TATUM HIGH SCHOOL

2023-2024
CTE PROGRAMS OF STUDY
GUIDEBOOK

Tatum High School CTE Program

The high school experience is an exciting step as you begin to explore the pathways that will take you on your life's journey after you graduate. This Career & Technical Education (CTE) Programs of Study guide will help put you in the best position for success in your world after high school.

Parents and students are urged to carefully review the information contained in this guide and to work closely with school counselors to develop a quality personal graduation plan. This guide showcases the endorsements available and highlights the Career & Technical Education (CTE) programs of study.

High school is about preparing for life after graduation. The experiences you gain through CTE courses will provide opportunities to obtain valuable knowledge about specific programs of study that interest you. Tatum ISD offers a wide variety of CTE course offerings that will help you explore your desired career opportunities and certification programs designed to prepare you for life after high school.

It is important to know that in our global society, and with your qualifications and experiences, you will no longer just be competing with your friends and neighbors here in Tatum or Rusk County. You will be prepared to be compared and measured against competitors for jobs locally, across our nation, and from around the world. Our goal is to provide you with a world-class education that positions you for success beyond your senior year.

Explore this guide and ask questions of your parents, teachers, and counselor, so that you can find the program that will best fit your needs and help you meet your educational goals. Now is the time to dream and explore the possibilities that life holds. We wish you all the best of luck on this exciting time in your life.

"Failing to plan is planning to fail." - **Alan Lakein**

PLANNING *YOUR* HIGH SCHOOL PROGRAM

Planning a four-year high school program is a serious undertaking. The selection of your graduation plan is dependent on your interests and plans for future careers. Some questions to consider when making your plans are the following:

- ☐ Will you continue your education at a university, college, or in a trade or technical school?
- ☐ Do you want to learn academic or career skills in order to enter full-time workforce immediately after high school?
- ☐ Are you interested in mathematics, science, technology, engineering, or any other specialized field of study?
- ☐ Are you thinking of entering a profession that requires specialized education, such as teaching, medicine, or law?

The answers to these questions are extremely important when making decisions about your course selections for all four years in high school. Take some time to answer the questions before you begin. Your interests and desire to work hard should also guide your answers. It is common for young people to change their minds about which course of study or career choice will be; others are still considering their options. As you consider your captions, immediate decisions regarding your graduation plans will affect your future career choices. For that reason, we recommend that you plan a diverse and challenging academic program available to you, your options will remain open in the event your career plans should change.

Tatum ISD offers many ways to prepare for your future - to make certain that you have options. A wide range of programs prepare students for post-high school experiences, college, business school, technical school, military service, fine arts participation, and full-time employment. Additional areas are made available through the high school experience.

The programs offered allow a student to choose the high school program best for him/her. Outlined on the following pages are the graduation requirements for each of the state's graduation programs. Counselors and teachers will be helpful in advising your more specifically about programs offered.

HIGH SCHOOL

GRADUATION REQUIREMENTS

STUDENTS ENTERING HIGH SCHOOL IN 2022-2023

During each year in high school at THS, it is the expectation that all students enroll and complete the four core subject areas. This excludes courses taken for high school credit in middle school. Parents and students are encouraged to carefully consider college entrance requirements and career readiness standards set by institutions of higher education.

FOUNDATION WITH ENDORSEMENT PROGRAM

Foundation ➕ **Endorsement**

Basic course credits that all students must complete

Additional credits required to pursue college and career. It is our goal that All students will achieve a foundation plus endorsement graduation program.

HIGH SCHOOL
GRADUATION REQUIREMENTS

FOUNDATION HIGH SCHOOL PROGRAM	FOUNDATION HIGH SCHOOL PROGRAM WITH ENDORSEMENTS	FOUNDATION HIGH SCHOOL PROGRAM WITH ENDORSEMENTS DISTINGUISHED LEVEL OF ACHIEVEMENT
22 CREDITS	**26 CREDITS**	**26 CREDITS**
4 Credits English - ELA, I, II, III, One credit in any advanced English course	4 Credits English - ELA, I, II, III, One credit in any advanced English course	4 Credits English - ELA, I, II, III, One credit in any advanced English course
3 Credits Mathematics - Algebra, Geometry, one credit in Any advanced math course	4 Credits Mathematics - Algebra, Geometry, one credit in Any advanced math course	4 Credits Mathematics - Algebra, Geometry, one credit in Any advanced math course
3 Credits Science - Biology, Chemistry or advanced science course, plus one additional Advanced science course	4 Credits Science - Biology, Chemistry or advanced science course, plus one additional Advanced science course	4 Credits Science - Biology, Chemistry or advanced science course, plus one additional Advanced science course
3 Credits Social Studies - World Geography, World History, US History, Gov't (.5), Economics (.5)	3 Credits Social Studies - World Geography, World History, US History, Gov't (.5), Economics (.5)	3 Credits Social Studies - World Geography, World History, US History, Gov't (.5), Economics (.5)
2 Credits Language other than English in the same language	2 Credits Language other than English in the same language	2 Credits Language other than English in the same language
1 Credit Physical Education	1 Credit Physical Education	1 Credit Physical Education
1 Credit Fine Arts	1 Credit Fine Arts	1 Credit Fine Arts
5 Credits in Electives	3 Credits in Electives	3 Credits in Electives
	4 Credits in one CTE, Arts & Humanities, or Multidisciplinary Endorsement	4 Credits in one CTE, Arts & Humanities, or Multidisciplinary Endorsement

ACADEMIC RECOGNITIONS

Students have the opportunity to earn additional recognitions in the following areas:

DISTINGUISHED LEVEL OF ACHIEVEMENT

The Distinguished Level of Achievement opens a world of educational and employment opportunities for you beyond high school. Earning the Distinguished Level of Achievement requires more math and more science than the Foundation High School Program.

The Distinguished Level of Achievement (DLA) will:

- Allow a student to compete for Top 10% automatic admissions eligibility at any Texa public university, except the University of Texas, which has more stringent admission requirements;
- Ensure the student is a more competitive applicant at the most selective colleges and universities

The Distinguished Level of Achievement Requires:

- A total of 26 graduation credits
- Algebra II
- Successful completion of at least one endorsement in the student's area of interest

PERFORMANCE ACKNOWLEDGEMENTS

There are four ways a student may earn the acknowledgment for outstanding performance by successfully completing the following:

1. Dual Credit

A student may earn a performance acknowledgement on the student's diploma and transcript for outstanding performance in a dual credit course by successfully completing:

- 12 hours of college academic courses, including those taken for dual credit as part of the Texas core curriculum, and advanced technical credit courses, including locally articulated courses, with a grade of the equivalent of 3.0 or higher on a scale of 4.0 or
- An Associates degree while in high school

2. Bilingualism and Biliteracy

A student may earn a performance acknowledgement on the student's transcript for outstanding performance in Bilingualism and Biliteracy as follows:

- A student may earn a performance acknowledgment by demonstrating proficiency in accordance with local school district grading policy in two or more languages by:
    - *Completing all English language arts requirements and maintaining a minimum grade point average (GPA) or the equivalent of 80 on a scale of 100; and*
- Satisfying one of the following:
    - Completion of a minimum of three credits in the same language in a language other than English with a minimum GPA equivalent to 80 on a scale of 100; or
    - Demonstrated proficiency in the Texas Essential Knowledge and Skills for Level IV or higher in a language other than English with a minimum GPA equivalent to 80 on a scale of 100; or
    - Completion of at least three credits in foundation subject area courses in a language other than English with a minimum GPA of 80 on a scale of 100; or
    - Demonstrated proficiency in one or more languages other than English through one of the following methods:
        - A score of 3 or higher on a College Board Advanced Placement examination for a language other than English; or
        - A score of 4 or higher on an International Baccalaureate examination for higher-level languages other than English course; or
        - Performance on a national assessment of language proficiency in a language other than English of at least intermediate high or its equivalent.
- In addition to meeting the requirements of paragraph (1) of this subsection, to earn a performance acknowledgement in Bilingualism and Biliteracy, an English language Learner must also have:
    - *Participated in and met the exit criteria for a bilingual or English as a second language (ESL) program; and*
    - *Scored at the Advanced High level on the Texas English Language Proficiency Assessment System (TELPAS).*

3. Outstanding Performance on College Entrance Exams

A student may earn a performance acknowledgement on the student's diploma and transcript for outstanding performance on the PSAT, the ACT-Aspire, the SAT, or the ACT, by:

- Earning a score ont he Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT) that qualifies the student for recognition as a commended scholar or higher by the College Board and National Merit Scholarship Corporation, as part of the National Hispanic Recognitions Program (HNRP) of

the College Board or as part of the National Achievement Scholarship Program of the National Merit Scholarship Corporation

- Achieving the college readiness benchmark score on at least two of the four subject tests on the ACT-Aspire examination
- Score of at least 1210 combined score of the evidence-based writing and mathematics on the SAT
- Earning a composite score on the ACT examination of 28 (excluding the writing sub score)

4. Professional License or Certifications

A student may earn a performance acknowledgement on the student's diploma and transcript for earning a nationally or internationally recognized business or industry certification or license with:

- Performance on an examination or series of examinations sufficient to obtain a nationally or internationally recognized business or industry certification or
- Performance on an examination or series of examination sufficient to obtain a government-required credential to practice a profession

Nationally or internationally recognized business or industry certification shall be defined as an industry validated credential that complies with knowledge and skills standards promulgated by a nationally or internationally recognized business, industry, professional, or government entity representing a particular profession or occupation that is issued by or endorsed by:

- A national or international business, industry, or professional organization
- A state agency or other government entity or
- A state-based industry association

Certifications or licensures for performance acknowledgements shall:

- Be age appropriate for high school students
- Represent a student's substantial course of study and/or end-of-program knowledge and skills
- Include an industry recognized examination or series of examinations, an industry validated skill test, or demonstrated proficiency through documented, supervised field experience and
- Represent substantial knowledge and multiple skills needed for successful entry into a high-skill occupation.

ENDORSEMENTS

Students will be able to earn one or more endorsements as part of their graduation requirements. Endorsements consist of a related series of courses that are grouped together by interest or skill set. They provide students with in-depth knowledge of a subject area. Students must select an endorsement in the ninth grade. Districts and charters are not required to offer all endorsements. If only one endorsement is offered, it must be multi-disciplinary studies.

ADDITIONAL GRADUATION INFORMATION

IMPORTANT ENDORSEMENT INFORMATION

- All endorsements require the completion of four (4) math and four (4) science credits.
- Endorsements are originally decided in 8th grade and must be declared in writing.
- Students have until their sophomore year to change endorsements.

PERSONAL GRADUATION PLAN

Each student will have a 4-year Personal Graduation Plan created during the spring of their 8th grade year with the help of his/her academic advisor.

Parent participation is VITAL!! Parents should meet with their child's academic advisor to discuss the plan and are required to approve the plan in writing before students register for their high school courses.

Each year after, the PGP will be revised as needed with the student, parent, and advisor, according to the student's interests and needs.

EXIT LEVEL TEST REQUIREMENTS

Students who entered 9th grade in 2011-2012 and thereafter will take the State of Texas Assessments of Academic Readiness (STAAR). This assessment will replace the TExas Assessment of Knowledge and Skills (TAKS). Students take the assessments when they complete the course.

For additional information on requirements for STAAR and End of Course, please visit www.tea.state.tx.us/studentassessment/staar.

STAAR
State of Texas
Assessments of
Academic Readiness

English Language Arts	Math	Science	Social Studies
• English I	Algebra 1	Biology	U.S. History
• English II			

CAREER & TECHNICAL EDUCATION (CTE)

EXPLORING YOUR CAREER OPTIONS

If you are considering going straight into the workforce or into a technical training program following graduation, you still need to complete your high school education and earn a high school diploma.

Participation in CTE programs increases wages, probability and consistency of employment, and leads to higher quality jobs. CTE WORKS!

While in high school, you will want to:

Look at the eight endorsements offered under the Foundation High School Program
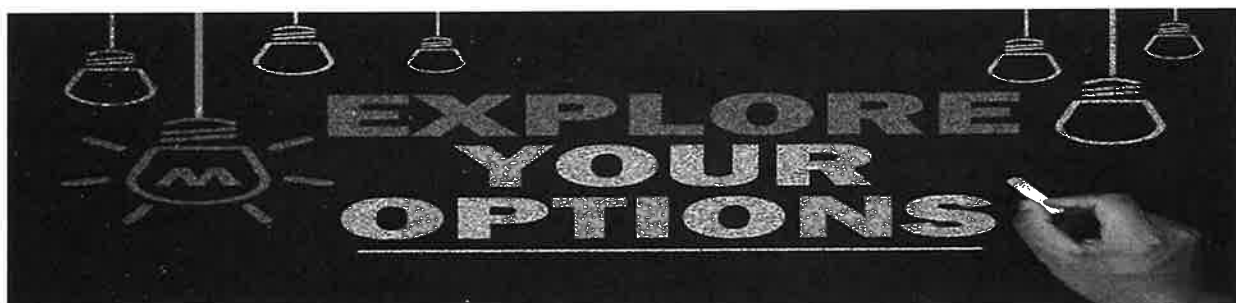
Determine your area of interest

Complete your selected endorsement along with the required foundation program to earn your high school diploma

Learn about available jobs, and any required post-high school or technical training

Explore new career opportunities

Research wage and occupation information, required levels of education nd training requirements

Discover your interest and abilities, use labor markets resources at www.texasrealitycheck.com or www.texascaresonline.com/hotshots/hotshotslist.asp or take the ASVAB in 11th grade.

ENDORSEMENT CHOICES

Career and technical education programs offer a sequence of courses that provide students with coherent and rigorous content. CTE content is aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for future education and careers in current or emerging professions.

BUSINESS & INDUSTRY ENDORSEMENT

Includes highly varied occupations in both service and manufacturing industries. These endorsements range from industrial and technical trades, business, marketing & finance, graphic design occupations, as well as information technology.
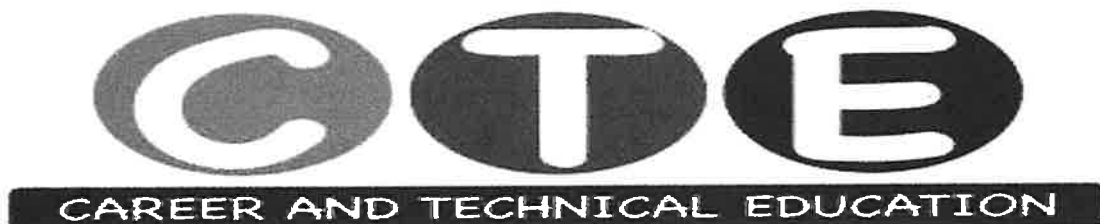
Programs of Study include:

- Animal Science
- Applied Agricultural Engineering
- Web Development
- Graphic Design & Multimedia Arts
- Accounting & Financial Services

PUBLIC SERVICES ENDORSEMENT

Includes service-oriented occupations for both private and public sector industries, including human service and healthcare fields.

Programs of Service Include:

- Healthcare Therapeutic

Science, Technology, Engineering, and Mathematics (STEM)

Includes STEM occupations for both private and public sector industries, which focus on planning, managing, and providing, scientific research and professional and technical services.

Programs of Study Include:

- Engineering
- Cybersecurity

Notes

Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Applied Agricultural Engineering
Statewide Program of Study

The Applied Agricultural Engineering program of study explores the occupations and educational opportunities associated with applying knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing agricultural products. This program of study may also include exploration into diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

Secondary Courses for High School Credit

Level 1
* Principles of Agriculture, Food, and Natural Resources

Level 2
* Agricultural Mechanics and Metal Technologies/Lab

Level 3
* Agricultural Structures Design and Fabrications/Lab

Level 4

* Project-Based Research
* Agricultural Equipment Design and Fabrication

Postsecondary Opportunities

Associates Degrees
* Heavy Equipment Maintenance Technology/ Technician
* Agricultural Mechanization, General
* Small Engine Mechanics and Repair Technology/ Technician
* Welding Technology/ Welder

Bachelor's Degrees
* Agricultural Engineering
* Agricultural Mechanization, General

Master's, Doctoral, and Professional Degrees
* Agricultural Engineering
* Agricultural Mechanization, Genera

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Tour a farm products or machinery plant • Participate in Texas FFA	• Earn a welding certification • Intern at a farm products or machinery plant • Participate in an FFA supervised agriculture experience

Industry-Based Certifications

* AWS D9.1 Sheet Metal Welding
* AWS SENSE Level 1: Entry Welder
* General Welding - Job Ready

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* OSHA General 30*

*IBC sunsetting 8/31/24

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Outdoor Power Equipment and Other Small Engine Mechanics	$32,406	366	16%
Welders	$41,350	6171	9%
Farm Equipment Mechanics and Service Technicians	$39,915	304	17%
Mobile Heavy Equipment Mechanics	$47,299	1627	16%
Agricultural Engineers	$64,792	9	13%

Successful completion of the Applied Agricultural Engineering program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – October 2022

TEA
Texas Education Agency

Applied Agricultural Engineering
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Agriculture, Food, and Natural Resources	13000200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Agricultural Mechanics and Metal Technologies/Lab	13002200 (1 credit) 13002210 (2 credits)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Agricultural Structures Design and Fabrications/Lab	13002300 (1 credit) 13002310 (2 credits)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Agricultural Equipment Design and Fabrication	13002350 (1 credit)	None	None
Project-Based Research	12701500 (1 credit)	None	None

FOR ADDITIONAL INFORMATION ON THE AGRICULTURE, FOOD, AND NATURAL RESOURCE CAREER CLUSTER, PLEASE CONTACT: CTE@tea.texas.gov
https://tea.texas.gov/cte

Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Animal Science
Statewide Program of Study

The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches CTE learners how to apply biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students may also research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

Secondary Courses for High School Credit

Level 1
- Principles of Agriculture, Food, and Natural Resources

Level 2
- Small Animal Management
- Equine Science

Level 3
- Livestock Production/Lab

Level 4
- Advanced Animal Science

Postsecondary Opportunities

Associates Degrees
- Food Science and Technology
- Veterinary Studies
- Biotechnology Laboratory Technician
- Biology Technician

Bachelor's Degrees
- Animal Sciences
- Agriculture
- Biology
- Zoology/ Animal Biology

Master's, Doctoral, and Professional Degrees
- Genetics
- Veterinary Medicine
- Biological and Physical Sciences
- Biological and Biomedical Sciences

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Participate in Texas FFA	• Compete in an Agri-Science Fair 4H • Volunteer at a local farm or with a veterinarian • Participate in an FFA supervised agriculture experience

Industry-Based Certifications

- Agricultural Biotechnology
- Certified Veterinary Assistant, Level 1
- Elanco Fundamentals of Animal Science Certification
- Elanco Veterinary Medical Applications Certification
- Equine Management & Evaluation Certification
- Feedyard Technician in Cattle Care and Handling
- Licensed Veterinary Technician
- Production Agriculture - Job Ready
- Small Animal Science and Technology

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Animal Breeders	$39,139	28	9%
Animal Scientists	$57,533	22	12%
Medical Scientists	$63,898	435	27%
Veterinarians	$93,496	294	24%
Zoologists and Wildlife Biologists	$67,309	45	32%

Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

Animal Science
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Agriculture, Food, and Natural Resources	13000200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Small Animal Management	13000400 (0.5 credit)	None	None
Equine Science	13000500 (0.5 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Livestock Production/Lab	13000300 (1 credit) 13000310 (2 credits)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Advanced Animal Science	13000700 (1 credit)	Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production	None

FOR ADDITIONAL INFORMATION ON THE AGRICULTURE, FOOD, AND NATURAL RESOURCE CAREER CLUSTER, PLEASE CONTACT: CTE@tea.texas.gov
https://tea.texas.gov/cte

Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

Accounting and Financial Services
Statewide Program of Study

The Accounting and Financial Services program of study teaches CTE learners how to examine, analyze, and interpret financial records. Through this program of study, students will learn the skills necessary to perform financial services, prepare financial statements, interpret accounting records, give advice, or audit and evaluate statements prepared by others. This program of study will also introduce students to mathematical modeling tools.

Secondary Courses for High School Credit

Level 1
- Principles of Business, Marketing, and Finance
- Money Matters

Level 2
- Banking and Financial Services

Level 3
- Insurance Operations

Level 4
- Practicum in Business Management

Postsecondary Opportunities

Associates Degrees
- Real Estate
- Financial, General
- Financial Planning and Services
- Certified Income Specialist

Bachelor's Degrees
- Accounting
- Financial, General
- Financial Planning and Services
- Certified Income Specialist

Master's, Doctoral, and Professional Degrees
- Financial Accounting
- Business Administration
- Financial Planning

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Participate in Business Professionals of America, Future Business Leaders of America, or DECA	• Intern with a local accounting firm • Earn Microsoft Office certifications

Industry-Based Certifications

- Accounting - Basic
- Accounting Foundations
- Certified Insurance Service Representative
- Intuit QuickBooks Certified User
- MB-920: Microsoft Dynamics 365 Fundamentals Finance and Operations Apps
- Microsoft Office Specialist: Microsoft Access Expert (Access and Access 2019) Microsoft Office Specialist: Microsoft Excel Expert (Excel and Excel 2019)

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- Microsoft Office Specialist-Excel*

  *IBC sunsetting 8/31/24

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Accountants and Auditors	$71,469	14,436	22%
Loan Officers	$68,598	2,419	19%
Personal Financial Advisors	$86,965	1,861	52%
Administrative service Managers	$96,138	2,277	21%
Insurance Underwriters	$66,206	594	14%

Successful completion of the Accounting and Financial Services program of study will fulfill requirements of the Business and Industry endorsement. Revised – October 2022

TEA
Texas Education Agency

Accounting and Financial Services
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Banking and Financial Services	13016300 (.5 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Insurance Operations	13016500 (1 credit)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Practicum in Business Management	13012200 (2 credits) 13012205 (3 credits) 13012210 (2 credits) 13012215 (3 credits)	None	None

FOR ADDITIONAL INFORMATION ON THE BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
https://tea.texas.gov/cte

Arts, Audio/Video Technology, and Communications Career Cluster

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

Graphic Design & Multimedia Arts
Statewide Program of Study

The Graphic Design and Multimedia Arts program of study explores the occupations and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. This program of study may also include exploration into designing clothing and accessories, and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media, for use in computer games, movies, music videos, and commercials.

Secondary Courses for High School Credit

Level 1
- Principles of Arts, A/V Technology, and Communications

Level 2
- Graphic Design and Illustration I/Lab

Level 3
- Graphic Design and Illustration II/Lab

Level 4
- Practicum in Graphic Design and Illustration

Postsecondary Opportunities

Associates Degrees
- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

Bachelor's Degrees
- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

Master's, Doctoral, and Professional Degrees
- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Intermedia/Multimedia

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Join a website development or coding club • Participate in SkillsUSA or TSA	• Intern with a multimedia or animation studio • Obtain a certificate or certification in graphic design

Industry-Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere Pro
- Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator
- Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign
- Adobe Certified Professional in Visual Design
- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- Adobe Certified Professional In Visual Effects and Motion Graphics Using Adobe After Effects
- Audio-Visual Communications - Job Ready
- Autodesk Associate (Certified User) 3ds MAX
- Certified Professional Photographer
- Graphic Production Technology - Job Ready

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- Adobe Certified Professional Animate*

*IBC Sunsetting 8/31/24

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Graphic Designers	$44,824	1,433	15%
Multimedia Artists and Animators	$67,392	186	21%

Successful completion of the Graphic Design & Multimedia Arts program of study will fulfill requirements of the Business and Industry endorsement. Revised – October 2022

Graphic Design & Multimedia Arts
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Arts, A/V Technology, & Communications	13008200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Graphic Design and Illustration I /Lab	13008800 (1 credit) 13008810 (2 credits)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Graphic Design and Illustration II/Lab	13008900 (1 credit) 13008910 (2 credits)	Graphic Design and Illustration I/Lab	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ)	COREQUISITES (CREQ)
Practicum in Graphic Design and Illustration	13009000 (2 credits) 13009005 (3 credits) 13009010 (2 credits) 13009015 (3 credits)	Graphic Design and Illustration II/Lab	None

FOR ADDITIONAL INFORMATION ON THE ARTS, AUDIO/VIDEO TECHNOLOGY, AND COMMUNICATIONS CAREER CLUSTER, PLEASE CONTACT: CTE@tea.texas.gov
https://tea.texas.gov/cte

[LEA name] does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: [title, address, telephone number, email.]

Further nondiscrimination information can be found at Notification of Nondiscrimination in Career and Technical Education Programs.

Information Technology Career Cluster

The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

Web Development
Statewide Program of Study

The Web Development program of study explores the occupations and educational opportunities associated with designing, creating, and modifying websites. This program of study may also explore integrating websites with other computer applications, and converting written, graphic, audio, and video components to compatible web formats by using software designed to facilitate the creation of web and multimedia content.

Secondary Courses for High School Credit

Level 1
• Principles of Information Technology

Level 2
• Computer Science I

Level 3
• Web Design

Level 4
• Independent Study in Technology Applications

Postsecondary Opportunities

Associates Degrees
• Computer Programming/Programmer, General
• Computer Science
• Web Page, Digital/Multimedia and Information Resources Design
• Computer Systems Networking and Telecommunications

Bachelor's Degrees
• Web/Multimedia Management and Webmaster
• Computer Science
• Web Page, Digital/Multimedia and Information Resources Design
• Computer Systems Networking and Telecommunications

Master's, Doctoral, and Professional Degrees
• Computational Science
• Computer Science
• Information Science/Studies
• Computer Systems Networking and Telecommunications

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Join TSA • Participate in a coding or computer programming club • Create a web page	• Earn an Oracle or web certification

Industry-Based Certifications

• Certified Web and Mobile App Developer Apprentice
• Certified Web Animator Associate
• Oracle Certified Associate Java SE 8 Programmer
• Web Design- Job Ready

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• Google Analytics Individual Qualification*
• WD Certified Web Design*

*IBC sunsetting 8/31/24

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Web Developers	$67,912	1,079	39%
Web Administrators, Computer Occupations	$85,197	1,616	20%
Software Developers	$104,499	6,311	30%

Successful completion of the Web Development program of study will fulfill requirements of the Business and Industry endorsement and STEM endorsement if the math and science requirements are met.. Revised – October 2022

Web Development
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Information Technology	13027200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Computer Science I	03580200 (1 credit)	Algebra I	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Web Design	03580820 (1 credit)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Independent Study in Technology Applications	03580900 (1 credit)	None	None

FOR ADDITIONAL INFORMATION ON THE INFORMATION TECHNOLOGY CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
https://tea.texas.gov/cte

[LEA name] does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: [title, address, telephone number, email.]

Further nondiscrimination information can be found at Notification of Nondiscrimination in Career and Technical Education Programs.

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

Healthcare Therapeutic
Statewide Program of Study

The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

Secondary Courses for High School Credit

Level 1
- Principles of Health Science

Level 2
- Medical Terminology

Level 3
- Anatomy and Physiology
- Health Science Theory/Health Science Clinical

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
Participate in SkillsUSA or Health Occupation Students of America	Volunteer at a community wellness center, hospital, assisted living, or nursing home

Industry-Based Certifications

- Certified Clinical Medical Assistant
- Certified Dental Assistant
- Certified EKG Technician
- Certified Nurse Aide (CNA)
- Certified Occupational Therapy Assistant
- Certified Patient Care Technician (CPCT)
- ECG Technician
- Medical Assistant
- Medical Laboratory Assistant
- Nationally Registered Certified EKG Technician
- Patient Care Technician
- Pharmacy Technician
- Phlebotomy Technician
- Registered Dental Assistant X-Ray Certification

- Certified Ophthalmic Technician*
- Certified Surgical Technologist*
- Licensed Dental Hygienist*
- Orthopedic Technologist*

*IBC sunsetting 8/31/24

Postsecondary Opportunities

Associates Degrees
- Dental Hygienist
- Medical/Clinical Assistant

Bachelor's Degrees
- Dental Hygienist

Master's, Doctoral, and Professional Degrees
- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	$29,598	8,862	30%
Surgical Technologists	$45,032	1,150	20%
Dental Hygienists	$73,507	1,353	38%
Physicians and Surgeons	$213,071	1,151	30%

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022

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Healthcare Therapeutic Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Health Science	13020200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Medical Terminology	13020300 (1 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Anatomy and Physiology	13020600 (1 credit)	One credit in Biology, one credit in Chemistry, Integrated Physics and Chemistry, or Physics.	None
Health Science Theory/ Health Science Clinical	13020400 (1 credit) 13020410 (2 credits)	Biology	None

FOR ADDITIONAL INFORMATION ON THE HEALTH SCIENCE CAREER CLUSTER,
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https://tea.texas.gov/cte

Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Engineering
Statewide Program of Study

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

Secondary Courses for High School Credit

Level 1
- Principles of Applied Engineering

Level 3
- Engineering Design and Presentation I
- Engineering Science

Level 4
- Engineering Design and Problem Solving

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Participate in Skills USA competitions	• Intern at an engineering firm • Shadow a machinist

Industry-Based Certifications

- Autodesk Certified Professional in Revit for Electrical Design
- Autodesk Certified Professional in Revit for Structural Design
- Engineering Technology Foundations
- Pre-Engineering/Engineering Technology - Job Ready

Postsecondary Opportunities

Associates Degrees
- Electrical and Electronics Engineering
- Drafting and Design Technology/ Technician, General
- Engineering Technology

Bachelor's Degrees
- Electrical and Electronics Engineering
- CAD/CADD Drafting and/or Design Technology/ Technician
- Bioengineering and Biomedical Engineering
- Construction Engineering Technology/ Technician

Master's, Doctoral, and Professional Degrees
- Electrical and Electronics Engineering
- Mechanical Engineering
- Bioengineering and Biomedical Engineering

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	$110,843	481	9%
Industrial Engineers	$97,074	1,263	10%
Mechanical Engineers	$91,107	1,535	11%
Chemical Engineers	$112,819	474	9%
Electrical Engineers	$98,405	1,137	105

Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – October 2022

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Texas Education Agency

Engineering
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principles of Applied Engineering	13036200 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Science	13037500 (1 credit)	Algebra I, Biology, Chemistry and either Integrated Physics (IPC) or Physics, and at least one credit in a course from the STEM career cluster	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Design and Presentation I	13036500 (1 credit)	Algebra I	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Design & Problem Solving	13037300 (1 credit)	Algebra I and Geometry	None

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATH CAREER CLUSTER, PLEASE CONTACT: CTE@tea.texas.gov
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Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Cybersecurity
Statewide Program of Study

The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.

Secondary Courses for High School Credit

Level 1
- Principles of Information Technology

Level 2
- Computer Science I

Level 3
- Engineering Applications of Computer Science Principles
- Networking/Lab
- Digital Forensics
- Internetworking Technologies II
- AP Computer Science A-Math
- AP computer Science B-LOTE
- IB Computer Science Standard Level
- Discrete Mathematics for Computer Science

Level 4
- Cybersecurity Capstone
- Practicum in Information Technology
- Practicum in STEM
- Project-Based Research
- Independent Study in Technology Applications
- Independent Study in Evolving/Emerging Technologies
- IB Computer Science Higher Level- Math
- IB Computer Science Higher Level-LOTE

Postsecondary Opportunities

Associates Degrees
- System Networking, and LAN/WAN Management
- Information Technology
- Computer and Information Sciences, General
- Computer Science

Bachelor's Degrees
- Computer Systems Networking and Telecommunications
- Computer Systems Networking and Telecommunications
- Computer and Information Sciences, General
- Computer Science

Master's, Doctoral, and Professional Degrees
- Computer Systems Analysis/Analyst
- Information Technology
- Computer Information Sciences, General
- Computer Science

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Join TSA • Job shadow a computer system analyst or information security analyst	• Obtain a cybersecurity IBC

Industry-Based Certifications

- Cisco 200-201 CBROPS - Understanding Cisco Cybersecurity Operations Fundamentals
- CompTIA A+ Certification
- CompTIA Network+
- CompTIA Security+
- Cybersecurity Fundamentals
- CyberSecurity Fundamentals: An ISACA Certificate
- Oracle Certified Associate Java SE 8 Programmer

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- Associate of (ISC)*
  *IBC sunsetting 8/31/24

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Information Security Analysts	$91,915	814	29%
Network and Computer System Administrators	$82,597	2,814	19%
Computer System Analysts	$87,568	5,937	29%

Successful completion of the Agribusiness program of study will fulfill requirements of the Business and Industry endorsement. Revised – October 2022

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Texas Education Agency

Cybersecurity
Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Principals of Information Technology	1302700 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Computer Science I	03580200 (1 credit)	Algebra I	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Applications of Computer Science Principles	N1303772 (1 credit)	None	None
Networking/Lab	13027400 (1 credit) 13027410 (1 credit)	None	None
Digital Forensics	03580360 (1 credit)	None	None
Internetworking Technologies II	N1302804 (1 credit)	Internetworking Technologies I	None
AP Computer Science A-Math	A3580110 (1 credit)	None	None
AP Computer Science B-LOTE	A3580120 (1 credit)	None	None
IB Computer Science Standard Level	I3580200 (2 credits)	None	None
Discrete Mathematics for Computer Science	03580370 (1 credit)	Algebra II	None

See next page for Level 4 courses

Cybersecurity
Course Information

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Cybersecurity Capstone	03580855 (1 credit)	None	None
Practicum in Information Technology	13028000 (2 credits) 13028005 (3 credits) 13028010 (2 credits) 13028015 (3 credits)	Two high school Information Technology courses	None
Practicum in STEM	13037400 (2 credits) 13037405 (3 credits) 13037410 (2 credits) 13037415 (3 credits)	Algebra I and Geometry	None
Project-Based Research	12701500 (1 credit)	None	None
Independent Study in Technology Applications	03580900 (1 credit)	None	None
Independent Study in Evolving/Emerging Technologies	03581500 (1 credit)	None	None
IB Computer Science Higher Level - Math	I3580310 (1 credit)	None	None
IB Computer Science Higher Level-LOTE	I3580320 (1 credit)	None	None

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEEERING, AND
MATHEMATICS CAREER CLUSTER,
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