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](http://www.houstonisd.org/cte) and select HAPG.

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

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**AchieveTexas**

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](http://www.texasbpa.com)
- Distributive Education Clubs of America (DECA) [www.texasdeca.org](http://www.texasdeca.org)
- Family, Career and Community Leaders of America (FCCLA) [www.texasfccla.org](http://www.texasfccla.org)
- Future Business Leaders of America (FBLA) [www.txfbla.org](http://www.txfbla.org)
- Future Farmers of America (FFA) [www.texasffa.org](http://www.texasffa.org)
- Health Occupations Students of America (HOSA) [www.texashosa.org](http://www.texashosa.org)
- Skills USA-Vocational Industrial Clubs of America (VICA) [www.skillsusatx.org](http://www.skillsusatx.org)
- Texas Technology Students Associations (TTSA/TSA) [www.tsaresh.org](http://www.tsaresh.org)
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

Articulated Statewide College Credit
- Advanced Animation
- Advanced Audio Video Production
- Animation

Schools where offered:

Houston Independent School District | www.houstonisd.org/cte
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:

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

Education, Training

Schools where offered:
- Bellaire, Chavez, Jordan, Sam Houston, Waltrip, Washington

This cluster encompasses 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

Finance

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,
- Securities and Investments
- Statistics and Risk Management

Articulated Statewide College Credit
- Accounting I
- Accounting II
- Banking and Financial Services
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:

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
Science, Technology, Engineering, and 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

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

Articulated Statewide College Credit
- Advanced Automotive Technology

**Schools where offered:**