

Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Carpentry Statewide Program of Study



The Carpentry program of study explores the occupations and educational opportunities related to constructing, installing, or repairing structures and fixtures made of wood, such as concrete forms (including frameworks, partitions, joists, studding, rafters, and stairways). This program of study may also include exploration into 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 Dual Credit

Level 3

- Construction Technology II Dual Credit

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in SkillsUSA

Work-Based Learning Activities

- Obtain an NCCER certification in Carpentry

Postsecondary Opportunities

Level I Certificate from SWTJC upon successful completion of program of study

Associates Degrees

- Carpentry/Carpenter
- Industrial Mechanics and Maintenance Technology

Bachelor's Degrees

- Construction Science

Master's, Doctoral, and Professional Degrees

- Construction Management

Industry-Based Certifications

- NCCER Core
- NCCER Carpentry Level I
- NCCER Carpentry Level II



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Carpenters	\$35,922	5,031	26%
Cost Estimators	\$63,939	2,239	21%

Successful completion of the Carpentry program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

COURSE INFORMATION

COURSE NAME	COURSE NUMBER AND CREDITS	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Construction	8410 (1 credit)	None	9-10
Architectural Design I	8409 (1 credit)	Principles of Construction, Alg I and Eng I AND admission criteria	10
Construction Technology I Dual Credit	8412D1 and D2 (2 credits)	Principles of Construction and SWTJC requirements	11
Construction Technology II Dual Credit	8413D1 and D2 (2 credits)	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.

Architectural Design I:

Students will gain knowledge and skills in design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes.

Construction Technology I Dual Credit:

College Credits: CRPT 1429, 1423, 1415, 1411, 1441

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 1445, WDNK 1413, CNBT 1400, ELPT 1429, PFPB 2409

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.

Course in yellow are advanced courses for endorsement purposes.



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