Spring Branch ISD CTE

Architecture & Construction

Architectural Design

Architectural Design at the Guthrie Center allows you to explore the many opportunities available in the field of architecture. Industry standard programs used in the architectural profession including AutoCAD, Revit, Photoshop, and SketchUp are embedded throughout the program.

Journey through the process of architectural design via personalized projects and participate in Houston-area contests where you will network with practicing architects. Finish at Guthrie with a strong portfolio that can be used for admission to highly competitive schools.

Do You...

- Ever marvel at how skyscrapers, sports venues, or homes are designed and built?
- Like building models?
- Like working with your hands?
- Want to learn how to use tools for home improvement?
- Admire the floor plans and structure of buildings?
- Hope to own your own contracting business one day?

Construction Technology

The Construction Technology program is the gateway to a career in multiple construction fields. Students will learn safety procedures, how to use hand and power tools, and how to read construction drawings and materials needed for projects. This program allows students to create projects while gaining skills in project management.

Students have the opportunity to earn the NCCER (National Center for Construction Education and Research) Core certification in this pathway, which allows entry to the workforce upon graduation.

Electrical Technician

The Electrical Tech program at the Guthrie Center is an outstanding way for students to get a solid head start in the high-demand, high skill field of electrical work. Students will take classes at Guthrie and earn dual credit hours from Houston Community College. Upon graduation, students will earn their Commercial Electrical Technology Certificate from HCC, and can move immediately into a full-time, paid electrical apprenticeship program.

Endorsement:
Business & Industry

Student Organization

SkillsUSA TEXAS

Notice of Non-Discrimination

Architecture and Construction
Programs of Study

Electrical Technician

Level 1 & 2: Grades 9 - 10	9th Grade: Complete HS Requirements 10 Grade: Principles of Construction (See Level 1; Construction Technology)
Level 3: Grade 11	Electrical Technology I and Project-Based Learning Students learn how to work with hand and power tools safely and efficiently, understand the fundamentals of electrical theory, read, and interpret basic National Electrical Code regulations, understand simple electrical schematics and blueprints, install MC cable and wire field devices, troubleshoot, and alleviate wiring problems in electrical systems. Level 1 Certificate: HCC Commercial Electrical Technology
Level 4: Grade 12	Electrical Technology II *Students will dive deeper into electrical concepts and installations, safely use hand and power tools, learn to navigate and understand the National Electrical Code book, install electrical services and overcurrent devices, install conduit racks and bend/install conduit, pull wire through conduit and terminate devices and panels, and install overhead and Exit lighting.* ***Level 1 Certificate: HCC Commercial Electrical Technology***

Construction Technology

Level 1: Grades 9 - 10	Principles of Construction *Students learn construction safety, mathematics, drawings as well as common hand and power tools used in general maintenance of residential and commercial property.* ***IBC: NCCER Core***
Level 2: Grades 10 - 12	Construction Technology I *Students gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, supervisors, or to prepare for a postsecondary degree in construction management, architecture, or engineering.*
Level 3: Grades 11 - 12	Construction Technology II *Students continue the skills acquired from Construction Technology I and are introduced to exterior and interior finish out skills, cabinetry, and other construction trades such as electrical and plumbing.*
Level 4: Grade 12	Practicum in Construction Technology *Students will be challenged with the application of knowledge and skills in previous construction coursework. Potential workforce opportunities include internships or apprenticeships with construction companies or involvement in local district approved projects.*

Architectural Design

Level 1: Grades 9 - 10	Principles of Construction *See Level 1: Construction Technology*
Level 2: Grades 10 - 11 Taken Consecutively	Principles of Architecture AND Architectural Design I *Students will explore the knowledge and skills needed to enter careers in architecture, construction, drafting, interior design, and landscape architecture. The course introduces students to art practices, technical and computer-aided drafting, lettering styles, and how to read blueprints through project based design.*
Level 3: Grades 11 - 12	Architectural Design II *Students will study residential design, building codes, site plans, interior design, room relationships and sizes, exterior design, conservation and environmental design, and framing methods.* ***IBC: Autodesk Associate AutoCAD***
Level 4: Grade 12	Practicum in Architectural Design *Students will understand architectural soft skills, safety, and work ethics and will participate in a student design competition and a college architectural design study. Students will have the opportunity to create senior design projects using Autodesk REVIT.* ***IBC: Autodesk Associate Revit Architecture***