

A PARTNERSHIP

Montgomery County Students Construction Trades Foundation (CTF) is a non-profit educational foundation established cooperatively by the Montgomery County business and professional community and the Montgomery County Public School system to promote and advance building and construction education.

Since 1976 the CTF has provided students in the Construction Technology Program a unique opportunity and learning experience by constructing a student-built house in Montgomery County.

Furthermore, CTF proudly sponsors an annual student architectural design competition to select the house plans to be built during the school year. Through this partnership, students have designed and built over 37 Young American houses. All proceeds from the sale of these houses help support future construction projects as well as student scholarships opportunities. CTF is dedicated to providing young people experience in the construction and building industry. It also ensures the best possible education, training, and preparation for career, apprenticeship, or college.

- **Associated Builders and Contractors**
ABCmetroWashington.org
- **MCSCTF, Inc.**
CTFcareers.org
- **Montgomery College**
MontgomeryCollege.edu/Departments/arch
MontgomeryCollege.edu/Departments/giterv/
building/building_home.htm
- **Montgomery County Public Schools**
MontgomerySchoolsMD.org
- **National Center for Construction Education and Research**
NCCER.org



MONTGOMERY COUNTY STUDENTS CONSTRUCTION TRADES FOUNDATION

For more information about our construction programs please contact your school counselor, the Construction Trades Foundation at **301.929.2190** or visit our website at **www.CTFcareers.org**.

CONSTRUCTION TECHNOLOGY PROGRAMS

BUILD

a successful
future



Construction Technology Programs

Did you ever stop and think about who builds homes, schools, shopping malls, roads and bridges ... **just to name a few?**

Do you like working with your mind as well as your hands?
Be Part of the Team That Builds It All ...

CONSTRUCTION!

This non-profit foundation is a cooperative venture of the school system and volunteers from local businesses and professionals within the construction industry as well as post secondary educational institutions.

The Montgomery County Students Construction Trades Foundation (CTF) provides an opportunity for senior MCPS students to enroll in construction management courses at Montgomery College which can lead to an associate in applied science degree. Tuition and textbook expenses are provided by the Construction Trades Foundation (CTF). For additional information on this scholarship opportunity, please contact the Foundation Office at 301-929-2190.



BUILDING AND CONSTRUCTION TECHNOLOGIES

The Foundations of Building and Construction Technology class is designed for students new to the construction industry. Students experience hands-on activities related to:

- carpentry
- electricity
- heating, ventilation, and air conditioning (HVAC)
- masonry
- and plumbing in one semester.

Standards covered in the core curriculum include:

- basic safety
- introduction to construction math
- introduction to hand tools
- introduction to power tools
- introduction to blueprints
- basic rigging
- basic communication skills
- and basic employability skills.

Upon completion of this class students select a construction program for further study.

CARPENTRY

The standards covered in the Carpentry program include:

- orientation to the trade
- building materials, fasteners, and adhesives
- hand and power tools
- reading plans and elevations
- floor systems
- wall and ceiling framing
- roof framing
- introduction to concrete, reinforcing materials, and forms
- windows and exterior doors
- and basic stair layout.

Student Service Learning (SSL) hours are available in this program.



ELECTRICITY

The standards covered in the Construction Electricity include:

- electrical safety
- hand bending
- fasteners and anchors
- electrical theory one
- electrical theory two
- electrical test equipment
- introduction to the National Electrical Code
- raceways, boxes, and fittings
- conductors
- introduction to electrical blueprints
- commercial and industrial wiring
- and residential wiring.

Student Service Learning (SSL) hours are available in this program.



HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)

The standards covered in the Heating, Ventilation, and Air Conditioning (HVAC) program include:

- introduction to HVAC
- trade mathematics
- copper and plastic piping practices
- soldering and brazing
- ferrous metal piping practices
- basic electricity
- introduction to cooling
- introduction to heating
- air distribution systems
- load calculations/HVAC design concepts

Student Service Learning (SSL) hours are available in this program.

MASONRY

The standards covered in the Masonry program include:

- introduction of masonry
- masonry tools and equipment
- measurements and drawings
- mortar
- masonry units
- and installation techniques.

Student Service Learning (SSL) hours are available in this program.



PLUMBING

The standards covered in the Plumbing program include:

- introduction to the plumbing profession
- safety
- plumbing tools
- introduction to plumbing math
- introduction to plumbing drawings
- plastic pipe and fittings
- copper pipe and fittings
- cast-iron pipe and fittings
- carbon steel pipe and fittings
- corrugated stainless steel tubing
- fixtures and faucets
- introduction to drain, waste, and vent (DMV) systems
- and introduction to water distribution systems.

Student Service Learning (SSL) hours are available in this program.



ARCHITECTURE AND COMPUTER-ASSISTED DRAFTING (CAD) TECHNOLOGY

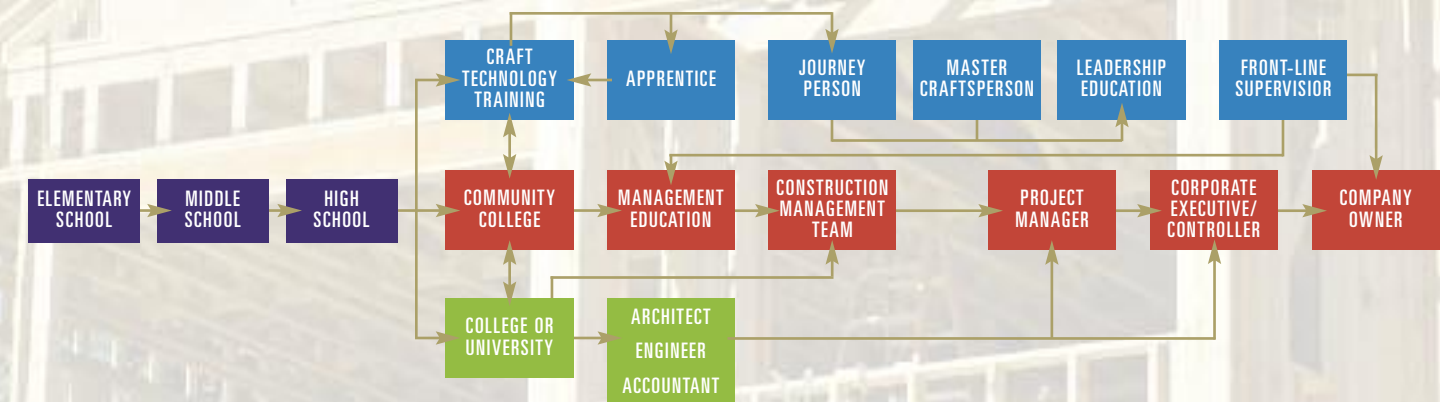
The Principles of Architecture and Computer-Assisted Drafting (CAD) Technology is a two-year program that provides an opportunity for students to complete a design pathway. Designing and engineering of physical structures from original concept to complete architectural and engineering plans that includes using AutoCAD software are the major elements of the program.

The four classes that make-up this program include:

- Architectural Drafting Techniques
- Computer-Assisted Drafting (CAD) Technology Architectural Applications
- Residential Design Studio
- and Advance CAD Applications.

Upon graduation, students will be capable of furthering their education in a number of careers in the construction industry that are related to developing, designing, constructing, and maintaining the built environment. Students completing this program are eligible to receive articulated credit at Montgomery College in the Architectural Technology Program. Student Service Learning (SSL) hours are available for the Residential Design Studio class.

CONSTRUCTION industry career path



a better future