

# Business & Industry Endorsement

## CAREER CLUSTER

## PROGRAMS OF STUDY



**ARCHITECTURE  
&  
CONSTRUCTION**



- ARCHITECTURAL DESIGN
- CARPENTRY



# 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.

## Architectural Design Statewide Program of Study



The Architectural Design program of study explores the occupations and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study may also include exploration into collecting and interpreting geographic information, researching and preparing maps, and interior design.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Architecture

#### Level 2

- Architectural Design I

#### Level 3

- Architectural Design II

#### Level 4

- Practicum in Architectural Design

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
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- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Shadow an architect, interior designer or civil engineer</li> <li>Participate in SkillsUSA</li> </ul> | <ul style="list-style-type: none"> <li>Intern at an architectural firm</li> </ul> |
|--|---|

### Industry-Based Certifications

- Autodesk Associate (Certified User) 3ds MAX
- Autodesk Associate (Certified User & Prof.) AutoCAD
- Autodesk Associate (Certified User & Prof.) Fusion 360
- Autodesk Associate (Certified User) Revit Architecture
- Autodesk Associate (Certified User) Revit for Electrical
- Autodesk Associate (Certified User) Revit-Structural Design
- Autodesk Certified Professional in AutoCAD for Design & Drafting
- Autodesk Certified Prof. - Civil 3D for Infrastructure Design
- ^Autodesk Certified Prof. in Revit for Architectural Design
- Autodesk Certified Prof. in Revit for Electrical Design
- Autodesk Certified Prof. in Revit for Structural Design
- Certified SOLIDWORKS Associate (CSWA) – Electrical
- Certified SOLIDWORKS Associate (CSWA) & Professional (CSWP) – Academic
- Certified SOLIDWORKS Prof. (CSWP) – Drawing Tools
- Certified SOLIDWORKS Prof. (CSWP) - Model Based Definition
- Certified SOLIDWORKS Associate (CSWA) & Professional (CSWP) – Simulation
- Certified SOLIDWORKS Associate (CSWA) - Sustainability
- LEED Green Associate
- ^Certified SOLIDWORKS Associate\*
- Mastercam Associate Certification\*

^Offered at Donna ISD \*IBC sunseting 8/31/24

### Postsecondary Opportunities

#### Associates Degrees

- Architecture
- Interior Design
- Civil Engineering, General
- Geographic Information Science and Cartography

#### Bachelor's Degrees

- Architecture
- Interior Design
- Civil Engineering, General
- Geographic Information Science and Cartography

#### Master's, Doctoral, and Professional Degrees

- Architecture
- Interior Architecture
- Civil Engineering, General
- Geographic Information Science and Cartography

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Architects	\$77,043	808	16%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Architectural/ Civil Drafters	\$50,170	1,068	9%
Construction Managers	\$87,402	2,401	14%

Successful completion of the Architectural Design program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

# Architectural Design Course Information

## Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Architecture	13004210 (1 credit)	None	None

## Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Architectural Design I	13004600 (1 credit)	Algebra I and English I	None
*Interior Design I	13004300 (1 credit)	Algebra I and English I	None
*Computer Aided Drafting for Architecture	N1300429 (1 credit)	None	None

## Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Architectural Design II	13004700 (2 credits)	Architectural Design I or Advanced Interior Design and Geometry	None
*Interior Design II	13004400 (2 credits)	English II, Geometry, and Interior Design I	None
*Civil Engineering and Architecture (PLTW)	N1303747 (1 credit)	None	None

## Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Practicum in Architectural Design	13004800 (2 credits) 13004805 (3 credits) 13004810 (2 credits) 13004815 (3 credits)	Architectural Design II	None
*Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	None

\*Not Currently Offered at Donna ISD

FOR ADDITIONAL INFORMATION ON THE ARCHITECTURE AND CONSTRUCTION CAREER CLUSTER,  
PLEASE CONTACT: [CTE@tea.texas.gov](mailto:CTE@tea.texas.gov) OR VISIT <https://tea.texas.gov/cte>

The Public Notification of Nondiscrimination can be found in our Donna ISD's CTE  
webpage at <https://tx50000621.schoolwires.net/Domain/76>

# 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
- Principles of Architecture

#### Level 2

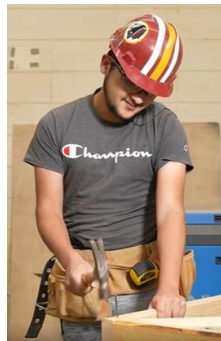
- Construction Technology I

#### Level 3

- Construction Technology II

#### Level 4

- Practicum in Construction Technology



### Work-Based Learning and Expanded Learning Opportunities

#### Exploration Activities

- Shadow a carpenter or millwright
- Participate in SkillsUSA

#### Work-Based Learning Activities

- Obtain an NCCER certification in Millwright Level 1 or Carpentry Level 1

### Industry-Based Certifications

- HBI Pre-Apprenticeship Certificate Training (PACT), Basic Carpentry
- HBI Pre-Apprenticeship Certificate Training (PACT), Core
- HBI Pre-Apprenticeship Certificate Training (PACT), Green Core
- NCCER Carpentry Level I
- NCCER Carpentry Level II
- NCCER Commercial Carpenter
- NCCER Construction Technology Certification Level I
- NCCER Core
- NCCER Painting: Commercial and Residential Level I

- ^ OSHA 30 Hour Construction\*
- ^ OSHA 30 Hour General\*

^ Offered at Donna ISD \*IBC sunseting 8/31/24

### Postsecondary Opportunities

#### Associates Degrees

- Carpentry/Carpenter
- Industrial Mechanics and Maintenance Technology

#### Bachelor's Degrees

- Construction Science

#### Master's, Doctoral, and Professional Degrees

- Construction Management



### 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



# Carpentry Course Information

## Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Construction	13004220 (1 credit)	None	None
Principles of Architecture	13004210 (1 credit)	None	None

## Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Construction Technology I	13005100 (2 credits)	None	None

## Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Construction Technology II	13005200 (2 credits)	Construction Technology I	None
*Mill & Cabinetmaking Technology	13005300 (2 credits)	None	None

## Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Practicum in Construction Technology	13005250 (2 credits) 13005255 (3 credits) 13005260 (2 credits) 13005265 (3 credits)	Construction Technology II, Building Maintenance Technology II, Electrical Technology II, Heating, Ventilation Air Conditioning (HVAC) and Refrigeration Technology II, Plumbing Technology I, or Mill and Cabinetmaking Technology	None
*Practicum in Entrepreneurship	N1303425 (2 credits)	None	None
*Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	None

\*Not Currently Offered at DISD

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