



Architecture and Construction Cluster

Comprehensive Career Cluster Review
(C3R)

College, Career & Technical Education | Spring 2024



Comprehensive Career Cluster Review (C3R)

The comprehensive career cluster review (C3R) is the intentional review of career and technical education (CTE) programs and the course standards within each program to ensure students have up-to-date course standards aligned to postsecondary and career needs. Each career cluster is reviewed annually with input from the state-wide advisory councils comprised of postsecondary partners, industry partners, and secondary CTE teachers. Advisory council meetings allow the stakeholders to engage in dialogue and discuss current needs, emerging trends, and necessary course revisions to course standards. Advisory council input could potentially lead to new or retired programs of study, new courses or retired courses, or revised course standards within existing courses, if necessary. Collaborative engagement ensures students receive instruction on the most up-to-date and relevant course standards so they are prepared for postsecondary and the workforce.

Architecture and Construction

The architecture and Construction career cluster prepares learners for careers in designing, planning, managing, building, and maintaining the environment. People employed in this cluster work on new structures, restorations, additions, alterations, and repairs. Construction comprises one of the largest industries in the United States. In the next few years, new jobs will be added, and many employment opportunities will result from the need to replace experienced workers who leave their careers. This career cluster contains five programs of study (POS): Architecture & Engineering Design, Interior Design, Mechanical, Electrical, and Plumbing Systems (MEPs), Residential and Commercial Construction, and Structural Systems. The number of concentrators continues to increase as indicated below.

School Year	Architecture and Construction Concentrators
2020-21	5,127
2021-22	4,843
2022-23	5,626

Architectural and Engineering Design

2023-24 Program of Study	Year 1	Year 2	Year 3	Year 4
Architectural & Engineering Design	Architectural & Engineering Design I (C17H13)	Architectural & Engineering Design II (C17H14)	Architectural & Engineering Design III (C17H10) -or- Dual Enrollment Architectural & Engineering Design I (C17H04) -or- Dual Enrollment Architectural & Engineering Design II (C17H28)	Engineering Practicum (C21H14) -or- AP Calculus AB (G02H24) -or- AP Calculus BC (G02H25) -or- AP Physics I: Algebra-Based (G03H27) -or- AP Physics II: Algebra-Based (G03H28) -or- AP Physics C: Electricity & Magnetism (G03H24) -or- AP Physics C: Mechanics (G03H29) -or- Dual Enrollment Architectural & Engineering Design III (C17H35) -or- Dual Enrollment Architectural & Engineering Design IV (C17H36) -or- IB Physics II SL (G03H82) -or- WBL Architectural & Engineering Design Career Practicum (C17H45)

Description

The *Architectural and Engineering Design* POS prepares students for a variety of engineering and design professions, including architectural, civil, or mechanical design. Students will develop problem-solving and critical-thinking skills by identifying the relationship between available resources and requirements of a project or problem to accomplish realistic planning. Students will employ basic methods of data collection and analysis to provide potential clients with appropriate information for projects. As they progress through the program of study, students create design solutions for increasingly sophisticated problem sets, presenting information through various modes of visual communication such as drawing, rendering, and modeling in combination with verbal and written communication.

Architecture and engineering are wide-ranging fields that include designing buildings and outdoor projects, drafting architectural drawings, surveying, and engineering. Architects design buildings to meet the needs of their occupants. Landscape architects design attractive and functional outdoor spaces. Drafters fine-tune drawings using updated design software to meet the users' needs. Civil engineers plan and oversee the construction and maintenance of buildings and infrastructure, such as roads, railways, airports, bridges, harbors, dams, power plants, and water and sewage systems.

This program is aligned with [SkillsUSA](#) and [Technology Student Association](#) (TSA) career and technical student organizations (CTSOs).

Job Outlook

Job demand in architecture and engineering occupations is strong. Construction and manufacturing continue to boom in Tennessee. This is expected to continue as current companies expand and new companies come to the state. Both residential and commercial construction are expected to remain active. There are many opportunities for career advancement for architects, surveyors, drafters, and engineers. The continual growth of construction combined with the number of workers retiring ensures that architecture and engineering will remain a high-demand occupation.

As seen in Figure 1, the demand for all occupations related to Architectural and Engineering Design continues to grow. According to the Bureau of Labor Statistics, jobs for Architects in Tennessee are projected to grow 18 percent from 2020 to 2030¹, much faster than the average for all occupations. The Supply and Demand Report lists Construction Managers as an occupation in demand in nine of the state's

¹ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

regions². Demand for Civil Engineers is projected to grow 19 percent from 2020 to 2030³. Demand for Architectural and Engineering Managers is also projected to grow 19 percent from 2020 to 2030⁴. Over 300 openings for Civil Engineers are projected each year through 2030⁵. Many of these openings are expected due to the need to replace workers who retire from the workforce.

Figure 1. Tennessee employment projections for Architectural & Engineering Design related occupations with positive job openings projected for 2020-2030 according to the Tennessee Higher Education Commission, [Supply and Demand Report](#).²

Occupation	SOC Code	Employment (2020)	Projected Employment (2030)	Projected Growth (2020-2030)	Projected Annual Job Openings (2020-2030)
Civil Engineers	17-2051	3,500	4,160	19%	330
Architectural and Engineering Managers	11-9041	3,100	3,680	19%	290
Industrial Engineers	17-2112	5,400	6,980	29%	540
Construction Managers	11-9021	10,070	11,940	19%	970
Engineers, All Other	17-2199	4,260	5,200	22%	390
Mechanical Engineers	17-2141	3,670	4,520	23%	320
Electrical and Electronic Engineering Technicians	17-3023	2,870	3,360	17%	340
Electrical Engineers	17-2071	2,540	3,070	21%	230
Industrial Engineering Technicians	17-3026	1,860	2,120	14%	210
Civil Engineering Technicians	17-3022	2,030	2,090	3%	200

² Tennessee Higher Education Commission, Supply and Demand Report, Retrieved March 1, 2024, from <https://www.tn.gov/thec/research/supply-and-demand.html>

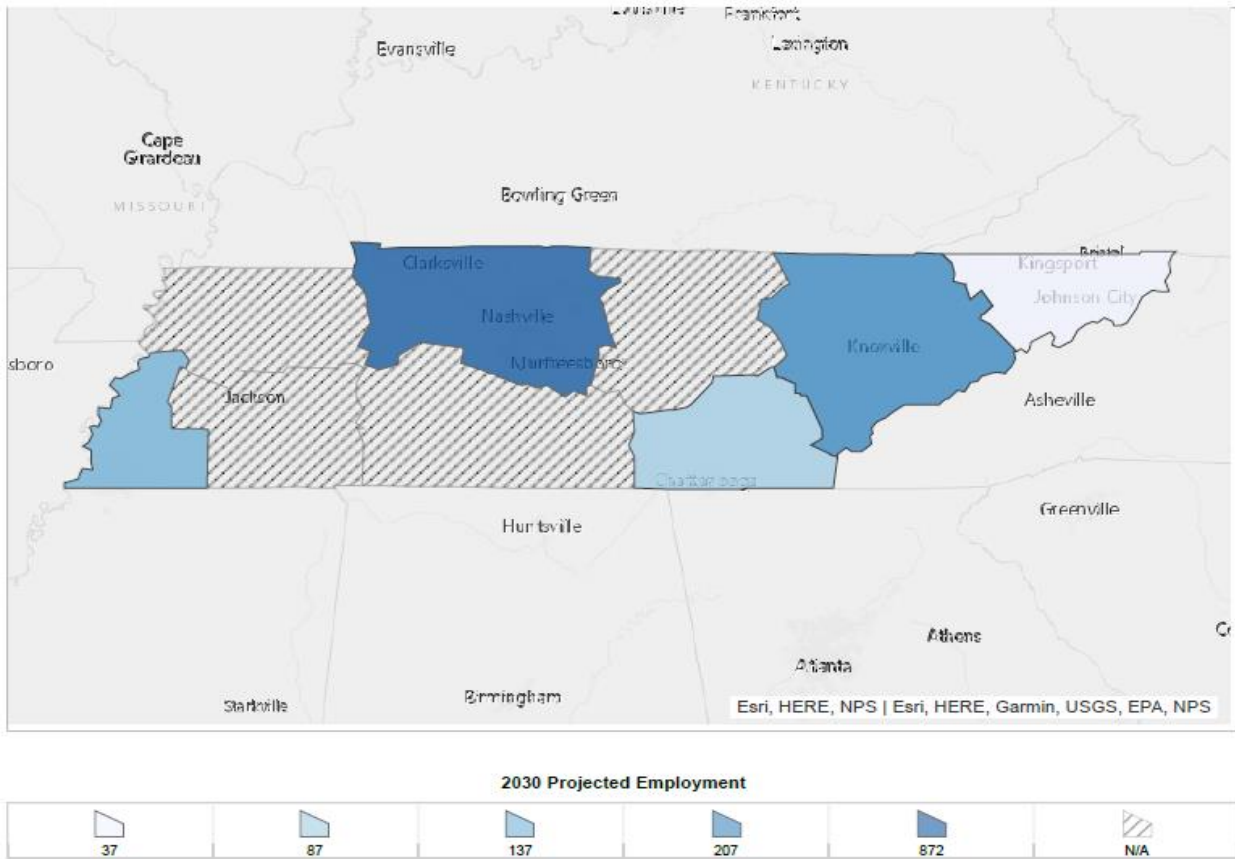
³ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

⁴ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

⁵ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

Figure 2. 2030 projected employment for Architectural and Civil Drafters in Tennessee.⁶

The map below shows the distribution of the 2030 projected employment for Architectural and Civil Drafters in Tennessee by local workforce development areas.



Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

⁶ Jobs4Tn.gov. Occupation Profile. Retrieved February 1, 2024, from <https://jobs4tnwfs.tn.gov/vosnet/Default.aspx>

Program of Study Level

The Tennessee Investment in Student Achievement (TISA) provides direct funding for student participation in career and technical education (CTE) programs to drive college and career readiness outcomes. Pursuant to Tenn. Code Ann. § 49-3-105(c)(2), a direct allocation amount will be generated for each student membership in a CTE program based on the rule:

1. The level of the program
 - Programs shall be designated into one (1) of three (3) levels.
 - Programs will be classified into three (3) levels based on alignment to wage-earning potential indicators and additional resources required to support the program if aligned to wage-earning potential occupational pathways.
2. The student progression in coursework through the program.

*The state budget keeps all programs funded at \$5,000 for the 2024-25 school year funding. See the [CTE TISA Programs of Study Leveling Guide 2024-25](#) for the TISA funding formula for program of study levels.

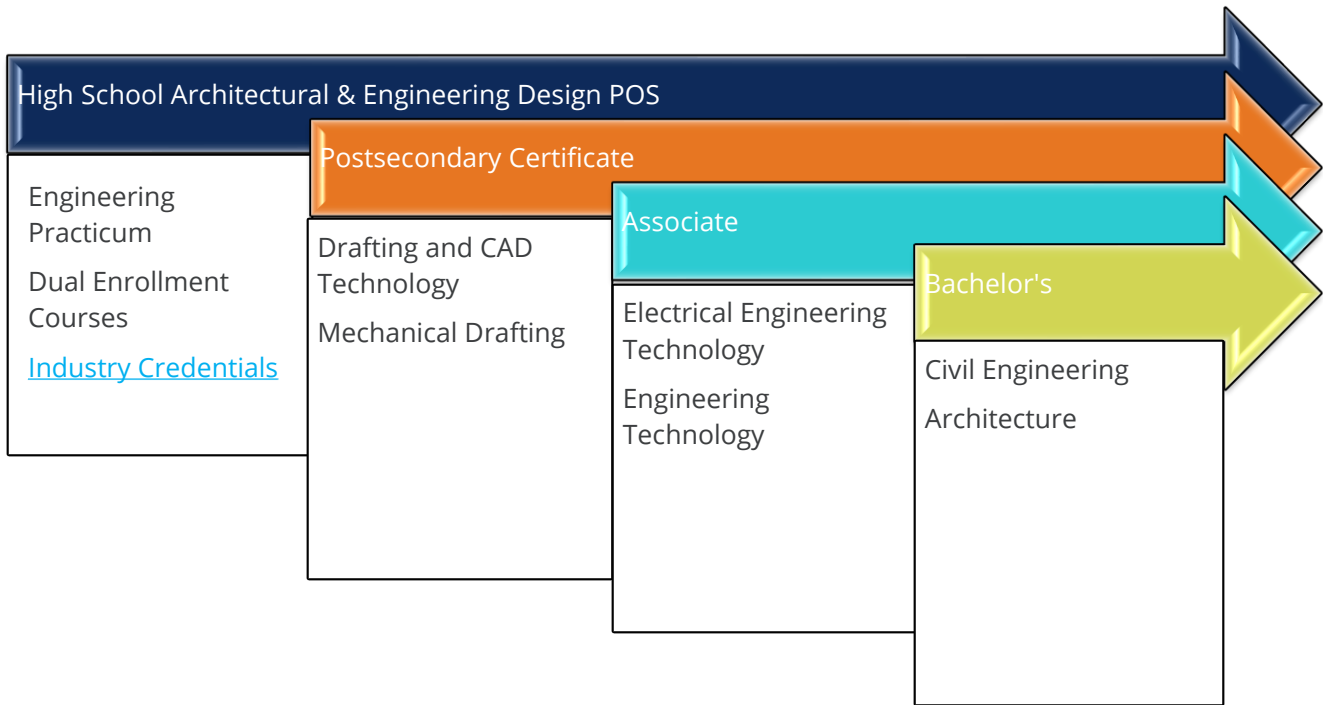
Architectural and Engineering Design Program: Level 2

Postsecondary Opportunities

The Architectural and Engineering Design pathway offers opportunities to funnel students into careers at a variety of education levels. Industry credentials earned in high school and work experience through practicum courses can lead to employment immediately after high school. There are early postsecondary opportunities at the high school level that lead to certificate programs at the state's network of Tennessee Colleges for Advanced Technology (TCATs). As shown in the table below, the wage level increase with a certificate from a TCAT is significant. Cleveland State and Southwest Tennessee offer certificates for this program. Community colleges in Tennessee offer a variety of associate-level degrees that continue to increase wage-earning potential. Nashville State, Southwest TN, Pellissippi State, and Walters State offer associate-level degrees for this program. Advanced training at the bachelor's level opens even more doors for students for better prospects in higher-wage architect occupations. The University of Tennessee at Knoxville and the University of Memphis offer bachelor's degrees for this program.

Figure 3 illustrates what opportunities are available for a student graduating from a Tennessee Architectural and Engineering Design program in high school. The figure outlines some of the related postsecondary certificates and degrees, career opportunities, and salaries available to students in the pathway. Students may acquire hours transferable to a postsecondary institution for the completion of certificates and degrees.

Figure 3. Outlines the related career opportunities and training necessary for each program of study. Students may acquire hours transferable to a postsecondary institution for the completion of a degree.



Additional opportunities are offered at multiple postsecondary institutions as indicated in the [Tennessee Department of Labor and Workforce Dashboard](#).

High School Diploma	Certificate	Associate	Bachelor's
<ul style="list-style-type: none"> • Surveying and Mapping Technicians (\$45,609) • Helpers--Construction Trades (\$37,820) 	<ul style="list-style-type: none"> • Architectural and Civil Drafters (\$60,089) • Civil Engineering Technicians (\$59,630) 	<ul style="list-style-type: none"> • Mechanical Engineering Technicians (\$60,132) • Mechanical Drafters (\$61,310) 	<ul style="list-style-type: none"> • Architectural and Engineering Managers (\$92,650) • Civil Engineers (\$89,940)

Current Secondary Landscape

Over the past three years, the number of schools offering Architectural and Engineering Design has decreased slightly from 35 to 31. In 2022-23, 3,160 students were enrolled in Architectural and Engineering Design courses, which was a slight decrease from previous years. This program may not be appropriate for schools that do not have the supporting labor market data. The figures below show the open enrollment analysis for the 2020-21 through the 2022-23 school year and the course enrollment in the Architectural and Engineering Design program.

Figure 41. Open Enrollment Analysis

School Year	Schools Offering Architectural and Engineering Design
2020-21	35
2021-22	32
2022-23	31

Figure 5. Student Enrollment by Course

School Year	Architectural and Engineering Design I	Architectural and Engineering Design II	Architectural and Engineering Design III	Engineering Practicum
2020-21	1,583	738	578	407
2021-22	1,470	636	464	470
2022-23	1,674	668	422	396

Interior Design

2023-24 Program of Study	Year 1	Year 2	Year 3	Year 4
Interior Design	Foundations of Interior Design (C17H12)	Residential Interior Design (C17H11)	Commercial Interior Design (C17H20) -or- Dual Enrollment Interior Design I (C17H05) -or- Dual Enrollment Interior Design II (C17H29)	Advanced Interior Design (C17H19) -or- Dual Enrollment Interior Design III (C17H37) -or- Dual Enrollment Interior Design IV (C17H38) -or- WBL Interior Design Career Practicum (C17H49)

Description

The *Interior Design* POS is designed for students interested in becoming residential or commercial interior designers. Course content covers concepts and skills such as elements and principles of design, sketching techniques for perspective floor plans, computer-aided drafting, board presentation techniques using textile samples and three-dimensional sketches, building technology, building codes, product applications, product testing research and development, and project management for the interior design industry. Upon completion of the POS, students will have had the opportunity to participate in a work-based learning (WBL) internship and will be equipped for further study of interior design at the postsecondary level.

Interior design is a focused field that involves determining the best way to design the inside of a building. Interior designers bring to life an artistic vision for work and living spaces. Responsibilities can include researching and deciding on materials and products, interpreting customer needs into plans, defining project requirements, designing aspects of a building, and setting project costs. Industrial designers focus on the needs of a commercial or manufacturing facility while merchandise displayers arrange sales products in an inviting manner.

This program is aligned with the [Family, Career, and Community Leaders of America](#) (FCCLA) CTSO.

Job Outlook

Job demand for interior designers is good as construction continues to boom in Tennessee. There are many opportunities for interior designers to find work in residential, commercial, and industrial settings. This is expected to continue as current companies expand and new companies come to the state. Commercial construction requires extensive interior design work for each building. Residential construction and upgrades also call for interior design work.

As seen in Figure 1, the demand for all occupations related to Interior Design continues to grow. According to the Bureau of Labor Statistics, jobs for Merchandise Displayers and Window Trimmers in Tennessee are projected to grow 11 percent from 2020 to 2030⁷, faster than the average for all occupations. The Supply and Demand Report lists Interior Designers as an occupation in demand in one (1) of the state's regions⁸. Demand for Interior Designers is projected to grow 2 percent from 2020 to 2030⁹. Demand for Floor Layers, Except Carpet, Wood, and Hard Tiles is projected to grow 14 percent from 2020 to 2030¹⁰. Over 200 openings for Merchandise Displayers and Window Trimmers are projected each year through 2030¹¹.

Figure 1. Tennessee employment projections for Interior Design related occupations with positive job openings projected for 2020-2030 according to the Tennessee Higher Education Commission, [Supply and Demand Report](#).⁸

Occupation	SOC Code	Employment (2020)	Projected Employment (2030)	Projected Growth (2020-2030)	Projected Annual Job Openings (2020-2030)
Interior Designers	27-1025	1,580	1,610	2%	150
Carpet Installers	47-2041	350	340	-3%	30

⁷ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

⁸ Tennessee Higher Education Commission, Supply and Demand Report, Retrieved March 1, 2024, from <https://www.tn.gov/thec/research/supply-and-demand.html>

⁹ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

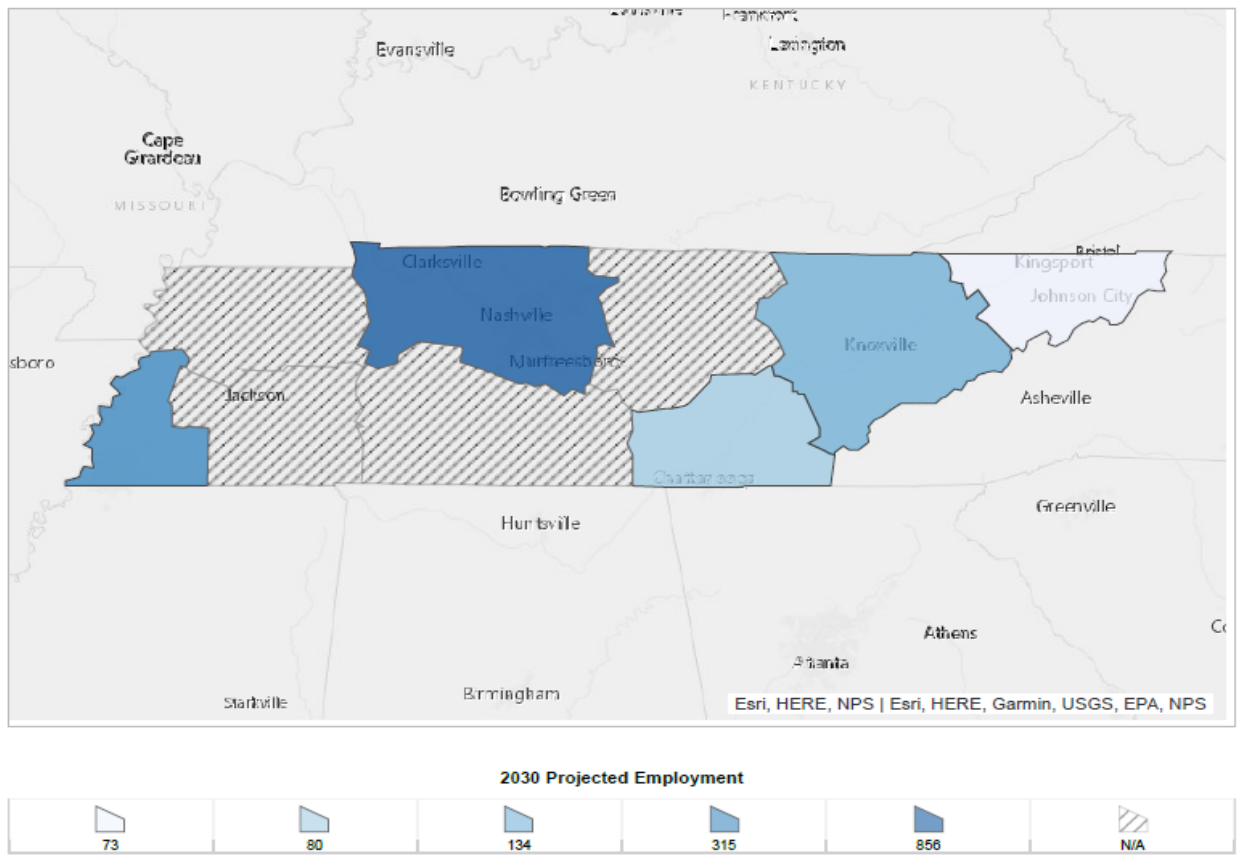
¹⁰ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

¹¹ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

Occupation	SOC Code	Employment (2020)	Projected Employment (2030)	Projected Growth (2020-2030)	Projected Annual Job Openings (2020-2030)
Floor Layers, Except Carpet, Wood, and Hard Tiles	47-2042	360	410	14%	40
Merchandise Displayers and Window Trimmers	27-1026	1,930	2,140	11%	200
Tile and Stone Setters	47-2044	340	390	15%	40

Figure 2. 2030 projected employment for Interior Designers in Tennessee.⁶

The map below shows the distribution of the 2030 projected employment for Interior Designers in Tennessee by local workforce development areas.



Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

Program of Study Level

TISA provides direct funding for student participation in CTE programs to drive college and career readiness outcomes. Pursuant to T.C.A. § 49-3-105(c)(2), a direct allocation amount will be generated for each student membership in a CTE program based on the rule:

1. The level of the program
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2. The student progression in coursework through the program

*The state budget keeps all programs funded at \$5,000 for the 2024-25 school year funding. See the [CTE TISA Programs of Study Leveling Guide 2024-25](#) for the TISA funding formula for program of study levels.

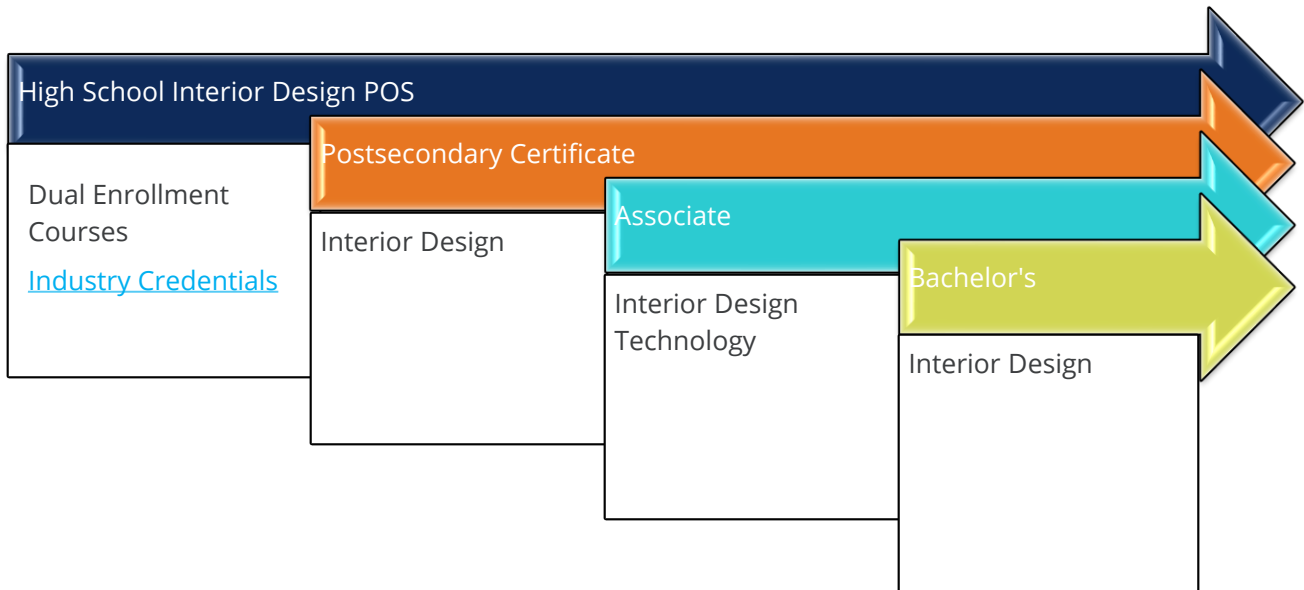
Interior Design Program: Level 1

Postsecondary Opportunities

The Interior Design pathway offers opportunities to funnel students into careers at a variety of education levels. Industry credentials earned in high school and classroom instruction can lead to employment immediately after high school. Some private online vendors offer a certificate program in Interior Design. As shown in the table below, the wage level increases with the certificate. Community colleges in Tennessee offer associate degrees that continue to increase wage-earning potential. Pellissippi State offers an associate degree for this program. Advanced training at the bachelor's level opens even more doors for students for better prospects in higher-wage occupations. Middle Tennessee State University (MTSU) and the University of Tennessee at Knoxville offer bachelor's degrees for this program.

Figure 3 illustrates what opportunities are available for a student graduating from a Tennessee Interior Design program in high school. The figure outlines some of the related postsecondary certificates and degrees, career opportunities, and salaries available to students in the pathway. Students may acquire hours transferable to a postsecondary institution for the completion of certificates and degrees.

Figure 3. Outlines the related career opportunities and training necessary for each program of study. Students may acquire hours transferable to a postsecondary institution for the completion of a degree.



Additional opportunities are offered at multiple postsecondary institutions as indicated in the [Tennessee Department of Labor and Workforce Dashboard](#).

High School Diploma	Certificate	Associate	Bachelor's
<ul style="list-style-type: none"> •Merchandise Displayers and Window Trimmers (\$31,362) •Carpet Installers (\$31,245) 	<ul style="list-style-type: none"> •Entry Level Interior Designers (\$34,016) •Set Ad Exhibit Designers (\$59,990) 	<ul style="list-style-type: none"> •Interior Designers (\$49,764) •Mechanical Drafters (\$61,310) 	<ul style="list-style-type: none"> •Commercial and Industrial Designers (\$59,089) •Architects (\$78,374)

Current Secondary Landscape

Over the past three years, the number of schools offering Interior Design has remained small but steady. In 2022-23, 835 students were enrolled in Interior Design courses which was approximately the same as previous years. This program may not be appropriate for schools that do not have the supporting labor market data. The figures below show the open enrollment analysis for the 2020-21 through the 2022-23 school year and the course enrollment in the Interior Design program.

Figure 42. Open Enrollment Analysis

School Year	Schools Offering Interior Design
2020-21	7
2021-22	6
2022-23	6

Figure 5. Student Enrollment by Course

School Year	Foundations of Interior Design	Residential Interior Design	Commercial Interior Design	Advanced Interior Design
2020-21	556	217	54	14
2021-22	647	144	82	8
2022-23	594	141	72	28

Mechanical, Electrical, and Plumbing (MEP) Systems

2023-24 Program of Study	Year 1	Year 2	Year 3	Year 4
Mechanical, Electrical, & Plumbing (MEP) Systems	Fundamentals of Construction (C17H15)	Mechanical, Electrical, & Plumbing Systems (C17H23)	HVAC (C17H17) -or- Electrical Systems (C17H16) -or- Plumbing Systems (C17H18) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems I (C17H03) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems II (C17H30)	Construction Practicum (C17H22) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems III (C17H39) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems IV (C17H40) -or- WBL Mechanical, Electrical, & Plumbing (MEP) Systems Career Practicum(C17H46)

Description

The *Mechanical, Electrical, and Plumbing (MEP) Systems* POS prepares students to install, service, and maintain building equipment. Course content is arranged around four sequenced, progressive courses that provide students with the opportunity to understand the principles behind mechanical, electrical, and plumbing systems to apply basic installation skills and to safely use and maintain appropriate tools, equipment, and resources to accomplish project goals. The MEP Systems course introduces students to the physical principles involved with these systems and the fundamental skills needed to work with them. In the third year, students can specialize in a particular craft, electrical, plumbing, or HVAC/R, and earn an industry credential specific to the craft. Students will develop diagnostic and problem-solving skills to troubleshoot procedures when solving a maintenance problem in buildings and to plan and practice preventative maintenance activities to service existing buildings. Industry-specific business concepts and skills such as cost estimating, scheduling practices, and project management are included in the program of study.

Electricians, plumbers, and heating, ventilation, and air-conditioning (HVAC) technicians perform a wide variety of construction, installation, and service tasks. Electricians install, maintain, and repair electrical power, communications, lighting, and control systems. Plumbers install, maintain, and repair pipes, valves,

fittings, drainage systems, and fixtures. HVAC technicians install, maintain, and repair ventilation and air-conditioning systems and equipment. All this work can occur in either commercial or residential buildings.

This program is aligned with the [SkillsUSA](#) CTSO.

Job Outlook

Job demand in the mechanical, electrical, and plumbing trades is strong. Construction and manufacturing continue to boom in Tennessee. This is expected to continue as current companies expand and new companies come to the state. Both residential and commercial construction are expected to remain active. There are many opportunities for career advancement for electricians, HVAC technicians, and plumbers. The continual growth of construction combined with the number of workers retiring ensures that these will remain high-demand occupations.

As seen in Figure 1, the demand for all occupations related to Mechanical, Electrical, and Plumbing Systems continues to grow. According to the Bureau of Labor Statistics, jobs for Electricians in Tennessee are projected to grow 17 percent from 2020 to 2030¹², much faster than the average for all occupations. The Supply and Demand Report lists Heating, Air-Conditioning, and Refrigeration Mechanics and Installers as an occupation in demand in nine of the state's regions¹³. In Demand Occupations for 2026 designates Heating, Air-Conditioning, and Refrigeration Mechanics and Installers as one of the fastest-growing occupations in Tennessee¹⁴. Demand for Plumbers, Pipefitters, and Steamfitters is projected to grow 11 percent from 2020 to 2030¹⁵. Over 1,000 openings for First-Line Supervisors in Construction areas are projected each year through 2030¹⁶. Many of these openings are expected as a result of the need to replace workers who retire from the workforce.

¹² Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

¹³ Tennessee Higher Education Commission, Supply and Demand Report, Retrieved March 1, 2024, from <https://www.tn.gov/thec/research/supply-and-demand.html>

¹⁴ Tennessee Department of Labor & Workforce Development, JOBS4TN, Tennessee's In Demand Occupations to 2026, Retrieved February 12, 2024 from <https://www.tn.gov/content/dam/tn/workforce/documents/jobs-and-education/InDemandOccupationsto2026.pdf>

¹⁵ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

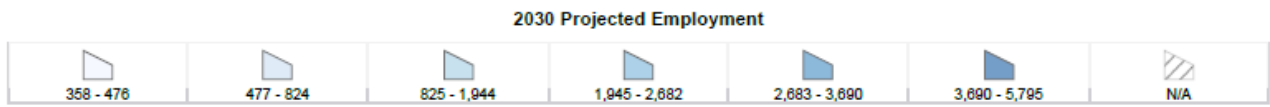
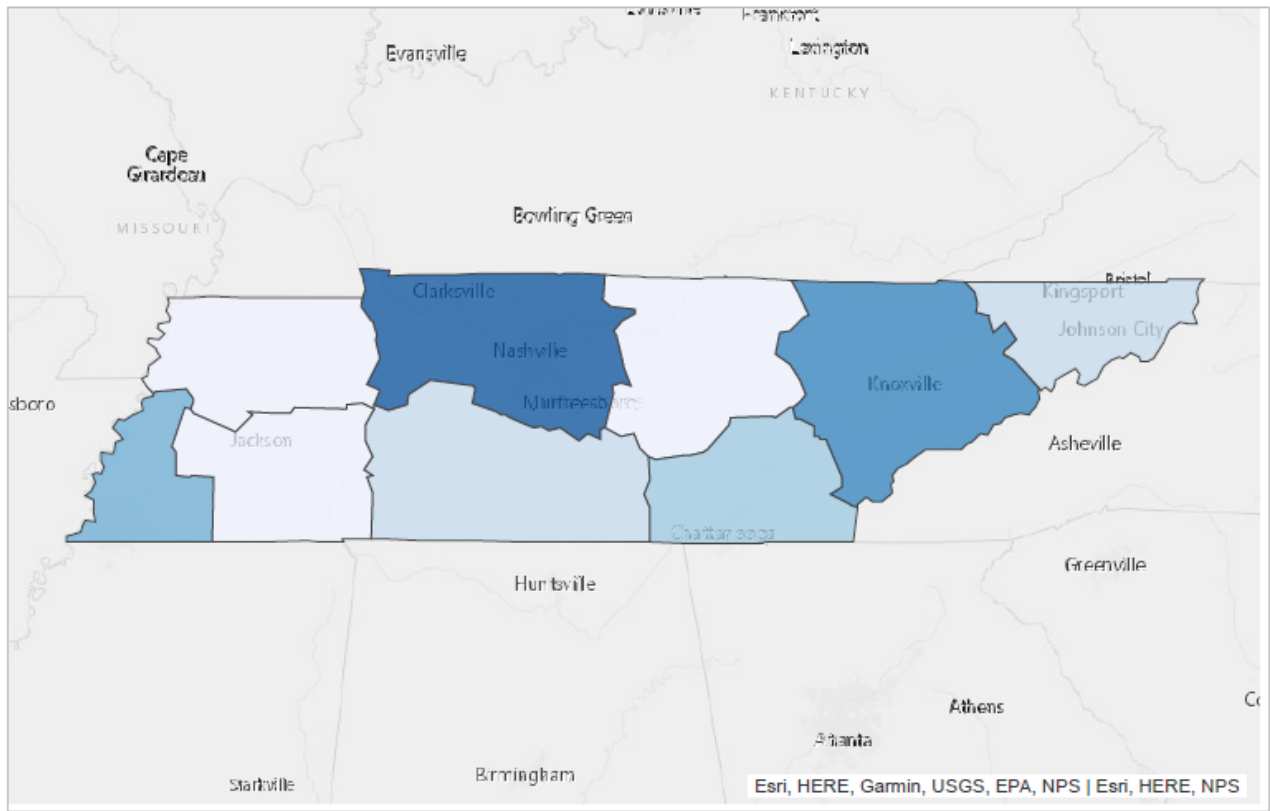
¹⁶ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

Figure 1. Tennessee employment projections for Mechanical, Electrical, and Plumbing occupations with positive job openings projected for 2020-2030 according to the Tennessee Higher Education Commission, [Supply and Demand Report](#).¹³

Occupation	SOC Code	Employment (2020)	Projected Employment (2030)	Projected Growth (2020-2030)	Projected Annual Job Openings (2020-2030)
Heating, Air-Conditioning, and Refrigeration Mechanics and Installers	49-9021	9,230	10,310	12%	1,030
Electricians	47-2111	13,790	16,140	17%	1,770
First-Line Supervisors of Mechanics, Installers, and Repairers	49-1011	9,410	10,720	14%	1,020
First-Line Supervisor on Construction	47-1011	11,720	13,220	13%	1,310
Maintenance and Repair Workers, General	49-9071	28,240	33,130	17%	3,360
Construction Laborers	47-2061	24,230	28,390	17%	2,970
Production Workers	51-9199	18,210	22,280	22%	2,600
First-Line Supervisors of Production and Operating Workers	51-1011	18,620	21,500	16%	2,240
Construction Managers	11-9021	10,070	11,940	19%	970
Installation, Maintenance, and Repair Workers	49-9099	7,100	8,290	17%	900

Figure 2. 2030 projected employment for Electricians in Tennessee.⁶

The map below shows the distribution of the 2030 projected employment for Electricians in Tennessee by local workforce development areas.



Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

Program of Study Level

TISA provides direct funding for student participation in CTE programs to drive college and career readiness outcomes. Pursuant to T.C.A. § 49-3-105(c)(2), a direct allocation amount will be generated for each student membership in a CTE program based on the rule:

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2. The student progression in coursework through the program

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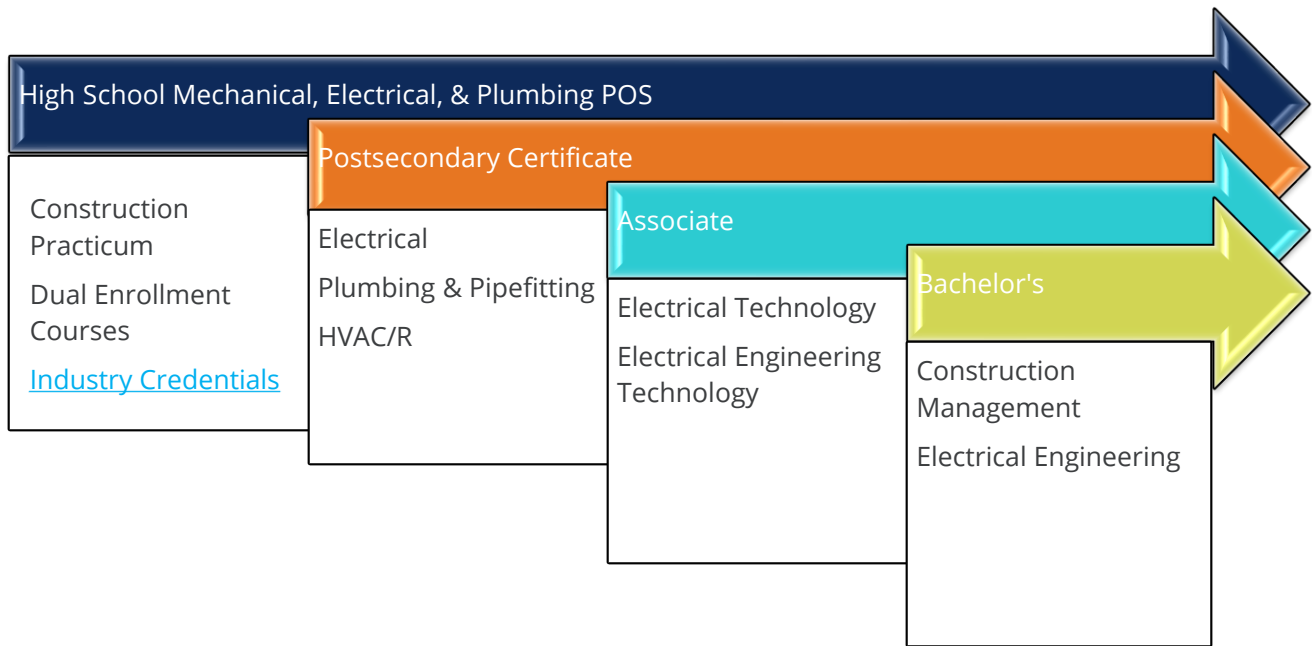
Mechanical, Electrical, and Plumbing (MEP) Systems Program: Level 2

Postsecondary Opportunities

The Mechanical, Electrical, and Plumbing (MEP) System pathway offers opportunities to funnel students into careers at a variety of education levels. Industry credentials earned in high school and work experience through practicum courses can lead to employment immediately after high school. There are early postsecondary opportunities at the high school level that lead to certificate programs at the state's network of Tennessee Colleges for Advanced Technology (TCATs). As shown in the table below, the wage level increase with a certificate from a TCAT is significant. Community colleges in Tennessee offer a variety of associate-level degrees that continue to increase wage-earning potential. Northeast State, Chattanooga State, Nashville State, and Southwest TN offer associate-level degrees for this program. Advanced training at the bachelor's level opens even more doors for students for better prospects in higher-wage construction and management occupations. Middle Tennessee State University (MTSU) and the University of Tennessee at Chattanooga offer bachelor's degrees for this program.

Figure 3 illustrates which opportunities are available for a student graduating from a Tennessee Mechanical, Electrical, and Plumbing Systems program in high school. The figure outlines some of the related postsecondary certificates and degrees, career opportunities, and salaries available to students in the pathway. Students may acquire hours transferable to a postsecondary institution for the completion of certificates and degrees.

Figure 3. Outlines the related career opportunities and training necessary for each program of study. Students may acquire hours transferable to a postsecondary institution for the completion of a degree.



Additional opportunities are offered at multiple postsecondary institutions as indicated in the [Tennessee Department of Labor and Workforce Dashboard](#).

High School Diploma	Certificate	Associate	Bachelor's
<ul style="list-style-type: none"> Maintenance and Repair Workers (\$39,847) Construction Laborers (\$37,567) 	<ul style="list-style-type: none"> Electricians (\$53,134) Plumbers, Pipefitters, and Steamfitters (\$60,090) 	<ul style="list-style-type: none"> First-Line Supervisors of Construction (\$62,200) Construction and Building Inspectors (\$64,480) 	<ul style="list-style-type: none"> Construction Managers (\$80,628) Civil Engineers (\$89,940)

Current Secondary Landscape

Over the past three years, the number of schools offering Mechanical, Electrical, and Plumbing (MEP) Systems has increased from 47 to 56. In 2022-23, 8,273 students were enrolled in Mechanical, Electrical, and Plumbing (MEP) Systems courses which was an increase from previous years. This program may not be appropriate for schools that do not have the supporting labor market data. The figures below show the open enrollment analysis for the 2020-21 through the 2022-23 school year and the course enrollment in the Mechanical, Electrical, and Plumbing (MEP) Systems program.

Figure 43. Open Enrollment Analysis

School Year	Schools Offering Mechanical, Electrical, and Plumbing (MEP) Systems
2020-21	47
2021-22	42
2022-23	56

Figure 5. Student Enrollment by Course

School Year	Fundamentals of Construction	Mechanical, Electrical, and Plumbing Systems	Electrical Systems	HVAC	Plumbing Systems	Dual Enrollment Courses
2020-21	5,374	817	389	186	70	279
2021-22	5,724	920	364	229	115	419
2022-23	5,912	1,174	308	248	72	559

Residential and Commercial Construction

2023-24 Program of Study	Year 1	Year 2	Year 3	Year 4
Residential & Commercial Construction	Fundamentals of Construction (C17H15)	Residential & Commercial Construction I (C17H24)	Residential & Commercial Construction II (C17H25) -or- Dual Enrollment Residential & Commercial Construction I (C17H01) -or- Dual Enrollment Residential & Commercial Construction II (C17H31)	Construction Practicum (C17H22) -or- Dual Enrollment Residential & Commercial Construction III (C17H33) -or- Dual Enrollment Residential & Commercial Construction IV (C17H34) -or- WBL Residential & Commercial Construction Career Practicum (C17H47)

Description

The *Residential and Commercial Construction* POS prepares students for the various disciplines of construction. Course content is arranged around three sequenced, progressive courses that provide students with the opportunity to develop a holistic understanding of the building systems and components required for a construction project. Students will be able to interpret construction drawings, perform basic math skills, demonstrate the construction crafts required for each phase of a construction project, including carpentry, concrete, masonry, electricity, plumbing, and HVAC, and safely use and maintain appropriate tools, equipment, and resources to accomplish construction project goals. Course content covers industry-specific business concepts and skills, such as cost estimation, relationships among parties involved in the building process, testing and inspection procedures, scheduling practices, and project management.

Residential and commercial construction covers a wide variety of trades. Cement masons place and finish concrete in sidewalks, columns, beams, and other surfaces. Brick masons build walls, walkways, fences, roads, and other structures using bricks combined with other materials. Roofers build new roofs, inspect roofs for damages, repair roofs, and transport the materials needed in roofing. Construction laborers

perform physical tasks such as cleaning, removing debris, loading, and unloading materials, digging ditches, and other tasks.

This program is aligned with the [SkillsUSA](#) CTSO.

Job Outlook

Job demand in the construction occupations is strong. Construction and manufacturing continue to boom in Tennessee. This is expected to continue as current companies expand and new companies come to the state. Both residential and commercial construction are expected to remain active. There are many opportunities for career advancement for workers in the construction industry. The continual growth of construction combined with the number of workers retiring ensures that construction will remain a high-demand occupation.

As seen in Figure 1, the demand for all occupations related to Residential and Commercial Construction continues to grow. According to the Bureau of Labor Statistics, jobs for Construction Laborers in Tennessee are projected to grow 17 percent from 2020 to 2030¹⁷, much faster than the average for all occupations. The Supply and Demand Report lists Operating Engineers and Other Construction Equipment Operators as an occupation in demand in nine of the state's regions¹⁸. Demand for Electricians is projected to grow 7 percent from 2020 to 2030¹⁹. Demand for Operating Engineers and Other Construction Equipment Operators is projected to grow 16 percent from 2020 to 2030²⁰. Over 1,000 openings for First-Line Supervisors in Construction areas are projected each year through 2030²¹. Many of these openings are expected as a result of the need to replace workers who retire from the workforce.

¹⁷ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

¹⁸ Tennessee Higher Education Commission, Supply and Demand Report, Retrieved March 1, 2024, from <https://www.tn.gov/thec/research/supply-and-demand.html>

¹⁹ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

²⁰ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

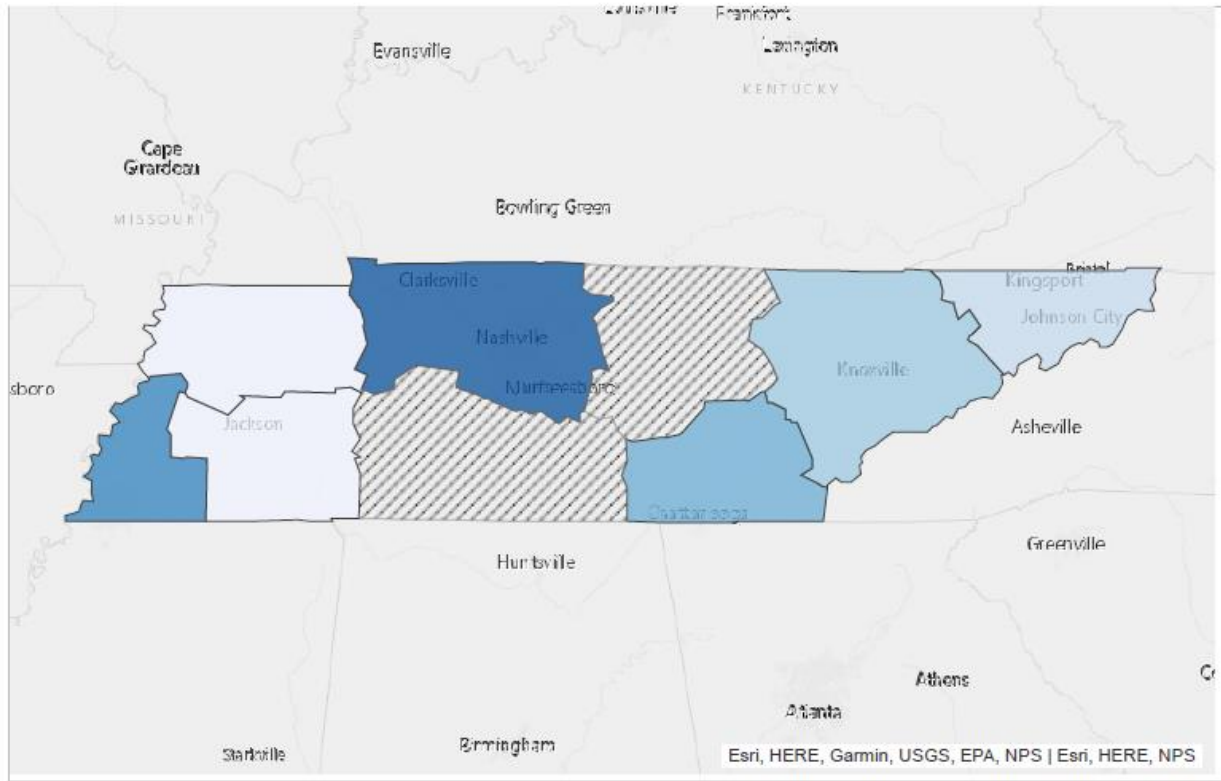
²¹ Bureau of Labor Statistics, U.S. Department of Labor, O*NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

Figure 1. Tennessee employment projections for Residential and Commercial Construction related occupations with positive job openings projected for 2020-2030 according to the Tennessee Higher Education Commission, [Supply and Demand Report](#).¹⁸

Occupation	SOC Code	Employment (2020)	Projected Employment (2030)	Projected Growth (2020-2030)	Projected Annual Job Openings (2020-2030)
Carpenters	47-2031	11,420	12,750	12%	1,240
Construction Laborers	47-2061	24,230	28,390	17%	2,970
First-Line Supervisor on Construction	47-1011	11,720	13,220	13%	1,310
Operating Engineers and Other Construction Equipment Operators	47-2073	6,750	7,830	16%	870
Painters, Construction and Maintenance	47-2141	5,310	5,830	10%	530
Electricians	47-2111	13,790	16,140	17%	1,770
Construction Managers	11-9021	10,070	11,940	19%	970
First-Line Supervisors of Mechanics, Installers, and Repairers	49-1011	9,410	10,720	14%	1,020
Plumbers, Pipefitters, and Steamfitters	47-2152	7,220	7,990	11%	850
Sheet Metal Workers	47-2211	3,210	3,550	11%	350

Figure 2. 2030 projected employment for Cement Masons and Concrete Finishers in Tennessee.⁶

The map below shows the distribution of the 2030 projected employment for Cement Masons and Concrete Finishers in Tennessee by local workforce development areas.



Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

Program of Study Level

TISA provides direct funding for student participation in CTE programs to drive college and career readiness outcomes. Pursuant to T.C.A. § 49-3-105(c)(2), a direct allocation amount will be generated for each student membership in a CTE program based on the rule:

1. The level of the program
 - Programs shall be designated into one (1) of three (3) levels.
 - Programs will be classified into three (3) levels based on alignment to wage-earning potential indicators and additional resources required to support the program if aligned to wage-earning potential occupational pathways.
2. The student progression in coursework through the program

*The state budget keeps all programs funded at \$5,000 for the 2024-25 school year funding. See the [CTE TISA Programs of Study Leveling Guide 2024-25](#) for the TISA funding formula for program of study levels.

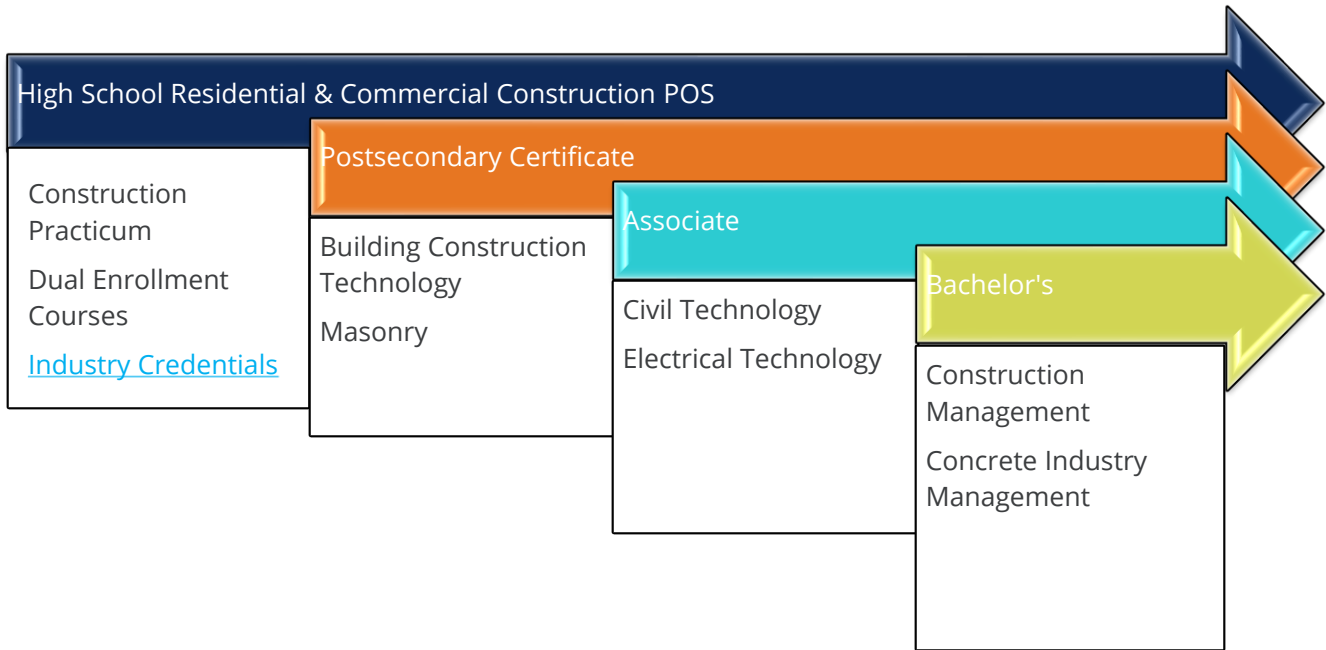
Residential and Commercial Construction Program: Level 2

Postsecondary Opportunities

The Residential and Commercial Construction pathway offers opportunities to funnel students into careers at a variety of education levels. Industry credentials earned in high school and work experience through practicum courses can lead to employment immediately after high school. There are early postsecondary opportunities at the high school level that lead to certificate programs at the state's network of Tennessee Colleges for Advanced Technology (TCATs). As shown in the table below, the wage level increase with a certificate from a TCAT is significant. Community colleges in Tennessee offer a variety of associate-level degrees that continue to increase wage-earning potential. Cleveland State, Northeast State, and Chattanooga State offer associate-level degrees for this program. Advanced training at the bachelor's level opens even more doors for students for better prospects in higher-wage construction and management occupations. Middle Tennessee State University (MTSU) and the University of Tennessee at Chattanooga offer bachelor's degrees for this program.

Figure 3 below illustrates which opportunities are available for a student graduating from a Tennessee Residential and Commercial Construction program in high school. The figure outlines some of the related postsecondary certificates and degrees, career opportunities, and salaries available to students in the pathway. Students may acquire hours transferable to a postsecondary institution for the completion of certificates and degrees.

Figure 3. Outlines the related career opportunities and training necessary for each program of study. Students may acquire hours transferable to a postsecondary institution for the completion of a degree.



Additional opportunities are offered at multiple postsecondary institutions as indicated in the [Tennessee Department of Labor and Workforce Dashboard](#).

High School Diploma	Certificate	Associate	Bachelor's
<ul style="list-style-type: none"> • Construction Laborers (\$37,567) • Maintenance and Repair Workers (\$37,567) 	<ul style="list-style-type: none"> • Carpenters (\$46,406) • Plumbers, Pipefitters, and Steamfitters (\$60,090) 	<ul style="list-style-type: none"> • First-Line Supervisors of Construction (\$62,200) • Construction and Building Inspectors (\$64,480) 	<ul style="list-style-type: none"> • Construction Managers (\$80,628) • Civil Engineers (\$89,940)

Current Secondary Landscape

Over the past three years, the number of schools offering Residential and Commercial Construction has remained steady. In 2022-23, 9,051 students were enrolled in Residential and Commercial Construction courses which was an increase from previous years. This program may not be appropriate for schools that do not have the supporting labor market data. The figures below show the open enrollment analysis for the 2020-21 through the 2022-23 school year and the course enrollment in the Residential and Commercial Construction program.

Figure 4. Open Enrollment Analysis

School Year	Schools Offering Residential & Commercial Construction
2020-21	67
2021-22	63
2022-23	64

Figure 5. Student Enrollment by Course

School Year	Fundamentals of Construction	Residential & Commercial Construction I	Residential & Commercial Construction II	Construction Practicum	Dual Enrollment Courses
2020-21	5,374	1,531	907	267	385
2021-22	5,724	1,413	825	217	470
2022-23	5,912	1,382	736	255	766

Structural Systems

2023-24 Program of Study	Year 1	Year 2	Year 3	Year 4
Structural Systems	Fundamentals of Construction (C17H15)	Structural Systems I (C17H26)	Structural Systems II (C17H27) -or- Dual Enrollment Structural Systems I (C17H02) -or- Dual Enrollment Structural Systems II (C17H32)	Construction Practicum (C17H22) -or- Dual Enrollment Structural Systems III (C17H43) -or- Dual Enrollment Structural Systems IV (C17H44) -or- WBL Structural Systems Career Practicum(C17H48)

Description

The *Structural Systems* POS prepares students with the knowledge and skills related to residential and commercial carpentry. Course content covers wood, metal, and concrete building materials, fasteners, hand and power tools, fabrication based on construction plans, framing of platform and post-and-beam structures, stairs, structural loads, installation and trim of windows and doors, installation and repair of gypsum wallboard, exterior finish work, cabinet installation, and thermal and moisture protection.

Carpenters are the backbone of the construction industry. Carpenters build walls, floors, roofs, and doorframes. They follow blueprints and building plans to meet the needs of their customers. Carpenters install structures and fixtures such as stairs, windows, cabinets, and molding. They measure, cut, and shape wood, plastic, and other materials. All the work can occur in residential or commercial buildings.

This program is aligned with the [SkillsUSA](#) CTSO.

Job Outlook

Job demand for carpenters is strong. Construction and manufacturing continue to boom in Tennessee. This is expected to continue as current companies expand and new companies come to the state. Both residential and commercial construction are expected to remain active. There are many opportunities for career advancement for carpenters. The continual growth of construction combined with the number of workers retiring ensures that carpentry will remain a high-demand occupation.

As seen in Figure 1, the demand for all occupations related to Structural Systems continues to grow. According to the Bureau of Labor Statistics, jobs for Carpenters in Tennessee are projected to grow 12 percent from 2020 to 2030²², faster than the average for all occupations. The Supply and Demand Report lists Carpenters as an occupation in demand in eight (8) of the state's regions²³. Demand for Painters, Construction, and Maintenance is projected to grow 10 percent from 2020 to 2030²⁴. Demand for Roofers is projected to grow 10 percent from 2020 to 2030²⁵. Over 1000 openings for First-Line Supervisors in Construction areas are projected each year through 2030²⁶. Many of these openings are expected as a result of the need to replace workers who retire from the workforce.

Figure 1. Tennessee employment projections for Structural Systems related occupations with positive job openings projected for 2020-2030 according to the Tennessee Higher Education Commission, [Supply and Demand Report](#).²³

Occupation	SOC Code	Employment (2020)	Projected Employment (2030)	Projected Growth (2020-2030)	Projected Annual Job Openings (2020-2030)
Carpenters	47-2031	11,420	12,750	12%	1,240
Construction Managers	11-9021	10,070	11,940	19%	970
Cement Masons and Concrete Finishers	47-2051	2,990	3,210	7%	300
First-Line Supervisors of Mechanics, Installers, and Repairers	49-1011	9,410	10,720	14%	1,020
Roofers	47-2181	2,810	3,100	10%	310
First-Line Supervisor on Construction	47-1011	11,720	13,220	13%	1,310
Construction Laborers	47-2061	24,230	28,390	17%	2,970

²² Bureau of Labor Statistics, U.S. Department of Labor, O NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

²³ Tennessee Higher Education Commission, Supply and Demand Report, Retrieved March 1, 2024, from <https://www.tn.gov/thec/research/supply-and-demand.html>

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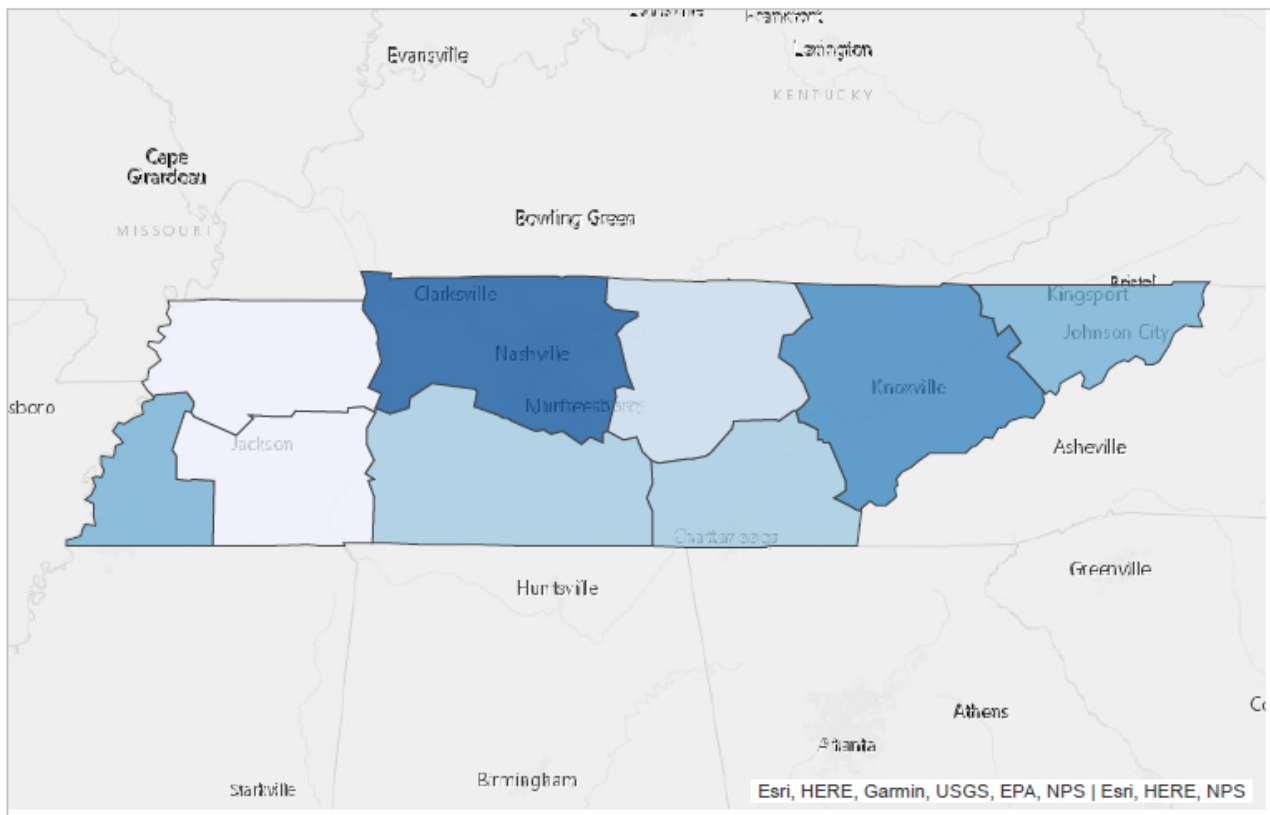
²⁵ Bureau of Labor Statistics, U.S. Department of Labor, O NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

²⁶ Bureau of Labor Statistics, U.S. Department of Labor, O NET Online, Retrieved February 1, 2024, from <https://www.onetonline.org/link/summary/47-2031.00>

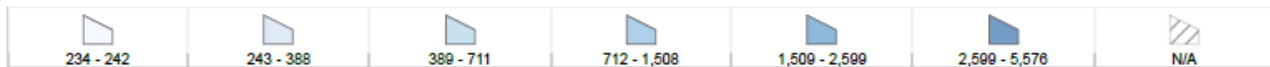
Operating Engineers and Other Construction Equipment Operators	47-2073	6,750	7,830	16%	870
Painters, Construction and Maintenance	47-2141	5,310	5,830	10%	530
Sheet Metal Workers	47-2211	3,210	3,550	11%	350

Figure 2. 2030 Projected Employment for Carpenters in Tennessee.⁶

The map below shows the distribution of the 2030 projected employment for Carpenters in Tennessee by local workforce development areas.



2030 Projected Employment



Source: TN Dept of Labor & Workforce Dev, Div Emp Sec, LMI

Program of Study Level

TISA provides direct funding for student participation in CTE programs to drive college and career readiness outcomes. Pursuant to T.C.A. § 49-3-105(c)(2), a direct allocation amount will be generated for each student membership in a CTE program based on the rule:

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*The state budget keeps all programs funded at \$5,000 for the 2024-25 school year funding. See the [CTE TISA Programs of Study Leveling Guide 2024-25](#) for the TISA funding formula for program of study levels.

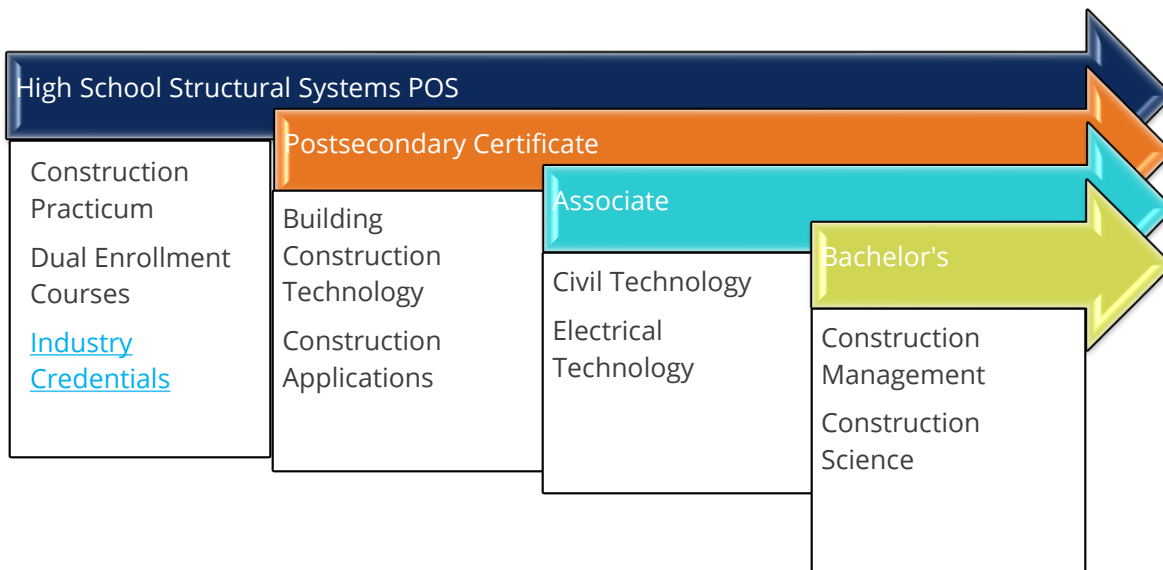
Structural Systems Program: Level 2

Postsecondary Opportunities

The Structural Systems pathway offers opportunities to funnel students into careers at a variety of education levels. Industry credentials earned in high school and work experience through practicum courses can lead to employment immediately after high school. There are early postsecondary opportunities at the high school level that lead to certificate programs at the state's network of Tennessee Colleges for Advanced Technology (TCATs). As shown in the table, the wage level increase with a certificate from a TCAT is significant. Community colleges in Tennessee offer a variety of associate's level degrees that continue to increase wage-earning potential. Cleveland State, Northeast State, and Chattanooga State offer associate-level degrees for this program. Advanced training at the bachelor's level opens even more doors for students for better prospects in higher-wage Construction and management occupations. Middle Tennessee State University (MTSU) and the University of Tennessee at Chattanooga offer bachelor's degrees for this program.

Figure 3 illustrates which opportunities are available for a student graduating from a Tennessee Structural Systems program in high school. The figure outlines some of the related postsecondary certificates and degrees, career opportunities, and salaries available to students in the pathway. Students may acquire hours transferable to a postsecondary institution for the completion of certificates and degrees.

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Additional opportunities are offered at multiple postsecondary institutions as indicated in the [Tennessee Department of Labor and Workforce Dashboard](#).

High School Diploma	Certificate	Associate	Bachelor's
<ul style="list-style-type: none"> • Maintenance and Repair Workers (\$39,847) • Construction Laborers (\$37,567) 	<ul style="list-style-type: none"> • Carpenters (\$46,406) • Roofers (\$47,920) 	<ul style="list-style-type: none"> • First-Line Supervisors of Construction (\$62,200) • Construction and Building Inspectors (\$64,480) 	<ul style="list-style-type: none"> • Construction Managers (\$80,628) • Civil Engineers (\$89,940)

Current Secondary Landscape

Over the past three years, the number of schools offering Structural Systems has slightly decreased. In 2022-23, 8,118 students were enrolled in Structural Systems courses which was an increase from previous years. This program may not be appropriate for schools that do not have the supporting labor market data. The figures below show the open enrollment analysis for the 2020-21 through the 2022-23 school year and the course enrollment in the Structural Systems program.

Figure 45. Open Enrollment Analysis

School Year	Schools Offering Structural Systems
2020-21	49
2021-22	42
2022-23	46

Figure 5. Student Enrollment by Course

School Year	Fundamentals of Construction	Structural Systems I	Structural Systems II	Construction Practicum	Dual Enrollment Courses
2020-21	5,374	1,186	668	267	34
2021-22	5,724	1,157	844	217	47
2022-23	5,912	1,049	599	255	410

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Tennessee Higher Education Commission. Improving the Pipeline for Tennessee's Workforce: Academic Supply for Occupational Demand Report 2024. <https://www.tn.gov/thec/research/supply-and-demand.html>

Recommendations

The following includes recommendations for course standards changes to be presented to the State Board of Education (SBE) for consideration in August 2024.

Program of Study	Course	Recommendations
Architectural & Engineering Design	Architectural & Engineering Design I	<ul style="list-style-type: none"> • Add a standard to highlight the importance of utilizing the engineering design process while working with a team to complete a project. • Add a standard to highlight the importance and integration of CTSOs in the classroom. • Add a standard to emphasize the growing need for data analysis in all career areas. • Add a standard to point out the prominence of Artificial Intelligence.
Interior Design	Foundations of Interior Design	<ul style="list-style-type: none"> • Add a standard to highlight the importance of utilizing the engineering design process while working with a team to complete a project. • Add a standard to highlight the importance and integration of CTSOs in the classroom. • Add a standard to emphasize the growing need for data analysis in all career areas. • Add a standard to point out the prominence of Artificial Intelligence.
<ul style="list-style-type: none"> • Mechanical, Electrical, & Plumbing Systems • Residential & Commercial Construction • Structural Systems 	Fundamentals of Construction	<ul style="list-style-type: none"> • Add a standard to highlight the importance of utilizing the engineering design process while working with a team to complete a project. • Add a standard to highlight the importance and integration of CTSOs in the classroom. • Add a standard to emphasize the growing need for data analysis in all career areas. • Add a standard to point out the prominence of Artificial Intelligence.
Architectural & Engineering Design	Architectural & Engineering Design II	Add a standard to focus on data analysis in Architectural & Engineering Design.

Interior Design	Residential Interior Design	Add a standard to focus on data analysis in Interior Design.
Mechanical, Electrical, & Plumbing Systems	Mechanical, Electrical, & Plumbing Systems	Add a standard to focus on data analysis in Mechanical, Electrical, & Plumbing Systems.
Residential & Commercial Construction	Residential & Commercial Construction I	Add a standard to focus on data analysis in Residential & Commercial Construction.
Structural Systems	Structural Systems I	Add a standard to focus on data analysis in Structural Systems.
Mechanical, Electrical, & Plumbing Systems	Electrical Systems	Add a standard to understand the basics of Programmable Logic Controllers in an electrical system.
Structural Systems	Structural Systems I	Add a standard that covers foundation and concrete work.

2025-26 Recommended Program of Study Guides

Architectural & Engineering Design

2025-26 Program of Study	Year 1	Year 2	Year 3	Year 4
Architectural & Engineering Design	Architectural & Engineering Design I (C17H13)	Architectural & Engineering Design II (C17H14)	Architectural & Engineering Design III (C17H10) -or- Dual Enrollment Architectural & Engineering Design I (C17H04) -or- Dual Enrollment Architectural & Engineering Design II (C17H28)	Engineering Practicum (C21H14) -or- AP Calculus AB (G02H24) -or- AP Calculus BC (G02H25) -or- AP Physics I: Algebra-Based (G03H27) -or- AP Physics II: Algebra-Based (G03H28) -or- AP Physics C: Electricity & Magnetism (G03H24) -or- AP Physics C: Mechanics (G03H29) <or> IB Physics II SL (G03H82) -or- Dual Enrollment Architectural & Engineering Design III (C17H35) -or- Dual Enrollment Architectural & Engineering Design IV (C17H36) -or- Dual Enrollment Architectural &

				<p>Engineering Design V (C17H50)</p> <p>-or-</p> <p>Dual Enrollment Architectural & Engineering Design VI (C17H51)</p> <p>-or-</p> <p>Dual Enrollment Architectural & Engineering Design VII (C17H352)</p> <p>-or-</p> <p>Dual Enrollment Architectural & Engineering Design VIII (C17H53)</p> <p>-or-</p> <p>Dual Enrollment Architectural & Engineering Design IX (C17H54)</p> <p>-or-</p> <p>Dual Enrollment Architectural & Engineering Design X (C17H55)</p> <p>-or>-</p> <p>WBL Architectural & Engineering Design Career Practicum (C17H45)</p>
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Interior Design

2025-26 Program of Study	Year 1	Year 2	Year 3	Year 4
<p>Interior Design</p>	<p>Foundations of Interior Design (C17H12)</p>	<p>Residential Interior Design (C17H11)</p>	<p>Commercial Interior Design (C17H20) -or- Dual Enrollment Interior Design I (C17H05) -or- Dual Enrollment Interior Design II (C17H29)</p>	<p>Advanced Interior Design (C17H19) -or- Dual Enrollment Interior Design III (C17H37) -or- Dual Enrollment Interior Design IV (C17H38) -or- Dual Enrollment Interior Design V (C17H56) -or- Dual Enrollment Interior Design VI (C17H57) -or- Dual Enrollment Interior Design VII (C17H58) -or- Dual Enrollment Interior Design VIII (C17H59) -or- Dual Enrollment Interior Design IX (C17H60) -or- Dual Enrollment Interior Design X (C17H61) -or- WBL Interior Design Career Practicum (C17H49)</p>

Mechanical, Electrical, & Plumbing (MEP) Systems

2025-26 Program of Study	Year 1	Year 2	Year 3	Year 4
<p>Mechanical, Electrical, & Plumbing (MEP) Systems</p>	<p>Fundamentals of Construction (C17H15)</p>	<p>Mechanical, Electrical, & Plumbing Systems (C17H23)</p>	<p>HVAC (C17H17) -or- Electrical Systems (C17H16) -or- Plumbing Systems (C17H18) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems I (C17H03) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems II (C17H30)</p>	<p>Construction Practicum (C17H22) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems III (C17H39) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems IV (C17H40) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems V (C17H62) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems VI (C17H63) <or> Dual Enrollment Mechanical, Electrical, & Plumbing Systems VII (C17H64) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems VIII (C17H65) -or- Dual Enrollment Mechanical, Electrical, &</p>

				Plumbing Systems IX (C17H66) -or- Dual Enrollment Mechanical, Electrical, & Plumbing Systems X (C17H67) -or- WBL Mechanical, Electrical, & Plumbing (MEP) Systems Career Practicum (C17H46)
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Residential & Commercial Construction

2025-26				
Program of Study	Year 1	Year 2	Year 3	Year 4
Residential & Commercial Construction	Fundamentals of Construction (C17H15)	Residential & Commercial Construction I (C17H24)	Residential & Commercial Construction II (C17H25) -or- Dual Enrollment Residential & Commercial Construction I (C17H01) -or- Dual Enrollment Residential & Commercial Construction II (C17H31)	Construction Practicum (C17H22) -or- Dual Enrollment Residential & Commercial Construction III (C17H33) -or- Dual Enrollment Residential & Commercial Construction IV (C17H34) -or- Dual Enrollment Residential & Commercial Construction V (C17H68) -or- Dual Enrollment Residential & Commercial

				<p>Construction VI (C17H69) -or- Dual Enrollment Residential & Commercial Construction VII (C17H70) -or- Dual Enrollment Residential & Commercial Construction VIII (C17H71) -or- Dual Enrollment Residential & Commercial Construction IX (C17H72) -or- Dual Enrollment Residential & Commercial Construction X (C17H73) -or- WBL Residential & Commercial Construction Career Practicum (C17H47)</p>
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Structural Systems

2025-26 Program of Study	Year 1	Year 2	Year 3	Year 4
<p>Structural Systems</p>	<p>Fundamentals of Construction (C17H15)</p>	<p>Structural Systems I (C17H26)</p>	<p>Structural Systems II (C17H27) -or- Dual Enrollment Structural Systems I (C17H02) -or- Dual Enrollment Structural Systems II (C17H32)</p>	<p>Construction Practicum (C17H22) -or- Dual Enrollment Structural Systems III (C17H43) -or- Dual Enrollment Structural Systems IV (C17H44) -or- Dual Enrollment Structural Systems V (C17H74) -or- Dual Enrollment Structural Systems VI (C17H75) -or- Dual Enrollment Structural Systems VII (C17H76) -or- Dual Enrollment Structural Systems VIII (C17H77) -or- Dual Enrollment Structural Systems IX (C17H78) -or- Dual Enrollment Structural Systems X (C17H79) -or- WBL Structural Systems Career Practicum(C17H48)</p>

In 2025-26, students will have the option to add courses from the Business, Marketing, and Digital Technology programs to supplement their learning.