



CAREER AND TECHNICAL EDUCATION



Houston Independent School District



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www.houstonisd.org/cte

What are Career Clusters?

The US Department of Education and the Texas Education Agency developed the Career Clusters concept to help students organize and prepare for college and their future career by linking together both core and elective courses based on commonalities. The Career Clusters electives taught through the Houston ISD Career and Technical Education (CTE) program are listed here.

Articulated Courses are part of a Tech Prep sequence of courses in a technical area. They are articulated with a specific college and credits can apply toward a four-year degree. Requirements include earning a "B" or better in the career area courses, completing all career courses in the sequence, enrolling in the college and earning at least six credits at that college before the high school courses are awarded on the college transcript. Articulated Courses are free and available

through Houston Community College (HCC) and other state colleges.

To graduate from Houston ISD, you must meet state graduation and testing requirements. You should develop a graduation plan that identifies courses which will satisfy graduation requirements and prepare you for your chosen career pathway. Career-bound students should select high school courses and graduation plans to meet future employment options. Because college entrance requirements vary greatly, you should investigate the colleges you are considering before selecting high school courses and graduation programs.

For an in-depth look at the course selections: www.houstonisd.org/cte and select HAPG.



Clubs & Organizations

The Career and Technical Education program provides students with an opportunity to participate in various clubs and organizations. The following is a list of active groups in the school district. For more details about each organization, please visit the website and/or visit with the campus sponsor.

- Business Professionals of America (BPA) www.texasbpa.com
- Distributive Education Clubs of America (DECA) www.texasdeca.org
- Family, Career and Community Leaders of America (FCCLA) www.texasfccla.org/
- Future Business Leaders of America (FBLA) www.txfblla.org
- Future Farmers of America (FFA) www.texasffa.org
- Health Occupations Students of America (HOSA) www.texasghsa.org
- Skills USA-Vocational Industrial Clubs of America (VICA) www.skillsusatx.org
- Texas Technology Students Associations (TTSA/TSA) www.tsaweb.org



Agriculture, Food, Natural Resources

The Agriculture cluster involves the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Electives Supporting This Cluster

Advanced Animal Science
Advanced Plant and Soil Science
Agribusiness Management and Marketing
Agricultural Algebraic Exploration
Agricultural Facilities Design and Fabrication
Agricultural Power Systems
Energy and Natural Resources Technology
Food Processing
Food Technology and Safety
Forestry and Woodland Ecosystems
Livestock Production
Mathematical Applications in Agriculture, Food, and Natural Resources
Practicum in Agriculture, Food, and Natural Resources
Practicum in Agriculture, Food, and Natural

Resources II

Principles of Agriculture, Food, and Natural Resources

Professional Standards in Agribusiness

Small Animal Management

Veterinary Medical Applications

Articulated Statewide College Credit

Advanced Environmental Technology
Agricultural Mechanics and Metal Technologies
Agricultural Power Systems
Equine Science
Horticulture Science
Landscape Design and Turf Grass Management
Principles and Elements of Floral Design
Range Ecology and Management

Schools where offered:

Austin, Bellaire, Harper, Lamar, Madison, Chavez, Worthing

Architecture and Construction

Architecture and Construction focuses on careers in designing, planning, managing, building and maintaining the built environment.

Electives Supporting This Cluster

Advanced Piping and Plumbing Technology
Architectural Design
Building Maintenance Technology
Construction Management
Electrical Technology
HVAC and Refrigeration Technology
Mill and Cabinetmaking Technology
Piping and Plumbing Technology
Practicum in Architectural Design
Practicum in Architectural Design II
Practicum in Construction Management
Practicum in Construction Management II
Practicum in Interior Design
Practicum in Interior Design II
Principles of Architecture and Construction

Articulated Statewide College Credit

Advanced HVAC & Refrigeration Technology
Construction Technology
Interior Design

Schools where offered:

Austin, Chavez, Furr, Harper, Jordan, Kashmere, Lamar, Lee, Milby, Reach, Reagan, Sam Houston, Scarborough, Sterling, Yates, Westbury, Worthing



Arts, A/V Technology, Communications

Arts, A/V Technology & Communications involves designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

Electives Supporting This Cluster

Advanced Commercial Photography
Advanced Fashion Design
Advanced Graphic Design and Illustration
Advanced Printing and Imaging Technology
Audio Video Production
Commercial Photography
Fashion Design
Graphic Design and Illustration
Practicum in Audio Video Production
Practicum in Audio Video Production II
Practicum in Fashion Design
Practicum in Fashion Design II
Practicum Graphic Design & Illustration
Practicum Graphic Design & Illustration II
Practicum Printing & Imaging Technology
Practicum Printing & Imaging Technology II
Principles of Arts, Audio Video Technology, and Communications

Printing and Imaging Technology
Professional Communications
Radio Broadcasting I
Radio Broadcasting II
Video Game Design

Articulated Statewide College Credit

Advanced Animation
Advanced Audio Video Production
Animation

Schools where offered:

Davis, Bellaire, Chavez, Contemporary Learning Center, Furr, Jones, Jordan, Lamar, Lee, Liberty, Madison, Milby, Reach, Reagan, Scarborough, Sterling, Westbury, Westside, Washington, Yates





Business Management, Administration

Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.

Electives Supporting This Cluster

Business English
Human Resources Management
Practicum in Business Management
Practicum in Business Management II
Touch System Data Entry
Virtual Business

Articulated Statewide College Credit

Business Information Management I
Business Information Management II
Business Law

Business Management
Global Business
Principles of Business, Marketing, & Finance

Schools where offered:

Austin, Bellaire, Carnegie, Chavez, Challenge ECHS, Contemporary Learning Center, Davis, DeBakey, East Early, Eastwood, HAIS, HSPVA, HS for Business and Economic Success, HP Carter, Jones, Jordan, Kashmere, Lamar, HS for Law Enforcement and Criminal Justice, Lee, Liberty, Madison, Milby, Mt. Carmel, Ninth Grade Prep, Reagan, Sharpstown, Sam Houston, Scarborough, HS Bsns & Eco Success, Waltrip, Washington, Westbury, Westside, Wheatley, Worthing, Yates



Education, Training

Education and Training encompasses planning, managing and providing education and training services, and related learning support services.

Electives Supporting This Cluster

Human Growth and Development
Instructional Practices in Education & Training
Practicum in Education and Training
Practicum in Education and Training II
Principles of Education and Training

Schools where offered:

Bellaire, Chavez, Jordan, Sam Houston, Waltrip, Washington



Finance

This cluster encompass planning, services for financial and investment planning, banking, insurance and business financial management. The Finance Cluster is divided into four pathways. Pathways are grouped by the knowledge and skills required of occupations in these career fields. Each pathway provides instruction as a basis for success in an array of careers and educational pursuits.

Electives Supporting This Cluster

Financial Analysis
Insurance Operations
Money Matters

Securities and Investments
Statistics and Risk Management

Articulated Statewide College Credit

Accounting I
Accounting II
Banking and Financial Services

Schools where offered:

Austin, Bellaire, Carnegie, Challenge ECHS, Chavez, Contemporary Learning Center, Davis, Eastwood, HS for Business and Economic Success, Jordan, Lamar, HS for Law Enforcement and Criminal Justice,



Government, Public Administration

Government and Public Administration relates to executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.

Electives Supporting This Cluster

Foreign Service and Diplomacy
National Security
Planning and Governance
Political Science I
Political Science II
Practicum in Local, State, and Federal Government

Practicum in Local, State, and Federal Government II
Principles of Government and Public Administration
Public Management and Administration
Revenue, Taxation, and Regulation

Schools where offered:

High School for Law Enforcement and Criminal Justice



Health Science

Health Science includes planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Electives Supporting This Cluster

Human Body Systems (PLTW)
Medical Biotechnology
Medical Microbiology
Pathophysiology
Practicum in Health Science
Practicum in Health Science II
Principles of Biomedical Science (PLTW)
World Health Research

Articulated Statewide College Credit

Anatomy and Physiology
Health Science
Medical Terminology
Principles of Health Science

Schools where offered:

Carnegie, Chavez, Contemporary Learning Center, Davis, DeBakey, Eastwood, Furr, HS for Law Enforcement and Criminal Justice, Jones, Jordan, Lamar, Lee, Milby, Mt. Carmel, Ninth Grade Prep, Reach, Reagan, Sam Houston, Sharpstown, Waltrip, Wheatley, Westbury, Westside, Worthing



Hospitality and Tourism

Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events, and travel related services.

Electives Supporting This Cluster

Food Science
Practicum in Culinary Arts
Practicum in Culinary Arts II
Practicum in Hospitality and Tourism
Practicum in Hospitality and Tourism II
Principles of Hospitality and Tourism

Articulated Statewide College Credit

Culinary Arts
Hospitality Services
Hotel Management
Restaurant Management
Travel and Tourism Management

Schools where offered:

Austin, Bellaire, Chavez, Davis, Harper, Jordan, Lamar, Madison, Waltrip, Westside, Wheatley



Human Services



Human Services focuses on preparing individuals for employment in career pathways that relate to families and human needs.

Electives Supporting This Cluster

Barbering I
Barbering II
Child Development
Cosmetology Facialist Specialist
Cosmetology I
Cosmetology II
Cosmetology Manicurist Specialty
Cosmetology Shampoo and Conditioning Specialist
Counseling and Mental Health
Dollars and Sense
Family and Community Services
Interpersonal Studies
Introduction to Cosmetology
Parenting Education for School Age Parents I
Parenting Education for School Age Parents II
Practicum in Human Services
Practicum in Human Services II
Principles of Human Services

Articulated Statewide College Credit

Child Guidance
Lifetime Nutrition and Wellness



Schools where offered:

Austin, Bellaire, Chavez, Contemporary Learning Center, Davis, Furr, Harper, Jordan, Kashmere, Lee, Madison, Milby, Reach, Sam Houston, Sterling, Washington, Westbury, Westside, Wheatley, Worthing, Yates



Information Technology



This cluster deals with entry-level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems-integration services. The Information Technology Cluster is divided into four pathways. Pathways are grouped by the knowledge and skills required of occupations in these career fields. Each pathway provides instruction as a basis for success in an array of careers and educational pursuits.

Electives Supporting This Cluster

Advanced Computer Programming
Computer Programming
Database Fundamentals (Oracle)
Database Programming (Oracle)
Geographic Information Systems (GIS)
Internetworking Technologies I (Cisco)
Internetworking Technologies II (Cisco)
Raster Based Geographic Information Systems

Research in Information Technology Solutions
Research in Information Tech Solutions II
Spatial Technology and Remote Sensing

Articulated Statewide College Credit

Computer Maintenance
Computer Technician
Digital and Interactive Media
Principles of Information Technology
Telecommunications and Networking
Web Technologies

Schools where offered:

Furr, HAIS, HS for Law Enforcement and Criminal Justice, International High School, Jones, Jordan, Kashmere, Lamar, Lee, Liberty, Madison, Milby, Ninth Grade Prep, Reach, Reagan, Sam Houston, Scarborough, Sharpstown, Sterling, Waltrip, Wheatley, Westbury, Westside, Worthing, Vara Center for Technology, South Skill Center



Law, Public Safety, Corrections, Security

Law, Public Safety, Corrections and Security focuses on planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.

Electives Supporting This Cluster

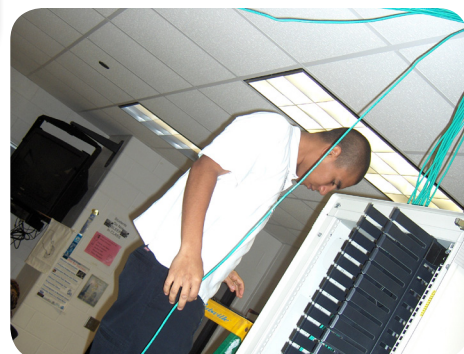
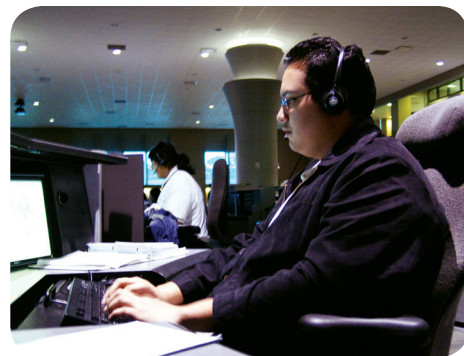
Disaster Response
Firefighter I
Firefighter II
Forensic Psychology
Forensic Science
Practicum in Law, Public Safety, Corrections, and Security
Practicum in Law, Public Safety, Corrections, and Security II
Principles of Law, Public Safety, Corrections, and Security
Security Services

Articulated Statewide College Credit

Correctional Services
Court Systems and Practices
Law Enforcement I
Law Enforcement II

Schools where offered:

Chavez, HS for Law Enforcement and Criminal Justice, Lee, Waltrip



Manufacturing

Manufacturing involves planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Electives Supporting This Cluster

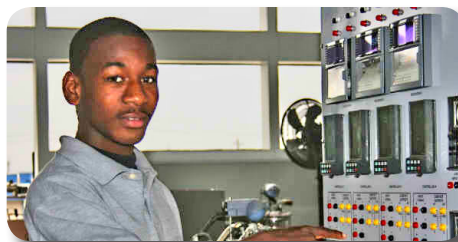
Advanced Flexible Manufacturing
Flexible Manufacturing
Manufacturing Engineering
Practicum in Manufacturing
Principles of Manufacturing
Welding

Articulated Statewide College Credit

Advanced Precision Metal Manufacturing
Advanced Welding
Precision Metal Manufacturing

Schools where offered:

Contemporary Learning Center, Jordan, Lee, Lamar, Madison, Milby, Sterling, Worthing



Marketing, Sales, Service

This cluster focuses on planning and managing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. The Marketing, Sales and Service Cluster is divided into seven pathways. Pathways are

grouped by the knowledge and skills required of occupations in these career fields. Each pathway provides instruction as a basis for success in an array of careers and educational pursuits.

Electives Supporting This Cluster

Advertising and Sales Promotion



Fashion Marketing
 Practicum in Marketing Dynamics
 Practicum in Marketing Dynamics II

Retailing and E-tailing
 Sports and Entertainment Marketing

Science, Technology, Engineering

Science, Technology, Engineering & Mathematics supports planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

Electives Supporting This Cluster

Advanced Biotechnology
 Advanced Electronics
 Advanced Engineering Design and Presentation
 Aerospace Engineering
 Biotechnology
 Biotechnology Engineering
 Concepts of Engineering and Technology
 Data Acquisition and Analysis
 Engineering Design and Development
 Engineering Design and Problem Solving
 Engineering Mathematics
 Engineering: The Digital Future
 Gateway to Technology
 Practicum in Science, Technology, Engineering, and Mathematics

Practicum in Science, Technology, Engineering, and Mathematics II
 Principles of Engineering
 Robotics and Automation
 Scientific Research and Design
 Scientific Research and Design II
 Texas Pre-Freshman Engineering I
 Texas Pre-Freshman Engineering II
 Texas Pre-Freshman Engineering III
 Texas Pre-Freshman Engineering IV

Articulated Statewide College Credit

Civil Engineering and Architecture
 Computer Integrated Manufacturing
 Digital Electronics
 Electronics
 Engineering Design and Presentation
 Introduction to Engineering Design
 Principles of Technology

Schools where offered:

Austin, Davis, Furr, Jones, Jordan, Kashmere, Lamar, Lee, Madison, Milby, Reagan, Sharpstown, Sterling, Waltrip, Washington, Westside



Transportation, Distribution, Logistics

Transportation, Distribution, & Logistics includes planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Electives Supporting This Cluster

Advanced Aircraft Technology
 Advanced Collision Repair and Refinishing
 Advanced Small Engine Technology
 Aircraft Technology
 Automotive Technology
 Collision Repair and Refinishing
 Energy, Power, and Transportation Systems
 Logistics, Planning and Management Systems
 Practicum in Transportation, Distribution, and Logistics

Practicum in Transportation, Distribution, and Logistics II
 Principles of Transportation, Distribution, and Logistics
 Small Engine Technology
 Transportation Systems Management

Articulated Statewide College Credit

Advanced Automotive Technology

Schools where offered:

Austin, Bellaire, Davis, Harper, Jordan, Kashmere, Madison, Ninth Grade Prep, Sam Houston, Sterling, Reagan, Waltrip, Westbury, Wheatley, Yates, Westside