

Architecture & Construction Cluster

Construction Pathway - The Construction Pathway is a portal for students to pass through where they can select the occupation(s) within the construction industry that they would like to pursue. Students will have opportunities to gain entry-level skills in the carpentry, masonry, electrical trades, HVAC, plumbing, heavy equipment and other related occupations available to them in the construction industries.

Residential HVAC Installer - This career major is an introduction to air-conditioning and refrigeration, exploring career opportunities in the HVAC/R industry.

Plumbing Installer - This career major is an introduction to the plumbing trade, safety practices, tools and equipment and the responsibilities of a person working in the construction industry.

Residential Electricians Assistant - This career major will introduce students to the safety practices, use of hand and power tools/equipment and electrical theory related to the electrical industry.

Air Distribution Fabricator/Installer - This career major is an introduction to the sheet metal trade, use of power and hand tools, layout tools, cutting, bending, and forming tools and equipment. Personal safety and equipment maintenance are also covered in this course.

Cabinetmaker - This career major is an introduction to the safety practices, tool and equipment, trade related math, blueprint reading and job opportunities in the cabinetmaking industry.

Brick Mason - This career major is an introduction to the masonry materials and processes used in the masonry industry, safety, uses of brick and blocks, mortar mixing techniques, and laying masonry units.

Advanced Frame Carpenter - This career major is designed at a higher level to train students in skills required to enter the carpentry industry with skills above the beginning carpenter. Students will be trained in site layout, use of related power equipment and supervision of a construction crew.

Frame Carpenter - This career major will introduce students to the basic skills of a carpenter, safety practices and carpentry tools and equipment uses/operations.

Concrete Mason - This career major will introduce students to the basic skills of a Concrete Mason, safety practices and concrete masonry tools and equipment uses/operations.

Commercial HVAC Installer - This career major will introduce students to the basic skills of a Commercial HVAC Installer, safety practices and HVAC tools and equipment uses/operations.

Security and Alarm System Technician - This career major will introduce students to the skills required of a Security and Alarm Systems Technician, safety practices and security and alarm systems tools and equipment uses/operations.

Commercial Electricians Assistant - This career major will introduce students to the skills required of a Commercial Electricians Assistant, safety practices and commercial electrician's tools and equipment uses/operations.

Industrial Electricians Assistant - This career major will introduce students to the skills required of an Industrial Electricians Assistant, safety practices and industrial electricians tools and equipment uses/operations.

Construction Welder - This career major will introduce students to the skills required of a Construction Welder, safety practices and welding tools and equipment uses/operations.

Form Carpenter - This career major will introduce students to the skills required of a Form Carpenter, safety practices and carpentry and concrete masonry tools and equipment uses/operations.

Construction Workforce Transition - This career major will be use for all ICE (Individualized Cooperative Education) programs to build their training outline.

Home Technology Integrator (Construction Emphasis) - Home Technology Integrators design, install, configure, troubleshoot and repair complex residential and light commercial systems. The systems they are responsible for include audio-visual storage, distribution and presentation; automation of lighting, appliances, irrigation, and environmental control systems; and monitoring of smoke, fire, and intruder detection systems.

Lead Carpenter - This career major will introduce students to the skills required of a Lead Carpenter, safety practices and carpentry tools and equipment uses/operations. Students will be instructed in the skills of estimating materials, blueprint reading, managing a job and conducting job interviews.

Heavy Equipment Operator - This career major will introduce students to the safe practices, tools and equipment and skills required to become a heavy equipment operator.

Interior Surfaces Technician - Students will be instructed in the safety, tools and equipment usage, installation procedures, design and maintenance of natural and man made surfaces.

Stone Mason - This course is an introduction to the stone masonry industry. Students will be able to estimate materials, use stone masonry hand and power tools, erect scaffolding, layout various stone patterns, work with manmade and natural stone, mix mortar, select the appropriate PPE (Personal Protection Equipment) for cleaning and maintaining stone construction.

Advanced Brick Mason - This course will introduce students to skills required at a higher level than the basic brick mason. Students will be required to work with site layout equipment, special construction drawings, tools and equipment and skills required in the commercial brick masonry industry.

TechConnect Architecture and Construction Experience - This career major is designed for the second tier of Technology Education to introduce 9th and 10th grade Technology Education students to the varied trades available to them in the construction industry. Students will be instructed in the safe operations of tools and equipment math, basic plan reading related to the carpentry, masonry, electrical trades and plumbing trades.

Finish Carpenter - This course will introduce students to the skills required in the installation of trim, mantels, shelving, molding and ornamental wood in the structure they are working in.

Structural Carpenter - Students completing this career major will meet the NCCER requirements for a NCCER Level I certification. Students will be instructed in the safe practices, tools and equipment and skills required to enter the carpentry industry.

Residential Construction Technician - Students enrolled in this career major will be introduced to skills in four areas. The areas of instruction are carpentry, HVAC, plumbing and basic wiring. Students will be using the NCCER curriculum, which will permit all of the student's accomplishments to be recorded in a national database accessible by industry.

Construction and Architectural Design Academy - This career major is an introduction to construction and architectural design industries. Students will experience skills required by a carpenter, plumber, electrician, brick mason and CAD drafter. This training will begin in the tenth grade and during the 12th grade; students will be able to specialize in the occupational area they have selected. This career major is currently offered in the Tulsa Technology TC and Sand Springs HS systems.