# Design Technology CTE Academy (DTech)

In addition to fulfilling graduation and college admissions requirements (A-G requirements), Foothill Technology High School has two Career Technical Education (CTE) Academy programs, one in Bio Science and the other in Design Technology (DTech).

Both Academies are aligned with the California Department of Education (CDE) Statewide Career Pathways standards. A limited number of students are accepted for each cohort (called DTech Dynasty); the selection process for admittance is competitive, as there is limited space, equipment, and resources for students.

DTech is a CTE Academy where students take a "concentrator" and "capstone" course through their upperclassmen years of high school and work towards a school district CTE "completer" certificate. DTech Academy blends computer assisted design (CAD), digital and analog design, manufacturing through Laser Cutters, CNC tools, 3D Printers, Vinyl cutters, DTG and sublimation printers, silkscreen, embroidery, *and more*, and combine all of this product manufacturing along with student led entrepreneurship into one cohesive program. Additionally, DTech is built upon the framework of the [Industrial Design Major](), a Bachelor of Science, which combines art, business, and engineering to develop concepts for manufactured products.

DTech Academy is categorized and partially funded as a California Department of Education "Manufacturing and Product Development" pathway. Despite being in "one" sector, DTech is unique in that it operates as a business in which students design, manufacture, market, and sell their products. Instructors— [Yiu Hung Li]() and [Brooke Johnson]() —are both credentialed in **three different** CDE sectors: Manufacturing, Business, as well as Marketing.

DTech Academy is funded and/or monetarily operates in these different accounts or sources

1. VUSD Career Technical Education department via state grants (i.e. Perkins, CTEIG, et al.)
2. Foundry 805 (subsidiary of NewCo Foundation), generously provided by philanthropist, Mr. Dave Gross
3. FTHS site funds: limited funds allocated by the school principal via School Site Council
4. FTHS ASB: limited and regimented use of funds donated by parents

## Acceptance in DTech Academy:
Students are accepted following an application submission (and possible interview) during the spring of their sophomore year. Once students are accepted, they are required to meet all work based learning (WBL) programs, Student Led Enterprise (SLE) programs, academy specific design and manufacturing industry level requirements, and participate in on campus and local community events that are held within the two courses. They are required to be A-G compliant and remain in good academic standing to advance to the capstone course.

**Additionally, in limited availability, three levels of internship** (volunteer and and **two levels of paid**) can be earned through Foundry 805 (a non-school, non-profit entity); there is an application process, interviews, and performance based requirements to be admitted to this internship program. This internship is not associated with Foothill Technology HS nor Ventura Unified School District. If hired, you will be onboarded via Foundry 805 and your managers will be Mr. Li and Ms. Johnson. Internship is not a school function; you can be terminated from internship if your performance is unsatisfactory.

Upon successful completion of the required coursework, a CTE "completer" certificate is issued by the school district, and completion of the Academy is noted on the student's transcript.

An optional donation of $100 is requested to fund for student attire, Entrée To Employment, Capstone Banquet, and various materials. This donation is voluntary and participation in an Academy is not contingent on its receipt.
Checks should be made to Foothill Technology HS, memo: DTech donation. Please send money to the Student Store.

For Question about DTech Academy, please contact: [yiuhung.li@venturausd.org]()

## DTech Academy and Courses

The underlying philosophy behind DTech Academy is to design, manufacture, and engage in entrepreneurship. At its core, DTech is where the Industrial Design Major meets student entrepreneurship. With this in mind, DTech students will focus on developing concepts for manufactured products by combining art, business, and engineering while focusing on function, aesthetics, production costs, and usability of products.

Recommended courses, but not required, before or during enrollment in DTech Academy
- AP or CP Physics, ROP Robotics, AP Studio Art, DMAD Pathway

| 11th | CTE Con: Design Tech Survey (CTE Concentrator) |
|------|-----------------------------------------------|
| 12th | CTE Cap: Advance Design Studio (CTE Capstone) |

These are the required courses for all DTech Academy students.  Admission into DTech Academy is through a competitive application process during spring of their sophomore year which includes an application submission based on yearly prompt, possible interview, teacher recommendations, review of transcripts and test scores.  Only one small cohort is accepted into the academy each year. Decisions are made by Ms. Johnson and Mr. Li.

## CTE Concentrator: Design Tech Survey

Grade: 11
Length: Year
Requires: Completion of application, submission, and participation in competitive selection process
A-G: F (Fine Arts Elective) UCOP approved A-G course

*CTE Con: Design Tech Survey* offers students an opportunity to use critical thinking, design, entrepreneurship, and prototyping skills in a setting that is open and driven by curiosity and inquiry. Students in the course will use advanced manufacturing tools and techniques (laser cutters, CNC, silkscreen, vinyl cutters, 3D printers, et al.) to design, manufacture, and sell their ideas. Most importantly, students will do most of the work in small or large teams where they will learn how to communicate and manage numerous projects. Student grades are based on the creation of an online portfolio, exhibition of products, and completion of "apprenticeship skills."

## CTE Capstone: Advanced Design Studio (Honors)

Grade: 12
Length:  Year
Prerequisite:  Enrollment in DTech Academy and meeting course requirements of the concentrator
A-G: G (College Preparatory Elective) Honors Credit, UCOP A-G approved course, and articulated BUS R100 Oxnard College credit (VCCCD.edu)

Students earn college credit in this course utilizing design work, manufacturing products, entrepreneurship, marketing, sales, and is designed to prepare students for success in manufacturing and entrepreneurship, but can apply to any career field. In the course, students will create and sell products for local businesses and design a production model prototype. They will apply financial principles and practices, analyze characteristics of successful businesses, and develop all marketing tools for their prototype product, such as brand research, logo and brand design, advertising renders, and promotional apparel. The course allows for student agency and choice; thus, students can choose to specialize in engineering, manufacturing, marketing, sales, project management, and design. Advanced Design Studio is the culminating capstone class in the DTech Academy.