



# 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

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



### 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

- | 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 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 SWTX 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 (2 credits)	Construction Technology I Dual Credit	12
Extended Career Prep for Programs of Study Reg or DC	8607 (3 credits) or 8607DC & D2 (3 credits)	Construction Technology I DC: pre-req & SWTX reqs.	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: CRPT 1411, CNBT 2442 & 1402

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: CNBT 1446, 1411, 2415, & 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.

### Extended Career Prep for Programs of Study Reg or DC:

College Credit: BMGT 1382

Students are given the opportunity to work in their program of study while earning high school credit and develop employment experiences, which must be related to the student's current program of study alongside advanced classroom instruction. The goal is to prepare students with a variety of skills to transition from job- to career-mindedness. This course provides a continuing focus on collaborative feedback between the employer, teacher, and student. Students are taught about finding their future careers, keeping, as well as leaving, a job, and how to expound on their employable talents.

Course in yellow are Level 3 or 4 courses.

