



Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber, and heating, air conditioning, and refrigeration technician.

Statewide Program of Study: Carpentry

The Carpentry program of study focuses on occupational and educational opportunities related to constructing, installing, and repairing structures and fixtures made of wood (including frameworks, partitions, joists, studding, rafters, and stairways). The program of study includes installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

Secondary Courses for High School Credit

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|---------|--|
| Level 1 | • Principles of Construction |
| Level 2 | • Construction Technology I |
| Level 3 | • Construction Technology II
• Mill and Cabinetmaking Technology |
| Level 4 | • Career Preparation for Programs of Study + Extended Career Preparation |



Example Postsecondary Opportunities

Apprenticeships

- Carpenter

Associate Degrees

- Construction Management
- Construction Engineering Technology
- Building Construction Technology

Bachelor's Degrees

- Construction Engineering
- Construction Science
- Construction Site Management

Master's, Doctoral, and Professional Degrees

- Construction Engineering Technology
- Construction Engineering
- Construction Management
- Project Management

Aligned Advanced Academic Courses

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| Dual Credit | Dual credit offerings will vary by local education agency. |
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Students who earn all of the college credits within this program of study will be eligible to graduate from Southwest Texas Junior College with a Level I Certificate in Construction Science.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

- Intern with a carpenter to practice skills such as measuring materials and assembling structures
- Participate in a pre-apprenticeship that includes activities like installing cabinets, drywall, and siding

Expanded Learning Opportunities

- Shadow a construction manager to learn more about how construction teams work together to complete projects
- Participate in SkillsUSA

Aligned Industry-Based Certifications

- NCCER Core



Example Aligned Occupations

Drywall and Ceiling Tile Installers

Median Wage: \$44,699
Annual Openings: 758
10-Year Growth: 14%

Carpenters

Median Wage: \$46,272
Annual Openings: 5,623
10-Year Growth: 15%

Construction Managers

Median Wage: \$95,072
Annual Openings: 6,325
10-Year Growth: 24%



COURSE INFORMATION

COURSE NAME	COURSE NUMBER AND CREDITS	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Construction	8410 (1 credit)	None	9-10
Construction Technology I Dual Credit	8412D1 and 8412D2 (2 credits)	Principles of Construction and SWTJC requirements	10-11
Construction Technology II Dual Credit	8413D1 and 8413D2 (2 credits)	Construction Technology I Dual Credit	12
Mill and Cabinetmaking	8415D1 and 8415D2 (1 credit)	Construction Technology I Dual Credit	12

COURSE DESCRIPTIONS

Principles of Construction:

This course helps build foundation skills in construction. Jobsite safety, construction math, hand tools and power tools training coupled with communication and employability skills provide an excellent opportunity and insight into the career paths of the construction industry.

Construction Technology I Dual Credit:

College Credits: CRPT 1429, CRP 1423, and CRPT 1415

Students gain knowledge and skills specific to those needed to enter the work force as carpenters or building maintenance supervisors or prepare for a postsecondary degree in construction management, architecture, or engineering. Students acquire knowledge and skills in safety, tool usage, building materials, codes, and framing.

Construction Technology II Dual Credit:

College Credits: ELPT 1429, PFPB 2409, CRPT 1445, WDWK 1413, & CNBT 1300

Students gain advanced knowledge and skills specific to those needed to enter the work force as carpenters, building maintenance technicians, or supervisors or prepare for a postsecondary degree in construction management, architecture, or engineering. Students build on the knowledge base from Construction Technology and are introduced to exterior and interior finish out skills.

Mill and Cabinetmaking Dual Credit

College Credits: ELPT 1429, PFPB 2409, CRPT 1445, WDWK 1413, & CNBT 1300

Students will gain knowledge and skills needed to enter the workforce in the area of mill work and cabinet manufacturing and installation. Students may also apply these skills to professions in carpentry or building maintenance supervision or use these skills as a foundation for postsecondary degree in construction management, architecture, or engineering.

Course in yellow are advanced courses for endorsement purposes.



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