insulation Workers, Floor, Ceiling & Wall	3,000	3,200	200	6.7%	\$19.06	\$762.40	\$3,202.08	\$38,424.96
Painters, Construction & Maintenance	73,700	83,900	10,200	13.8%	\$19.51	\$780.40	\$3,277.68	\$39,332.16
Plumbers, Pipefitters, & Steamfitters	\$56,000.00	62,900	6,900	12.3%	\$24.68	\$987.20	\$4,146.24	\$49,754.88
Structural Iron & Steel Workers	5,100	5,500	400	7.8%	\$24.78	\$991.20	\$4,163.04	\$49,956.48
Surveying & Mapping Technicians	4,100	4,600	500	12.2%	\$26.51	\$1,060.40	\$4,453.68	\$53,444.16
Surveyors	5,900	6,700	800	13.6%	\$34.83	\$1,393.20	\$5,851.44	\$70,217.28

These selected occupations with information on job growth, percent growth and earning potentials are based on information found at www.labormarketinfo.edd.ca.gov

¹ **Mean:** Midpoint between highest & lowest

² **Weekly:** Based on 40 hours

³ **Monthly:** Based on 168 hours



TIPS FOR JOB SEEKERS

How can you improve your chances of getting a job? Applying for a job is the easy part, but getting it can be more of a challenge. Following these five tips can help you reach your goal:

1 The Job

- Determine your interests: talk to others and consider your hobbies and talents
- Search “career assessments” on the Internet

2 The Resume

- Should be easy to read: not too long, too wordy or too cluttered
- Make it powerful
- Show you can cooperate, you can learn, and you can do

3 The Application

- Make it neat, complete and accurate
- Include recommendations from teachers, employers, coaches, friends, etc.

4 The Interview

- Show enthusiasm: it separates the winners from the losers
- Dress appropriately/similar to those on the job

5 The Follow-up

- Send a thank you note
- Call to see if a decision has been made
- If not, ask, “Am I still a candidate?”
- If you are, ask, “Is it okay if I call back in a couple of days?”



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