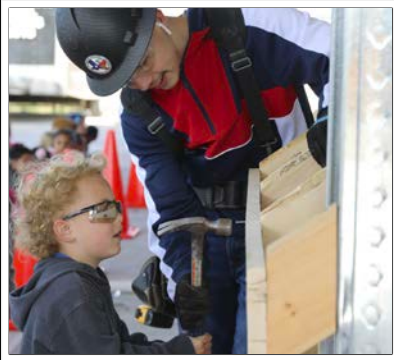


CAREER & TECHNICAL EDUCATION



PROGRAMS OF STUDY

The mission of the BISD CTE program is to challenge, prepare, and empower all students to acquire leadership, academic and technical skills in a hands-on environment that will help them succeed in post-secondary educational/training programs, prepare for a globally competitive workforce and embrace civic responsibility.

BELTON ISD CAREER & TECHNICAL EDUCATION

WHAT TO KNOW ABOUT CAREER & TECHNICAL EDUCATION (CTE)

CTE combines academic and technical skills with the knowledge and training needed to succeed in today's labor market. CTE prepares students for the world of work by introducing them to workplace competencies in a real-world, applied context.

CTE programs are designed for all students: those who want to attend a four-year college, those who plan to combine work and learning at a community college, and those who intend to enter the labor market directly.



Belton ISD is committed to providing:



... CTE Programs of Study that are aligned with high-wage, high-skill, and in-demand occupations.



... rigorous courses that are based on the Foundation High School Program with endorsements.



... instruction that includes access to relevant dual credit, Industry-Based Certifications, and work-based learning opportunities.



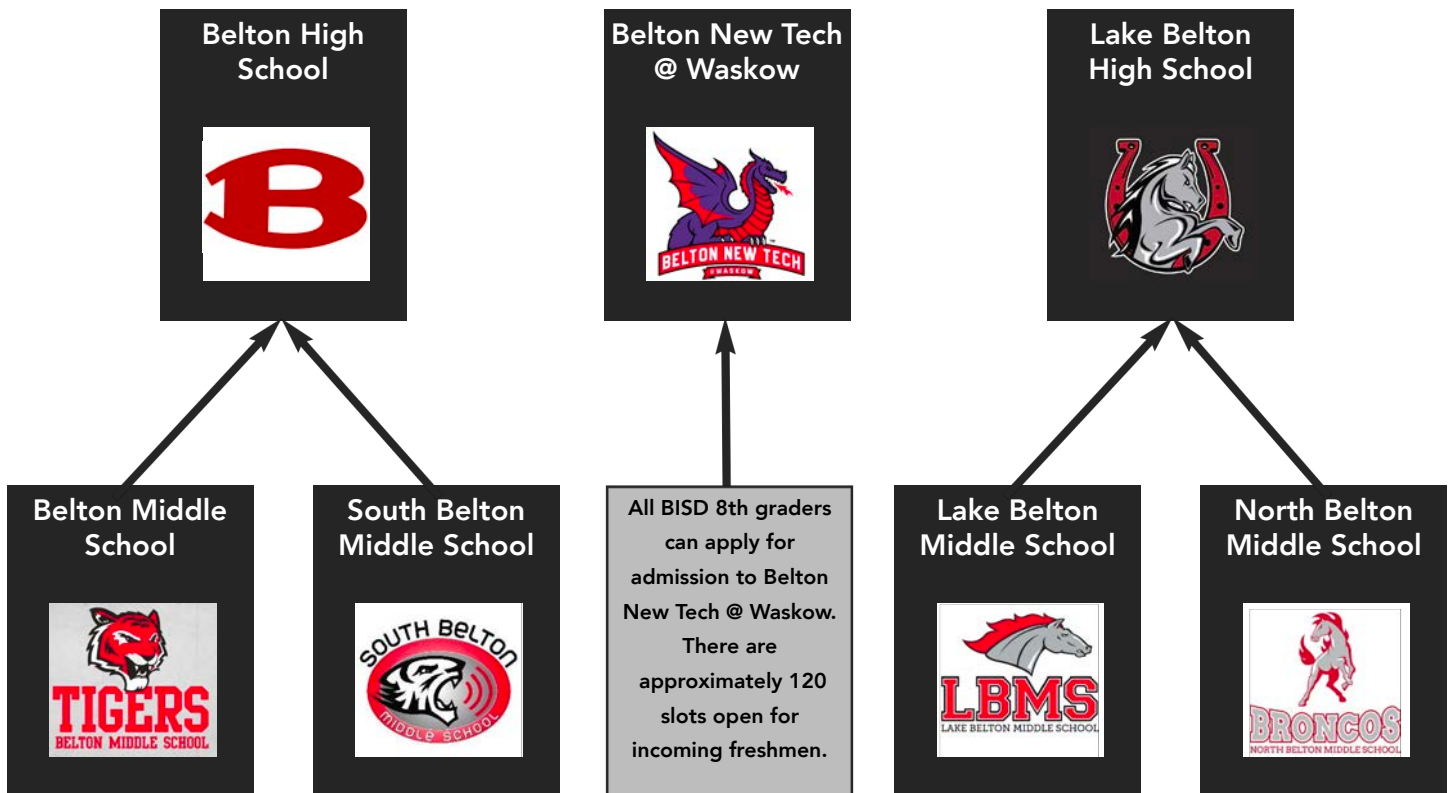
... challenging experiences in all courses, especially advanced level CTE courses that are weighted as Level 3 courses, beginning with freshmen in 2023-24.



... students' access to practitioners and industry experts to support learning that is connected to in-demand occupations.

BELTON ISD CAREER & TECHNICAL EDUCATION

CTE COURSE WORK AND OPPORTUNITIES ARE OFFERED IN BISD AT:



BISD CAREER & TECHNICAL EDUCATION – INDEX

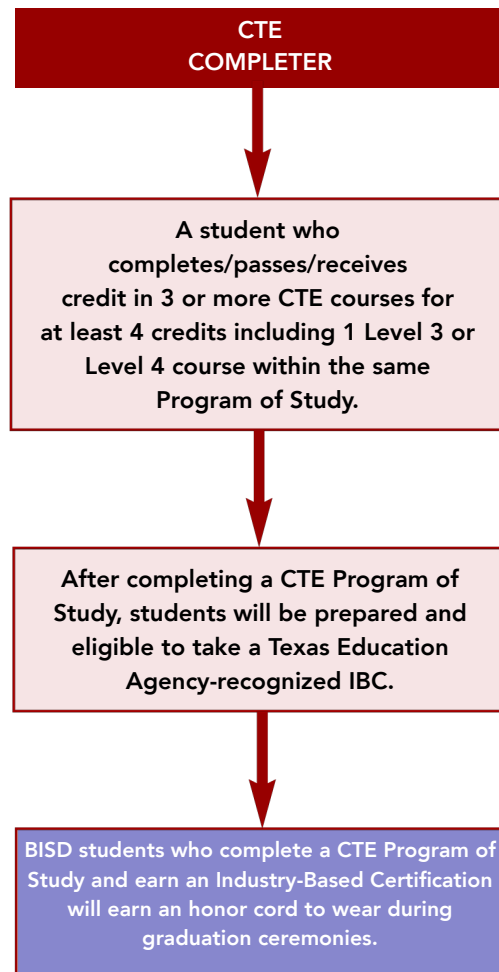
What is CTE	Page 1	Business, Marketing, and Finance	Pages 74-81
CTE campuses	Page 2	Accounting and Financial Services	Pages 74-75
Index	Page 3	Business Management	Pages 76-77
Career & Technical Education Overview	Page 4	Marketing and Sales	Pages 78-79
BISD Career Clusters and Program of Study	Page 5	Entrepreneurship	Pages 80-81
BISD Vision & Journey of a Graduate	Page 6	Education and Training	Pages 82-83
Xello	Page 7	Teaching and Training	Pages 82-83
Belton High School	Page 8	Health Science	Pages 84-87
Belton High School Programs of Study	Page 9	Healthcare Diagnostics	Pages 84-85
Agriculture, Food, and Natural Resources	Pages 10-17	Healthcare Therapeutic	Pages 86-87
Animal Science	Pages 10-11	Hospitality and Tourism	Pages 88-89
Applied Agricultural Engineering	Pages 12-13	Culinary Arts	Pages 88-89
Environmental and Natural Resources	Pages 14-15	Human Services	Pages 90-91
Plant Science	Pages 16-17	Family and Community Services	Pages 90-91
Architecture and Construction	Pages 18-19	Information Technology	Pages 92-93
Carpentry	Pages 20-21	Networking Systems	Pages 92-93
Construction Management & Inspection	Pages 22-25	Law and Public Service	Pages 94-97
Arts, A/V Technology and Communications	Pages 22-23	Emergency Services	Pages 94-95
Digital Communications	Pages 24-25	Law Enforcement	Pages 96-97
Graphic Design and Multimedia Arts	Pages 26-31	Science, Technology, Engineering and Math	Pages 98-105
Business, Marketing, and Finance	Pages 26-27	Engineering	Pages 98-99
Accounting and Financial Services	Pages 28-29	Cybersecurity	Pages 100-101
Business Management	Pages 30-31	Programming & Software Development	Pages 102-103
Marketing and Sales	Pages 32-33	Biomedical Science	Pages 104-105
Education and Training	Pages 32-33	Transportation, Distribution and Logistics	Pages 106-107
Teaching and Training	Pages 34-37	Automotive	Pages 106-107
Health Science	Pages 34-35	Belton New Tech High School @ Waskow	Page 108
Healthcare Diagnostics	Pages 36-37	Belton New Tech High School @ Waskow	
Healthcare Therapeutic	Pages 38-39	Programs of Study	Page 109
Hospitality and Tourism	Pages 38-39	Arts, A/V Technology and Communications	Pages 110-113
Culinary Arts	Pages 40-41	Digital Communications	Pages 110-111
Human Services	Pages 40-41	Graphic Design and Multimedia Arts	Pages 112-113
Family and Community Services	Pages 42-43	Law and Public Service	Pages 114-115
Information Technology	Pages 42-43	Government & Public Administration	Pages 114-115
Networking Systems	Pages 44-47	Transportation, Distribution and Logistics	Pages 116-117
Law and Public Service	Pages 44-45	Drone (Unmanned Flight)	Pages 116-117
Emergency Services	Pages 46-47	Belton ISD Middle Schools	Page 118-120
Law Enforcement	Pages 48-49	Health Science	Page 119
Science, Technology, Engineering and Math	Pages 50-51	PLTW-Gateway (Robotics)	Page 120
Engineering	Pages 52-53	Facilities and Forms	Page 121-125
Cybersecurity	Pages 54-55	BISD Agriculture Science Facility	
Biomedical Science	Pages 54-55	(Ag Barn)	Page 122
Transportation, Distribution and Logistics	Pages 56	Request for CTE Services Form	Page 123
Automotive	Pages 57	CTE Advisory Committee	Page 124
Lake Belton High School	Pages 58-65	Public Notification of Nondiscrimination	
Lake Belton High School Programs of Study	Pages 58-59	in CTE	Page 125
Agriculture, Food, and Natural Resources	Pages 60-61		
Animal Science	Pages 62-63		
Applied Agricultural Engineering	Pages 64-65		
Environmental and Natural Resources	Pages 66-67		
Plant Science	Pages 68-69		
Architecture and Construction	Pages 70-71		
Carpentry	Pages 72-73		
Construction Management & Inspection			
Arts, A/V Technology and Communications			
Digital Communications			
Graphic Design and Multimedia Arts			

BISD CAREER & TECHNICAL EDUCATION



Belton ISD students enrolled in Career and Technical Education courses are preparing for post-secondary success by acquiring leadership, academic and technical skills in a hands-on environment. More than **3,500 students** are taking courses in **12 Career Clusters** and **27 Programs of Study**. In the Belton ISD CTE department, more than **60 teachers** teach more than **5,400 sections**. Courses are sequenced to link to college and training programs after high school.

With support from business and industry partners, courses are designed to assist students with acquiring marketable skills and Industry-Based Certifications (IBCs) through better alignment of education, training and employment in the workplace. CTE courses are designed to provide an authentic learning experience through academically rigorous and technology-rich curriculum and real-world applications. This catalogue is designed to give students and parents the detailed information they need to design their coursework plan for high school to be a CTE Completer and IBC earner.



BISD CAREER & TECHNICAL EDUCATION

A **Career Cluster** is a group of careers that share common themes. BISD offers 12 Texas identified Career Clusters.

A **Program of Study** is a coordinated, non-duplicative sequence of courses which progress in specificity, beginning with all aspects of industry and leading to more occupation specific instruction. **BISD** offers 27 programs of study at three secondary campuses to assist students with acquiring marketable skills and industry-recognized credentials through better alignment of education, training and employment.

An **Endorsement** consists of a related series of courses that are grouped by interest or skill set.

Career Cluster	PROGRAMS OF STUDY					ENDORSEMENTS
Agriculture, Food, and Natural Resources	Animal Science	Applied Agricultural Engineering	Environmental and Natural Resources	Plant Science	<p>Endorsements provide students with in-depth knowledge of a subject area.</p> <p>There are five endorsement areas:</p> <ul style="list-style-type: none">•Arts and Humanities•Business & Industry•Multi-Disciplinary Studies•Public Service•Science, Technology, Engineering and Mathematics <p>Students earn an endorsement by completing the curriculum requirements for the endorsement, including 4th credit of math and science and 2 additional elective credits.</p>	
Architecture and Construction	Carpentry	Construction Management and Inspection				
Arts, A/V Technology and Communications	Digital Communications	Graphic Design and Multimedia Arts				
Business, Marketing and Finance	Accounting and Financial Services	Business Management	Marketing and Sales	Entrepreneurship (INCubator)		
Education and Training	Teaching and Training					
Health Science	Healthcare Diagnostics	Healthcare Therapeutic				
Hospitality and Tourism	Culinary Arts					
Human Services	Family and Community Services					
Information Technology	Networking Systems					
Law and Public Service	Law Enforcement	Emergency Services	Government and Public Administration			
Science, Technology, Engineering and Math (STEM)	Engineering	Cybersecurity	Programming and Software Development	Biomedical Science		
Transportation, Distribution and Logistics	Automotive	Drone (Unmanned Flight)				

CTE courses are designed to provide an authentic learning experience through academically rigorous and technology-rich curriculum and real-world applications. Courses are designed specifically for these Programs of Study.

BISD VISION & JOURNEY OF A GRADUATE

VISION

Empower each and every learner to pursue their dreams and enrich their communities.

JOURNEY OF A GRADUATE



In January 2021, members of the Belton ISD Board of Trustees approved the district's Journey of a Graduate. The JOG represents a collective vision that articulates the community's aspirations for our students. The Journey unites the district with a shared outlook and will inform all future decisions, including long-range facilities and strategic plans. The six competencies that are most important for graduates of Belton ISD to have are :

- Perseverance
- Adaptability
- Critical thinking
- Collaboration
- Communication
- Empathy

These competencies will be a focal point for educators, students and industry partners in Career and Technical Education classrooms.



Xello (pronounced zello) is an engaging online program that helps students build the skills, knowledge and plans to be future ready. The program uses an investigative, discovery-based learning process. Students better understand themselves, their future career options, and the 21st century skills they'll need to succeed and be future ready. For more information, link to: <https://xello.world>

Xello will help students:



1 Build Self-knowledge

Define their interests, skills, preferences, and aspirations so they can explore the opportunities right for them.

2 Explore Options

Learn about career possibilities and educational pathways by exploring rich, engaging content and lessons.

3 Create a Plan

Your child can create dynamic actionable plans that outline steps needed to achieve school, career, and life goals.

4 Learn & Reassess

Interactive lessons help your child develop age appropriate skills and knowledge for success in school and beyond.

All Belton ISD students (6th-12th graders)

should log-in to their

Xello account through ClassLink



**For more information, contact your child's
counselor or email:
xello@bisd.net**

**Beginning with the 2023-24 registration, incoming
8th and 9th graders will be able to
register for courses in Xello.**

Xello fully engages every student in building the skills, knowledge, and plans for future success — regardless of background, ability, or pathway.

Xello puts the student at the center of their planning experience. Students document their journey as they build self-knowledge, explore post-secondary options, create plans, and continually reassess as they take in new knowledge, skills, and experiences.

Xello Family

Xello Family lets you discover your child's future goals and plans so you can better support learning and development.

1 Access your Account

You will receive a Welcome to Xello! activation email to the address we have on file. Once you click Activate Account through the email, you will be redirected to Xello and asked to create a password.

2 Explore Xello Family

On the welcome screen, you will see all children linked to your account. Clicking a child's name will bring you to their profile.

3 Discover your Child's Interests and Goals

In your child's profile, you will be able to see all the work they've done in Xello. If there's no information in a certain section, your child has not yet started or completed the activity. You can explore each section to learn new information about your child.

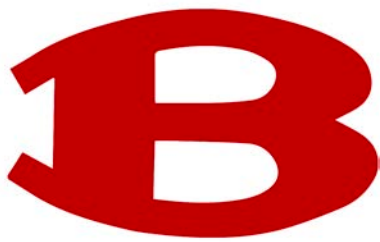
4 Access your Student Demo Account

Try Xello for yourself to get a better understanding of the platform to support your child. On the welcome screen, select your child's grade/school under Your Demo Account. Lessons and assignments are catered by grade and school so if you have multiple children, each demo account might look a little different.

5 Access your Student Demo Account

Xello is a great tool to use to start future planning conversations with your child. Try asking them why they liked a certain career. Were they surprised about their top career suggestions? What different pathways can they take to achieve their goals?

BELTON HIGH SCHOOL



Belton High School
600 Lake Road
Belton, TX 76513
Phone: 254-215-2200
Fax: 254-215-2201

BELTON HIGH SCHOOL CAREER & TECHNICAL EDUCATION

A **Career Cluster** is a group of careers that share common themes. BHS offers 12 Texas identified Career Clusters.

A **Program of Study** is a coordinated, non-duplicative sequence of courses which progress in specificity, beginning with all aspects of industry and leading to more occupation specific instruction. **Belton High School** offers 23 programs of study to assist students with acquiring marketable skills and industry-recognized credentials through better alignment of education, training and employment.

An **Endorsement** consists of a related series of courses that are grouped by interest or skill set.

Career Cluster	PROGRAMS OF STUDY				ENDORSEMENTS
Agriculture, Food, and Natural Resources	Animal Science	Applied Agricultural Engineering	Environmental and Natural Resources	Plant Science	<p>Endorsements provide students with in-depth knowledge of a subject area.</p> <p>There are five endorsement areas:</p> <ul style="list-style-type: none">•Arts and Humanities•Business & Industry•Multi-Disciplinary Studies•Public Service•Science, Technology, Engineering and Mathematics <p>Students earn an endorsement by completing the curriculum requirements for the endorsement, including 4th credit of math and science and 2 additional elective credits.</p>
Architecture and Construction	Carpentry	Construction Management and Inspection			
Arts, A/V Technology and Communications	Digital Communications	Graphic Design and Multimedia Arts			
Business, Marketing and Finance	Accounting and Financial Services	Business Management	Marketing and Sales		
Education and Training	Teaching and Training				
Health Science	Healthcare Diagnostics	Healthcare Therapeutic			
Hospitality and Tourism	Culinary Arts				
Human Services	Family and Community Services				
Information Technology	Networking Systems				
Law and Public Service	Law Enforcement	Emergency Services			
Science, Technology, Engineering and Math (STEM)	Engineering	Cybersecurity	Biomedical Science		
Transportation, Distribution and Logistics	Automotive				

CTE courses are designed to provide an authentic learning experience through academically rigorous and technology-rich curriculum and real-world applications. Courses are designed specifically for these Programs of Study.

Career & Technical Education



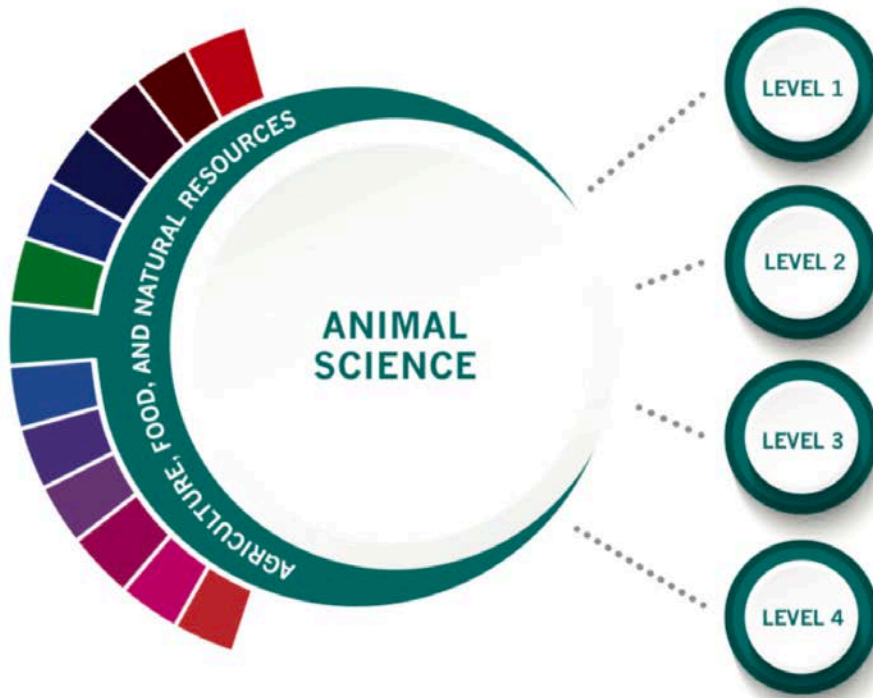
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

- Principles of Agriculture, Food and Natural Resources (1 credit)
- Small Animal Management (.5 credit)
- Equine Science (.5 credit)
- Livestock Production (1 credit)
- Veterinary Medical Applications (1 credit)
- Advanced Animal Science (1 credit)
- Practicum in Agriculture, Food and Natural Resources (Veterinary Technician) (2 credits)
- Scientific Research and Design (1 credit)

★ Successful completion of the Animal Science Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Certified Veterinary Assistant, Level 1
- Elanco Fundamentals of Animal Science Certification
- Elanco Veterinary Medical Applications Certification
- Equine Management and Evaluation Certification
- Small Animal Science and Technology

BISD – Local Certifications

- OSHA – General Industry

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Pet Groomer	Food Science and Technology	Animal Sciences	Genetics
Veterinary Technician	Veterinary Studies	Agriculture	Veterinary Medicine
Licensed Breeder	Biotechnology Laboratory Technician	Biology	Biological and Physical Sciences
	Biology Technician	Zoology/Animal Biology	Biological and Biomedical Sciences

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Animal Breeders	\$39,135	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%

The Animal Science Program of Study focuses on the science, research, and business of animals and other living organisms. It teaches students 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.



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.

DO YOU WANT MORE INFORMATION ON COLLEGE AND CAREER ADVICE?

Visit the BISD College and Career Center to visit with BISD and Texas Workforce Commission Specialists



254-215-2342



254-742-4500

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR ANIMAL SCIENCE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills.
Small Animal Management <div>Course# 17220</div>	13000400 (.5 Credit)	None	10-12	Students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to animal systems.
Equine Science <div>Course# 17230</div>	13000500 (.5 Credit)	None	10-12	Students will acquire knowledge and skills related to equine animal systems and the equine industry. Equine Science may address topics related to horses, donkeys, and mules. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to animal systems.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Livestock Production <div>Course# 27242</div>	13000300 (1 Credit)	None	10-12	Students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace.
Veterinary Medical Applications <div>Course# 27230</div>	13000600 (1 Credit)	Required: Equine Science, Small Animal Management or Livestock Production	11-12	Veterinary Medical Applications covers topics relating to veterinary practices, including practices for large and small animal species. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
Advanced Animal Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27245</div>	13000700 (1 Credit)	Required: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production Recommended: Veterinary Medical Applications	11-12	Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices.
Practicum in Agriculture, Food, and Natural Resources (Veterinary Technician) <div>Course# 47230</div>	13002500 (2 Credits)	Recommended: Veterinary Medical Applications	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in veterinary science, students will have learning experiences with local veterinarians and will clock the required hours needed to take the Veterinarian Technician certification.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

Career
&
Technical
Education



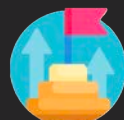
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES



LEVEL 1

•Principles of Agriculture, Food and Natural Resources (1 credit)

LEVEL 2

•Agricultural Mechanics and Metal Technologies (1 credit)

LEVEL 3

•Agricultural Structures Design and Fabrication (1 credit)

LEVEL 4

•Agricultural Equipment Design and Fabrication
•Practicum in Agriculture, Food and Natural Resources (Applied Agricultural Engineering) (2 credits)
•Scientific Research and Design (1 credit)

★ Successful completion of the Applied Agricultural Engineering Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•AWS D1.1 Structural Steel •AWS D9.1 Sheet Metal Welding •API 1104 Welding Pipelines and Related Facilities	Certified Professional Agronomist	Heavy Equipment Maintenance Technology/Technician	Agricultural Engineering	
BISD – Local Certifications	Certified Reliability Engineer	Agricultural Mechanization, General	Agricultural Mechanization, General	
•OSHA – General Industry •OSHA-30	Certified Irrigation Designer	Small Engine Mechanics and Repair Technology/Technician		
	Fluid Power Mobile Hydraulic Mechanic	Welding Technology/Welder		

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Outdoor Power Equipment and Other Small Engine Mechanics	\$32,406	366	16%
Welders	\$41,350	6,171	9%
Farm Equipment Mechanics and Service Technicians	\$39,915	304	17%
Mobile Heavy Equipment Mechanics	\$47,299	1,627	16%
Agricultural Engineers	\$64,792	9	13%

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.



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.

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254-215-2342



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CAREER & TECHNICAL
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COURSE INFORMATION FOR APPLIED AGRICULTURAL ENGINEERING

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student demonstrates professional standards/employability skills as required by business and industry; analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills in agricultural applications.
Agricultural Mechanics and Metal Technologies <div>Course# 27220</div>	13002200 (1 Credit)	Recommended: Principles of Agriculture, Food, and Natural Resources	10-12	Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. The student follows operating instructions for tools and equipment to perform a given task. The student identifies and performs electric wiring skills, plumbing skills, concrete construction skills, carpentry skills, fencing methods, cold and hot metal techniques, assembly of equipment in agricultural systems operations.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Agricultural Structures Design and Fabrication <div>Course# 27221</div>	13002300 (1 Credit)	Recommended: Agricultural Mechanics and Metal Technologies	11-12	Students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication. The student will demonstrate principles of facilities design and fabrication related to agricultural structures. The student explores the different types of power systems used in agricultural structures. The student will construct agricultural structures using appropriate technology and will demonstrate metal construction techniques related to agricultural design and fabrication.
Agricultural Equipment Design and Fabrication <div>Course# 27222</div>	13002350 (1 Credit)	Recommended: Agricultural Mechanics and Metal Technologies	11-12	Students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication. The student will demonstrate principles of design and fabrication related to agricultural machinery and equipment. The student plans, constructs, and maintains fences, corrals, and other agricultural enclosures. The student demonstrates construction techniques related to design and fabrication of agricultural equipment. The student demonstrates knowledge of laws and regulations related to the construction, design and fabrication of agricultural equipment.
Practicum in Agriculture, Food, and Natural Resources (Applied Agricultural Engineering) <div>Course# 47231</div>	13002500 (2 Credits)	Recommended: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food and natural resources, students must attain academic skills and knowledge, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

**Career
&
Technical
Education**



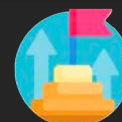
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

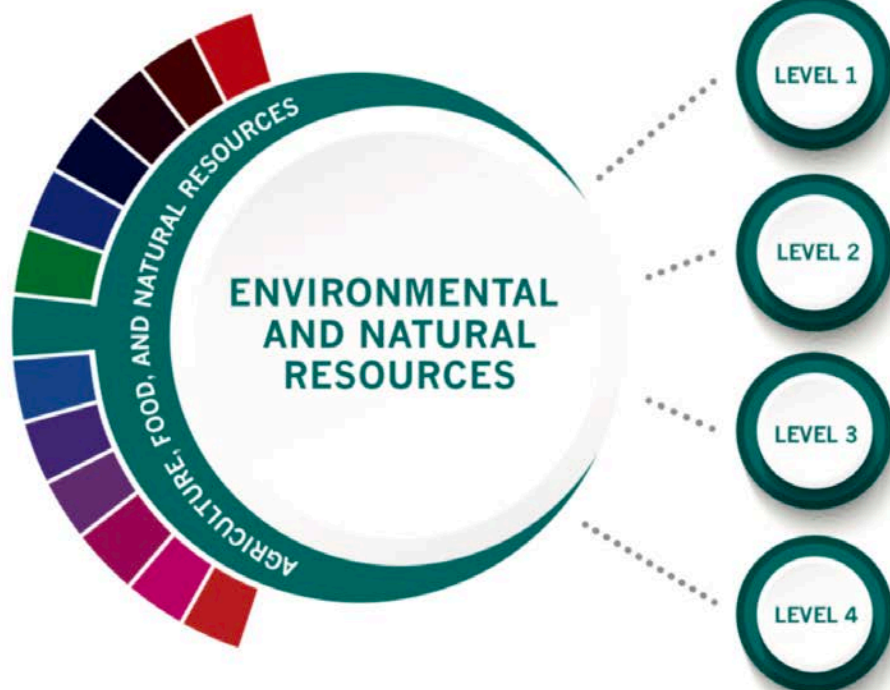
•Principles of Agriculture, Food and Natural Resources (1 credit)

•Wildlife, Fisheries, and Ecology (1 credit)

•Range Ecology Management (1 credit)

•Practicum in Agriculture, Food and Natural Resources (Environmental and Natural Resources) (2 credits)

•Scientific Research and Design (1 credit)



Source: Texas Education Agency

★ Successful completion of the Environmental and Natural Resources Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Natural Resources System	Board Certified Environmental Engineer – Hazardous Waste Management	Environmental Science		
	Certified Water Technologist	Environmental Studies	Environmental/Environmental Health Engineering	
	Certified Environmental Scientist	Wildlife, Fish, and Woodlands Science and Management		
	Certified in Public Health	Environmental Engi- neering Technology/ Environmental Technology	Natural Resources Law Enforcement and Protective Services	Fishing and Fisheries Science and Management
BISD – Local Certifications				
•Texas Hunter Safety				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Environmental Engineering Technicians	\$53,352	101	32%
Environmental Engineers	\$86,757	288	25%
Environmental Science and Protection Technicians	\$40,268	508	17%
Environmental Scientists and Specialists	\$77,896	644	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

The Environmental and Natural Resources Program of Study explores the occupations and educational opportunities associated with the research, design, and planning of engineering or technical duties in the prevention and control of environmental hazards. This Program of Study may also include exploration into conducting research for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.



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.

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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR ENVIRONMENTAL & NATURAL RESOURCES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student demonstrates professional standards/employability skills as required by business and industry; analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills in agricultural applications; explains the relationship between AFNR and the environment.
Wildlife, Fisheries, and Ecology <div>Course# 27297</div>	13001500 (1 Credit)	None	10-12	Wildlife, Fisheries, and Ecology Management examines the management of game and non-game wildlife species, fish, and aquacrops and their ecological needs as related to current agricultural practices. The student will analyze the importance of wildlife, with an emphasis on use and management. The student is expected to: analyze the importance of wildlife, fisheries, and ecology management; discuss the history of wildlife, fisheries, and ecology management; discuss policies, laws, and the administration of wildlife, fisheries, and ecology management; and analyze the economic impact of public recreation.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Range Ecology Management <div>Course# 27298</div>	13001600 (1 Credit)	None	10-12	Range Ecology and Management is designed to develop students' understanding of rangeland ecosystems and sustainable forage production. The student develops an understanding of the rangeland ecosystem. The student develops an understanding of rangeland as a dynamic, living, and changeable system. The student analyzes the biotic and abiotic components of a rangeland. The student develops an understanding of the dynamic process of a renewable rangeland resource. The student identifies methods of maintaining and improving rangeland for livestock management. The student identifies methods of maintaining and improving rangeland for wildlife management. The student develops an understanding of rangeland management as it relates to global concerns.
Practicum in Agriculture, Food, and Natural Resources (Environmental and Natural Resources) <div>Course# 47232</div>	13002500 (2 Credits)	Recommended: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food and natural resources, students must attain academic skills and knowledge, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

Career & Technical Education



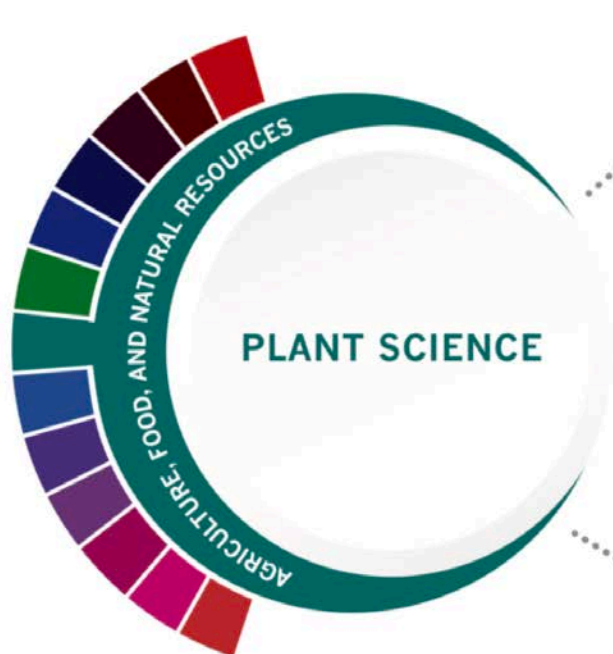
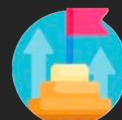
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Principles of Agriculture, Food and Natural Resources (1 credit)

LEVEL 1

•Landscape Design and Management (.5 credit)
•Turf Grass Management (.5 credit)
•Greenhouse Operation and Production (1 credit)

LEVEL 2

•Floral Design (1 credit)
•Advanced Floral Design (1 credit)
•Advanced Plant and Soil Science (1 credit)

LEVEL 3

•Practicum in Agriculture, Food and Natural Resources (Floral Design) (2 credits)
•Scientific Research and Design (1 credit)

LEVEL 4

★ Successful completion of the Plant Science Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	
•Texas State Florist's Association Knowledge Based Floral Certification	•Commercial/ Noncommercial Pesticide Applicator
•Texas State Florist's Association Level I Floral Certification	•BASF Plant Science Certification
•Texas State Florist's Association Level II Floral Certification	•Horticulture – Landscaping Job Ready
	•Texas Certified Landscape Associate (TCLA)
	•Texas Certified Nursery Professional
BISD – Local Certifications	
•OSHA – General Industry	

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Pesticide Applicator	Applied Horticulture/ Horticulture Operations, General		
Certified Floral Designer	Ornamental Horticulture	Agronomy and Crop Science	
Accredited Member of AIFD	Agricultural Business and Management, General		
Landscape Ind. Cert. Technician	Turf and Turfgrass Management		Farm/Farm & Ranch Management

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Soil and Plant Scientists	\$54,662	116	21%
Tree Trimmers and Pruners	\$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	\$36,733	196	22%
Landscaping Supervisors	\$44,408	807	19%
Biological Technicians	\$42,931	452	17%

The Plant Science Program of Study focuses on the science, research, and business of plants and other living organisms. It teaches students how to apply biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

CAREER & TECHNICAL
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COMPETITIONS



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.

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COURSE INFORMATION FOR PLANT SCIENCE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student demonstrates professional standards/employability skills as required by business and industry; analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills in agricultural applications.
<div>Course# 17265</div> Landscape Design and Management	13001900 (.5 Credit)	None	10-12	Landscape Design and Management is designed to develop an understanding of landscape design and management techniques and practices.
<div>Course# 17266</div> Turf Grass Management	13001950 (.5 Credit)	None	10-12	Turf Grass Management is designed to develop an understanding of turf grass management techniques and practices.
<div>Course# 27267</div> Greenhouse Operation and Production	13002050 (1 Credit)	None	10-12	Greenhouse Operation and Production is designed to develop an understanding of greenhouse production techniques and practices.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Floral Design <i>This course satisfies the fine arts graduation requirement</i> <div>Course# 27260</div>	13001800 (1 Credit)	None	10-12	Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations.
Advanced Floral Design <div>Course# 27262</div>	N1300270 (1 Credit)	Required: Floral Design	11-12	Students are introduced to advanced floral design concepts, with an emphasis on specialty designs and specific occasion planning. This course focuses on building skills in advanced floral design, design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of a specific occasion or event. Students explore the design needs and expectations of clients and propose and evaluate appropriate creations. From conception to evaluation, students are challenged to create and design appropriate specialty floral designs that meet the needs of the client.
Advanced Plant and Soil Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27225</div>	13002100 (1 Credit)	Recommended: Biology, Integrated Physics and Chemistry, Chemistry, or Physics and a minimum of one credit from the courses in the AFNR Career Cluster.	11-12	Advanced Plant and Soil Science provides a way of learning about the natural world. Students should know how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. The student, for at least 40 percent of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices.
Practicum in Agriculture, Food, and Natural Resources (Floral Design) <div>Course# 47245</div>	13002500 (2 Credits)	Recommended: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food and natural resources, students must attain academic skills and knowledge, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

BUSINESS AND INDUSTRY ENDORSEMENT

Architecture and Construction

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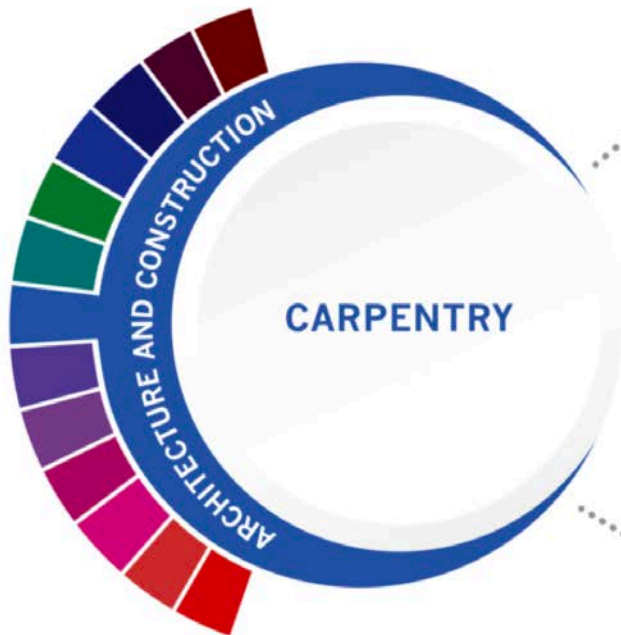
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES

•Principles of Construction (1 credit)

•Construction Technology I (2 credits)

•Construction Technology II (2 credits)

•Practicum in Construction Technology (2 credits)

★ Successful completion of the Carpentry Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•NCCER Carpentry, Level 1				
•NCCER Carpentry, Level 2	Certified Lead Carpenter	Carpentry/ Carpenter	Construction Science	Construction Management
•NCCER Core	Certified Installer	Industrial Mechanics and Maintenance Technology		
BISD – Local Certifications	Certified Door Consultant			
•Level 5 Forklift Certification				
•OSHA-10	Fluid Power Connector and Conductor			
•OSHA-30				

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Carpenters	\$35,922	5,031	26%
Cost Estimators	\$63,939	2,239	21%

The Carpentry Program of Study explores the occupations and educational opportunities related to constructing, installing, or repairing structures and fixtures made of wood, such as concrete forms (including frameworks, partitions, joists, studding, rafters, and stairways). This Program of Study may also include exploration into installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

CAREER & TECHNICAL
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COMPETITIONS



The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

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COURSE INFORMATION FOR CARPENTRY

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Construction <div>Course# 27601</div>	13004220 (1 Credit)	None	9	Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Construction Technology I <div>Course# 47607</div>	13005100 (2 Credits)	Recommended: Principles of Construction	10-12	In Construction Technology I, students will gain knowledge and skills needed to enter the workforce as carpenters or building maintenance supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, tool usage, building materials, codes, and framing. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Construction Technology II <div>Course# 47615</div>	13005200 (2 Credits)	Required: Construction Technology I	11-12	In Construction Technology II, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Practicum in Construction Technology <div>Course# 47616</div>	13005250 (2 Credits)	Required: Construction Technology II	12	In Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.

Architecture and Construction

**Career
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Technical
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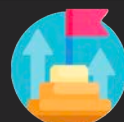
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COURSES



LEVEL 1

•Principles of Construction (1 credit)

LEVEL 2

•Construction Management I (2 credits)

LEVEL 3

•Construction Management II (2 credits)

LEVEL 4

•Practicum in Construction Management (2 credits)

★ Successful completion of the Construction Management and Inspection Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•NCCER Core				
•Residential Plans Examiner-R3	Code Enforcement Officer, Texas Department of Health Code Enforcement	Construction Engineering Technology/Technician		Materials Management
BISD – Local Certifications	Certified Cost Estimator/Analyst	Business Administration and Management, General		
•Level 5 Forklift Certification	Certified Professional Estimator	Mechanical Engineering		
•OSHA-10	Structural Masonry Special Inspector	Business/Commerce, General		Manufacturing Engineering
•OSHA-30				

OCCUPA-TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Construction and Building Inspectors	\$53,914	983	17%
Cost Estimators	\$53,939	2,239	21%
Construction Managers	\$87,402	2,401	14%

The Construction Management and Inspection Program of Study explores the occupations and educational opportunities associated with cost estimates for construction projects or services to aid management in bidding on or determining the price of products or services. This Program of Study may also include exploration into inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.

CAREER & TECHNICAL
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The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

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COURSE INFORMATION FOR CONSTRUCTION MANAGEMENT & INSPECTION

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Construction <div>Course# 27601</div>	13004220 (1 Credit)	None	9	Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Construction Management I <div>Course# 47626</div>	13004900 (2 Credits)	Recommended: Algebra I, Geometry, and Principles of Construction	10-12	In Construction Management I, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management I includes the knowledge of design techniques and tools related to the management of architectural and engineering projects. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Construction Management II <div>Course# 47627</div>	13005000 (2 Credits)	Required: Construction Management I	11-12	In Construction Management II, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management II includes knowledge of the design, techniques, and tools related to the management of architectural and engineering projects. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Practicum in Construction Management <div>Course# 47625</div>	13006200 (2 Credits)	Required: Construction Management II	12	Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.

**Career
&
Technical
Education**



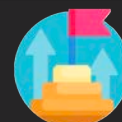
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES



LEVEL 1

- Principles of Arts, Audio/Video Technology, and Communications (1 credit)
- Professional Communications (.5 credit)

LEVEL 2

- Audio/Video Production I (1 credit)
- Digital Audio Technology I (1 credit)

LEVEL 3

- Audio/Video Production II (1 credit)
- Digital Audio Technology II (1 credit)

LEVEL 4

- Practicum in Audio/Video Production (2 credits)
- Practicum in Digital Audio Technology (2 credits)

★ Successful completion of the Digital Communications Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Adobe Certified Professional in Digital Video Using Adobe Premiere Pro	Certified Video Engineer	Recording Arts Technology/Technician		Communications Technology/Technician
•Adobe Certified Professional in Visual Design	Commercial Audio Technician	Cinematography and Film/Video Production		
•Adobe Certified Professional in Visual Design Using Adobe Photoshop	Certified AM Directional Specialist	Radio and TV Broadcasting Technician	Radio and Television	
•Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign	Certified Broadcast Radio Engineer	Music Technology	Agricultural Communication/Journalism	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%

The Digital Communications Program of Study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This Program of Study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

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.

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COMPETITIONS



COURSE INFORMATION FOR DIGITAL COMMUNICATIONS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Arts, Audio Video Technology, and Communications Course# 27349	13008200 (1 Credit)	None	9	Careers in the Arts, Audio/Video Technology, and Communications 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. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities. This 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.
Professional Communications Course# 17282	13009900 (.5 Credit)	None	9-12	Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.
Audio/Video Production I Course# 27350	13008500 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Students will be expected to develop an understanding of the industry with a focus on pre-production, production, and post-production audio and video products.
Digital Audio Technology I Course# 27395	13009950 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Digital Audio Technology I was designed to provide students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, music production and live sound, and additional opportunities and skill sets. Digital Audio Technology I does not re-place Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Audio/Video Production II Course# 27355	13008600 (1 Credit)	Required: Audio/Video Production I	10-12	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video.
Digital Audio Technology II Course# 27396	13009960 (1 Credit)	Required: Digital Audio Technology I	10-12	Digital Audio Technology II was designed to provide additional opportunities and skill sets for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, and music production and live sound. Digital Audio Technology II does not replace Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.
Practicum in Audio/Video Production Course# 47360	13008700 (2 Credits)	Required: Audio/Video Production II	11-12	Careers in audio/video production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying preproduction, production, and post-production audio and video products in a professional environment.
Practicum in Digital Audio Technology Course# 47349	N1300996 (2 Credits)	Required: Digital Audio Technology I & Digital Audio Technology II	11-12	The Practicum for Digital Audio is a new innovative course currently being developed by TEA. This course will build upon the concepts taught in Digital Audio Production II and students will be expected to develop an understanding of the audio industry with a focus on industry pathways such as live sound, broadcast, streaming, podcasting, studio recording and audio for film, video and games. Instruction will be delivered through lab-based classroom experiences or career preparation opportunities.

BUSINESS AND INDUSTRY ENDORSEMENT

Career
&
Technical
Education



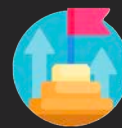
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



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DESIGN & MULTIMEDIA ARTS

LEVEL 1

- Principles of Arts, Audio/Video Technology, and Communications (1 credit)

LEVEL 2

- Digital Media (1 credit)
- Graphic Design and Illustration I (1 credit)
- Commercial Photography I (1 credit)

LEVEL 3

- Graphic Design and Illustration II (1 credit)
- Commercial Photography II (1 credit)

LEVEL 4

- Practicum in Graphic Design and Illustration (2 credits)
- Practicum in Commercial Photography (2 credits)

★ Successful completion of the Graphic Design and Multimedia Arts Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

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 Visual Design
- Certified Professional Photographer

- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign
- Adobe Certified Professional in Visual Effects and Motion Graphics Using Adobe After Effects

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Certified Digital Designer	Animation, Interactive Technology, Video Graphics and Special Effects		
WOW Certified Web Designer Apprentice	Graphic Design		
Adobe Suite Certifications	Game and Interactive Media Design	Intermedia/Multimedia	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

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.

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.

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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR DESIGN & MULTIMEDIA ARTS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Arts, Audio Video Technology, and Communications Course# 27349	13008200 (1 Credit)	None	9	Careers in the Arts, Audio/Video Technology, and Communications 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. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities. This 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.
Digital Media Course# 27340	13027800 (1 Credit)	None	10-12	In Digital Media, students will analyze and assess current and emerging technologies, while designing and creating multimedia projects that address customer needs and resolve a problem. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society. Students will enhance reading, writing, computing, communication, and critical thinking and apply them to the IT environment.
Graphic Design and Illustration I Course# 27370	13008800 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design.
Commercial Photography I Course# 27380	13009100 (1 Credit)	None	10-12	Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Graphic Design and Illustration II Course# 27375	13008900 (1 Credit)	Required: Graphic Design and Illustration I	10-12	Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills. This 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.
Commercial Photography II Course# 27384	13009200 (1 Credit)	Recommended: Commercial Photography I	10-12	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography.
Practicum in Graphic Design and Illustration Course# 47370	13009000 (2 Credits)	Required: Graphic Design and Illustration II	11-12	Careers in graphic design and illustration span all aspects of the advertising and visual communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Practicum in Commercial Photography Course# 47385	13009250 (2 Credits)	Required: Commercial Photography I	11-12	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography.

Business, Marketing, and Finance

Career & Technical Education



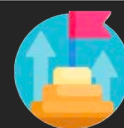
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES

•Principles of Business, Marketing, and Finance (1 credit)

•Money Matters (1 credit)
•Business Information Management I (1 credit)
•Accounting I (1 credit)

•Accounting II (1 credit)
•Financial Analysis (1 credit)

•Practicum in Business Management (2 credits)



Source: Texas Education Agency

★ Successful completion of the Accounting & Financial Services Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Microsoft Office Specialist: Microsoft Excel Expert (Excel 2019)	Certified Management Accountant	Real Estate	Accounting	Financial Accounting
•Intuit Quickbooks Certified User	Certified Internal Auditor	Financial, General		Business Administration
BISD – Local Certifications	Certified Income Specialist	Financial Planning and Services		Financial Planning
•Foundations in Personal Finance Certification	Certified Public Accountant	Certified Income Specialist		

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%

The Accounting and Financial Services Program of Study teaches CTE concentrators 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.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
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EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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.

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COURSE INFORMATION FOR ACCOUNTING & FINANCIAL SERVICES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Money Matters <div>Course# 27025</div>	13016200 (1 Credit)	Recommended: Principles of Business, Marketing, and Finance	10-12	In Money Matters, students will investigate money management from a personal financial perspective. Students will apply critical-thinking skills to analyze financial options based on current and projected economic factors. Students will gain knowledge and skills necessary to establish short-term and long-term financial goals. Students will examine various methods of achieving short-term and long-term financial goals through various methods such as investing, tax planning, asset allocating, risk management, retirement planning, and estate planning.
Business Information Management I <div>Course# 27000</div>	13011400 (1 Credit)	None	10-12	In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.
Accounting I <div>Course# 27010</div>	13016600 (1 Credit)	Recommended: Principles of Business, Marketing, and Finance	10-12	Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Accounting II <i>This course satisfies a high school mathematics graduation requirement</i> <div>Course# 27015</div>	13016700 (1 Credit)	Required: Accounting I	11-12	Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information.
Financial Analysis <div>Course# 27014</div>	13016800 (1 Credit)	Required: Accounting I	11-12	In Financial Analysis, students will apply knowledge and technical skills in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students will develop analytical skills by actively evaluating financial results of multiple businesses, interpreting results for stakeholders, and presenting strategic recommendations for performance improvement.
Practicum in Business Management <div>Course# 47020</div>	13012200 (2 Credits)	Recommended: Course from Accounting & Financial Services Program of Study	11-12	Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Business, Marketing, and Finance

Career & Technical Education



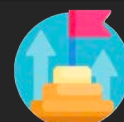
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES



LEVEL 1

- Principles of Business, Marketing and Finance (1 credit)

LEVEL 2

- Business Information Management I (1 credit)
- Business Information Management II (1 credit)

LEVEL 3

- Business Management (1 credit)

LEVEL 4

- Statistics and Business Decision Making (1 credit)
- Practicum in Business Management (2 credits)

Source: Texas Education Agency

★ Successful completion of the Business Management Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE	OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
<ul style="list-style-type: none"> •Microsoft Office Specialist: Microsoft Word Expert (Word 2019) •Entrepreneurship and Small Business 	Certified Records Manager	Business Administration			Administrative Service Managers	\$96,138	2,277	21%
	Certified Facility Manager	Business/Commerce		Business Management	Management Analysts	\$87,651	4,706	32%
	Certified Commercial Contracts Manager	Public Administration			General and Operations Manager	\$107,640	18,679	20%
	Teradata 14 Basics/Certified Technical Specialist	Business Management	Management Science		Operations Research Analysts	\$78,083	1,128	38%
					Supervisors of Administrative Support Workers	\$57,616	14,982	20%

The Business Management Program of Study teaches CTE concentrators how to plan, direct, and coordinate the administrative services and operations of an organization. Through this Program of Study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This Program of Study will also introduce students to mathematical modeling tools and organizational evaluation methods.



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.

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COMPETITIONS



COURSE INFORMATION FOR BUSINESS MANAGEMENT

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Business Information Management I <div>Course# 27000</div>	13011400 (1 Credit)	None	10-12	In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.
Business Information Management II <div>Course# 27005</div>	13011500 (1 Credit)	Required: Business Information Management I	10-12	In Business Information Management II, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Business Management <div>Course# 27032</div>	13012100 (1 Credit)	None	10-12	Business Management is designed to familiarize students with the concepts related to business management as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills.
Statistics and Business Decision Making <i>This course satisfies a high school math graduation requirement</i> <div>Course# 27031</div>	13016900 (1 Credit)	Required: Algebra II	11-12	Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid.
Practicum in Business Management <div>Course# 47020</div>	13012200 (2 Credits)	Recommended: Business Information Management II	11-12	Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Business, Marketing, and Finance

Career
&
Technical
Education



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COURSES

•Principles of Business, Marketing and Finance (1 credit)

•Sports and Entertainment Marketing (.5 credit)
•Virtual Business (.5 credit)

•Social Media Marketing (.5 credit)
•Advertising (.5 credit)
•Statistics and Business Decision Making (1 credit)

•Advanced Marketing (2 credits)



Source: Texas Education Agency

★ Successful completion of the Marketing & Sales Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Stukent Social Media Marketing Certification	Certified Management Accountant	Real Estate	Accounting	Financial Accounting
	Certified Internal Auditor	Financial, General		Business Administration
	Certified Income Specialist	Financial Planning and Services		Financial Planning
	Certified Public Accountant	Certified Income Specialist		

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Marketing Research Analysts and Marketing Specialists	\$70,346	4,664	40%
Insurance Sales Agents	\$43,181	5,886	30%
Wholesale and Retail Buyers	\$51,106	1,299	19%
First-Line Supervisors of Retail Sales Workers	\$72,550	2,826	15%

The Marketing and Sales Program of Study teaches CTE concentrators how to collect information to determine potential sales of a product or service and/or create a marketing campaign to market or distribute goods and services. Through this Program of Study, students will learn the skills necessary to understand and apply data on customer demographics, preferences, needs, and buying habits.



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.

CAREER & TECHNICAL
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COURSE INFORMATION FOR MARKETING & SALES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Sports and Entertainment Marketing <div>Course# 17023</div>	13034600 (.5 Credit)	Recommended: Principles of Business, Marketing and Finance	10-12	Sports and Entertainment Marketing will provide students with a thorough understanding of the marketing concepts and theories that apply to sports and entertainment. The areas this course will cover include basic marketing concepts, publicity, sponsorship, endorsements, licensing, branding, event marketing, promotions, and sports and entertainment marketing strategies.
Virtual Business <div>Course# 17024</div>	13012000 (.5 Credit)	None	10-12	Virtual Business is designed for students to start a virtual business by creating a web presence, conducting online and off-line marketing, examining contracts appropriate for an online business, and demonstrating project-management skills. Students will also demonstrate bookkeeping skills for a virtual business, maintain business records, and understand legal issues associated with a virtual business.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Social Media Marketing <div>Course# 17025</div>	13034650 (.5 Credit)	Recommended: Principles of Business, Marketing and Finance or any Marketing class	10-12	Social Media Marketing is designed to look at the rise of social media and how marketers are integrating social media tools in their overall marketing strategy. The course will investigate how the marketing community measures success in the new world of social media. Students will manage a successful social media presence for an organization, understand techniques for gaining customer and consumer buy-in to achieve marketing goals, and properly select social media platforms to engage consumers and monitor and measure the results of these efforts.
Advertising <div>Course# 17030</div>	13034200 (.5 Credit)	Recommended: Principles of Business, Marketing and Finance	10-12	Advertising is designed as a comprehensive introduction to the principles and practices of advertising. Students will gain knowledge of techniques used in current advertising, including print, broadcast, and digital media. The course explores the social, cultural, ethical, and legal issues of advertising, historical influences, strategies, media decision processes as well as integrated marketing communications, and careers in advertising and sales promotion. The course provides an overview of how communication tools can be used to reach target audiences and increase consumer knowledge.
Statistics and Business Decision Making <i>This course satisfies a high school math graduation requirement</i> <div>Course# 27031</div>	13016900 (1 Credit)	Required: Algebra II	11-12	Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid.
Advanced Marketing <div>Course# 47030</div>	13034700 (2 Credits)	Required: One credit from the courses in the Marketing Program of Study	11-12	In Advanced Marketing, students will gain knowledge and skills that help them become proficient in one or more of the marketing functional areas. Students will illustrate appropriate management and research skills to solve problems related to marketing. This course covers technology, communication, and customer-service skills.

Education & Training

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES



LEVEL 1

- Principles of Education and Training (1 credit)
- Principles of Human Services (1 credit)

LEVEL 2

- Child Development (1 credit)

LEVEL 3

- Instructional Practices (2 credits)

LEVEL 4

- Practicum in Education and Training (2 credits)

★ Successful completion of the Teaching and Training Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Educational Aide I	Texas Educator Certification Program	Teacher Education	Bilingual and Multilingual Education	Instruction and Learning
BISD – Local Certifications	Educational Instructional Technology	Education, General (or specific subject area)		Educational Leadership and Administration
•OSHA – General Industry	Counselor, Professional	Special Education		
•Pre-Service Child-Care Certificate	Athletic Trainer	Health and Physical Education/Fitness		Social and Philosophical Foundations of Education

OCCUPA-TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Adult Basic and Secondary Education and Literacy Teachers and Instructors	\$48,069	862	17%
Middle School Teachers, Except Special and CTE	\$54,510	6,407	21%
CTE Teachers, Secondary School	\$56,360	719	9%
Special Education Teachers, Secondary School	\$56,720	980	18%

The Teaching and Training Program of Study prepares students for careers related to teaching, instruction, and creation of instructional and enrichment materials. The Program of Study introduces CTE concentrators to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
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COMPETITIONS



The Education and Training Career Cluster® focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training Career Cluster.

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COURSE INFORMATION FOR TEACHING & TRAINING

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Education & Training <div>Course# 27506</div>	13014200 (1 Credit)	None	9	Principles of Education and Training is designed to introduce learners to the various careers available within the Education and Training Career Cluster. Students use self-knowledge as well as educational and career information to analyze various careers within the Education and Training Career Cluster. Students will develop a graduation plan that leads to a specific career choice in the student's interest area. This Career Cluster focuses on planning, managing, and providing education and training services and related learning support services.
Principles of Human Services <div>Course# 27501</div>	13024200 (1 Credit)	None	9	Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services Career Cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or high-demand human services careers.
Child Development <div>Course# 27570</div>	13024700 (1 Credit)	Recommended: Principles of Human Services	10-12	Child Development is a technical laboratory course that addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Instructional Practices <div>Course# 47560</div>	13014400 (2 Credits)	Required: 1 credit from Education and Training Career Cluster	11-12	Instructional Practices is a field-based (practicum) internship that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators or trainers in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and complete other responsibilities of teachers, trainers, paraprofessionals, or other educational personnel.
Practicum in Education & Training <div>Course# 47565</div>	13014500 (2 Credits)	Required: Instructional Practices	12	Practicum in Education and Training is a field-based internship that provides students background knowledge of child and adolescent development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of classroom teachers, trainers, paraprofessionals, or other educational personnel.

Health Science

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

COURSES

•Principles of Health Science (1 credit)

•Medical Terminology (1 credit)

•Anatomy and Physiology (1 credit)

•Health Science Theory (1 credit)

•Medical Microbiology (1 credit)

•Pathophysiology (1 credit)

•Practicum in Health Science (Phlebotomy)

(2 credits)

•Practicum in Health Science (CCMA) (2 credits)

★ Successful completion of the Healthcare Diagnostics Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Certified Clinical Medical Assistant
- Certified EKG Technician
- Phlebotomy Technician

BISD – Local Certifications

- Basic Life Support (BLS), CPR, First Aid
- Stop the Bleed Certification

CERTIFICATE/
LICENSE*

ASSOCIATE'S
DEGREE

BACHELOR'S
DEGREE

MASTER'S/
DOCTORAL
DEGREE

Medical
Sonographer

Nuclear Medical Technology/
Technologist

Radiologist

Radiologic
Technologist

Magnetic
Resonance
Imaging (MRI)
Technology/
Technician

Medical
Radiologic
Technology/
Science -
Radiation
Therapist

Radiologic
Technology/
Science -
Radiographer

Medical
Assistant

Medical/
Clinical
Assistant

Family and
General
Practitioners

OCCUPATIONS

MEDIAN
WAGE

ANNUAL
OPENINGS

%
GROWTH

Diagnostic
Medical
Sonographers

\$69,909

495

35%

Phlebotomists

\$30,597

1,442

36%

Nuclear Medicine
Technologists

\$75,962

91

13%

Radiologic
Technologists

\$55,494

1,196

19%

Magnetic
Resonance
Imaging
Technologists

\$68,661

217

21%

The Healthcare Diagnostics Program of Study introduces students to occupations and educational opportunities related to performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This Program of Study may also include exploration into the opportunities associated with blood laboratories as well as radiologic technology, and ultrasonic technology.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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COURSE INFORMATION FOR HEALTHCARE DIAGNOSTIC

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Health Science <div>Course# 27100</div>	13020200 (1 Credit)	None	9	The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry. This Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.
Medical Terminology <div>Course# 27102</div>	13020300 (1 Credit)	None	10-12	The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Health Science Theory <div>Course# 27103</div>	13020400 (1 Credit)	Required: Biology	10-12	The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.
Anatomy and Physiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27115</div>	13020600 (1 Credit)	Required: Biology and a second science credit/ Recommended: A course from the Health Science Program of Study	10-12	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Medical Microbiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27116</div>	13020700 (1 Credit)	Required: Biology and Chemistry Recommended: A course from the Health Science Program of Study	10-12	The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.
Pathophysiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27125</div>	13020800 (1 Credit)	Required: Biology and Chemistry Recommended: A course from the Health Science Program of Study	11-12	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology.
Practicum in Health Science Phlebotomy Technician <div>Course# 47115</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Certified Phlebotomy Certification, and EKG.
Practicum in Health Science Certified Clinical Medical Assistant (CCMA) <div>Course# 47112</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Patient Care Technician (PCT) and EKG and they prepare for a career in hospitals or long-term care facilities.

Health Science

Career
&
Technical
Education



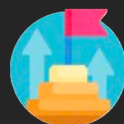
Programs of study
are aligned with
high-wage, high-skill,
and in-demand
occupations.



Rigorous courses are
based on the
Foundation High
School Program with
endorsements.



Programs of study may also include relevant
early college credit opportunities,
including dual credit, industry-based
certifications, advanced placement (AP) and
work-based learning activities.



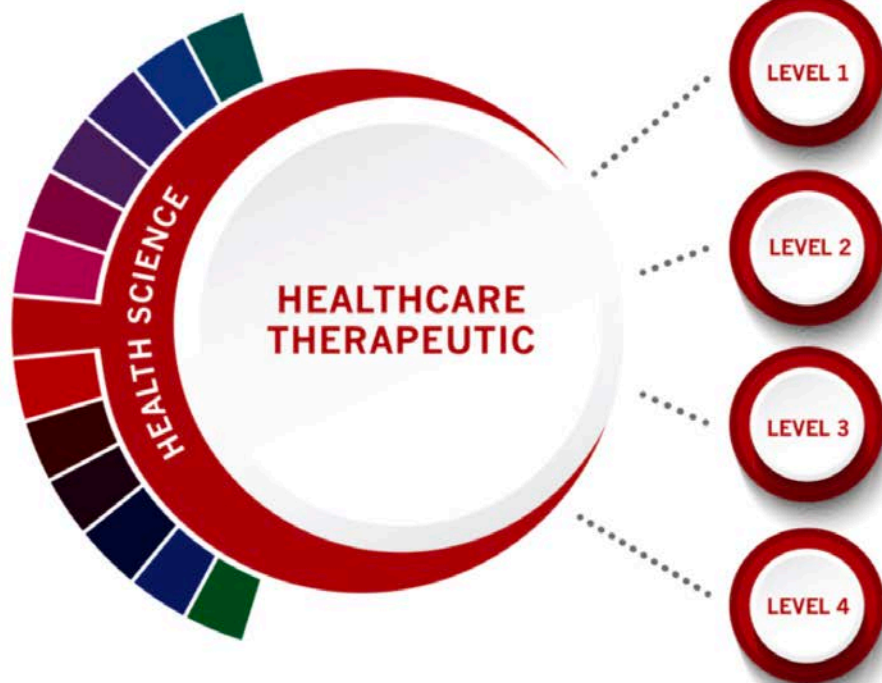
COURSES

•Principles of Health Science (1 credit)

•Medical Terminology (1 credit)

•Anatomy and Physiology (1 credit)
•Health Science Theory (1 credit)
•Medical Microbiology (1 credit)

•Pathophysiology (1 credit)
•Practicum in Health Science (Pharmacy Technician,
Certified Clinical Medical Assistant, Patient Care
Technician, Phlebotomy) (2 credits)



★ Successful completion of the Healthcare Therapeutic Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Certified Clinical Medical Assistant
- Pharmacy Technician
- Certified EKG Technician
- Phlebotomy Technician
- Patient Care Technician (CPCT)
- Certified Dental Assistant

BISD – Local Certifications

- Basic Life Support (BLS), CPR, First Aid, AED
- Stop the Bleed Certification

CERTIFICATE/
LICENSE*

ASSOCIATE'S
DEGREE

BACHELOR'S
DEGREE

MASTER'S/
DOCTORAL
DEGREE

Dental
Assistant

Dental Hygienist

Dentist

Surgical
Technologist

Physician
Assistant

Medical
Assistant

Medical/
Clinical
Assistant

Family and
General
Practitioners

Pharmacy
Aides

Pharmacist

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	21%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%
Dental Assistants	\$34,840	4,422	31%

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.



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.

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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR HEALTHCARE THERAPEUTIC

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Health Science <div>Course# 27100</div>	13020200 (1 Credit)	None	9	The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry. This Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.
Medical Terminology <div>Course# 27102</div>	13020300 (1 Credit)	None	10-12	The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Health Science Theory <div>Course# 27103</div>	13020400 (1 Credit)	Required: Biology	10-12	The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.
Anatomy and Physiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27115</div>	13020600 (1 Credit)	Required: Biology and a second science credit/ Recommended: A course from the Health Science Program of Study	10-12	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Medical Microbiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27116</div>	13020700 (1 Credit)	Required: Biology and Chemistry/ Recommended: A course from the Health Science Program of Study	10-12	The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.
Pathophysiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27125</div>	13020800 (1 Credit)	Required: Biology and Chemistry/ Recommended: A course from the Health Science Program of Study	11-12	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology.
Practicum in Health Science (Pharmacy Technician) <div>Course# 47110</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exam Pharmacy Technician (ExCPT).
Practicum in Health Science Certified Clinical Medical Assistant (CCMA) <div>Course# 47111</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Certified Medical Assistant, and EKG as they prepare for careers in clinical services (not hospital setting).
Practicum in Health Science Patient Care Technician (PCT) <div>Course# 47112</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Patient Care Technician (PCT) and EKG and they prepare for a career in hospitals or long-term care facilities.
Practicum in Health Science Phlebotomy Technician <div>Course# 47115</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Certified Phlebotomy Certification, and EKG.

Career
&
Technical
Education



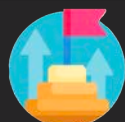
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Introduction to Culinary Arts (1 credit)

•Culinary Arts (2 credits)

•Advanced Culinary Arts (2 credits)

•Practicum in Culinary Arts (2 credits)

Source: Texas Education Agency

★ Successful completion of the Culinary Arts Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
	Certified Chef	Hotel and Restaurant Management		
BISD – Local Certifications	Food Service Management Professional	Restaurant Culinary and Catering Management	Food Service Systems Administration/Management	
	Comprehensive Food Safety	Hospitality Administration/Management, General		
	Certified Food and Beverage Executive	Culinary Arts/ Chef Training	Culinary Science and Food Service Management	Business Administration Management, General

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Food and Beverage Managers	\$55,619	1,561	28%
Chef and Head Cooks	\$43,285	1,366	25%
Food Science Technicians	\$34,382	236	11%

The Culinary Arts Program of Study introduces students to occupations and educational opportunities related to the planning, directing, or coordinating activities of a food and beverage organization or department. This Program of Study also explores opportunities involved in directing and participating in the preparation and cooking of food.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS

SkillsUSA
Champions at Work™

FCCLA
The Ultimate Leadership Experience



The Hospitality and Tourism Career Cluster® focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

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COURSE INFORMATION FOR CULINARY ARTS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Introduction to Culinary Arts <div style="border: 1px solid black; padding: 2px; width: fit-content;">Course# 27595</div>	13022550 (1 Credit)	None	9	Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course. This Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services.
Culinary Arts <div style="border: 1px solid black; padding: 2px; width: fit-content;">Course# 47525</div>	13022600 (2 Credits)	Recommended: Introduction to Culinary Arts	10-12	Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Advanced Culinary Arts <div style="border: 1px solid black; padding: 2px; width: fit-content;">Course# 47530</div>	13022650 (2 Credits)	Required: Culinary Arts	10-12	Advanced Culinary Arts will extend content and enhance skills introduced in Culinary Arts by in-depth instruction of industry-driven standards in order to prepare students for success in higher education, certifications, and/or immediate employment.
Practicum in Culinary Arts <div style="border: 1px solid black; padding: 2px; width: fit-content;">Course# 47535</div>	13022700 (2 Credits)	Required: Culinary Arts	11-12	Practicum in Culinary Arts is a unique practicum that provides occupationally specific opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Culinary Arts integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace.

HUMAN SERVICES

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Principles of Human Services (1 credit)

•Child Development (1 credit)
•Professional Communications (.5 credit)
•Lifetime Nutrition and Wellness (.5 credit)

•Counseling and Mental Health (1 credit)
•Family and Community Services (1 credit)

•Practicum in Human Services (2 credits)



Source: Texas Education Agency

★ Successful completion of the Family and Community Services Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE	OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
•Child Development Associate (CDA)	Human Development and Family Studies	Human Development and Family Studies			Child, Family, and School Social Workers	\$41,350	2,221	17%
•Community Health Workers	Community Health Services/ Liaison/Counseling	Human Services/Sciences, General		Marriage and Family Therapy/ Counseling	Social and Community Services Managers	\$65,146	608	33%
BISD – Local Certifications					Marriage and Family Therapists	\$42,266	217	35%
•OSHA – General Industry	Distance Credentialed Counselor	Family and Consumer Sciences		Human Services/Sciences	Social and Human Service Assistants	\$32,448	2,822	25%
•Pre-Service Child-Care Certificate	Educator Certification in Family and Consumer Sciences	Community Health Services	Child and Family Services	Family Studies	Mental Health and Substance Abuse and Behavioral Counselors	\$42,120	576	39%



The Human Services Career Cluster® focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services.

The Family and Community Services Program of Study introduces students to knowledge and skills related to social services, including child and human development and consumer sciences. CTE concentrators may learn about or practice managing social and community services or teaching family and consumer sciences. Students may follow career paths in social work or therapy for children, families, or school communities.

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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
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EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR FAMILY & COMMUNITY SERVICES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Human Services <div>Course# 27501</div>	13024200 (1 credit)	None	9	Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services Career Cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or high-demand human services careers. This Career Cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services.
Professional Communications <div>Course# 17282</div>	13009900 (.5 credit)	None	9-12	Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.
Lifetime Nutrition and Wellness <div>Course# 17545</div>	13024500 (.5 credit)	Recommended: Principles of Human Services or Principles of Health Science	9-12	Lifetime Nutrition and Wellness is a laboratory course that allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences.
Child Development <div>Course# 27570</div>	13024700 (1 credit)	Recommended: Principles of Human Services	10-12	Child Development is a technical laboratory course that addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Counseling and Mental Health <div>Course# 27580</div>	13024600 (1 credit)	Recommended: Principles of Human Services	11-12	In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.
Family and Community Services <div>Course# 27575</div>	13024900 (1 credit)	Recommended: Principles of Human Services	10-12	Family and Community Services is a laboratory-based course designed to involve students in realistic and meaningful community-based activities through direct service or service-learning experiences. Students are provided opportunities to interact with and provide services to individuals, families, and the community through community or volunteer services. Emphasis is placed on developing and enhancing organizational and leadership skills and characteristics.
Practicum in Human Services <div>Course# 47570</div>	13025000 (2 credits)	None	11-12	Practicum in Human Services provides background knowledge and occupation-specific training that focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community-services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the human services cluster.

Information Technology

Career
&
Technical
Education



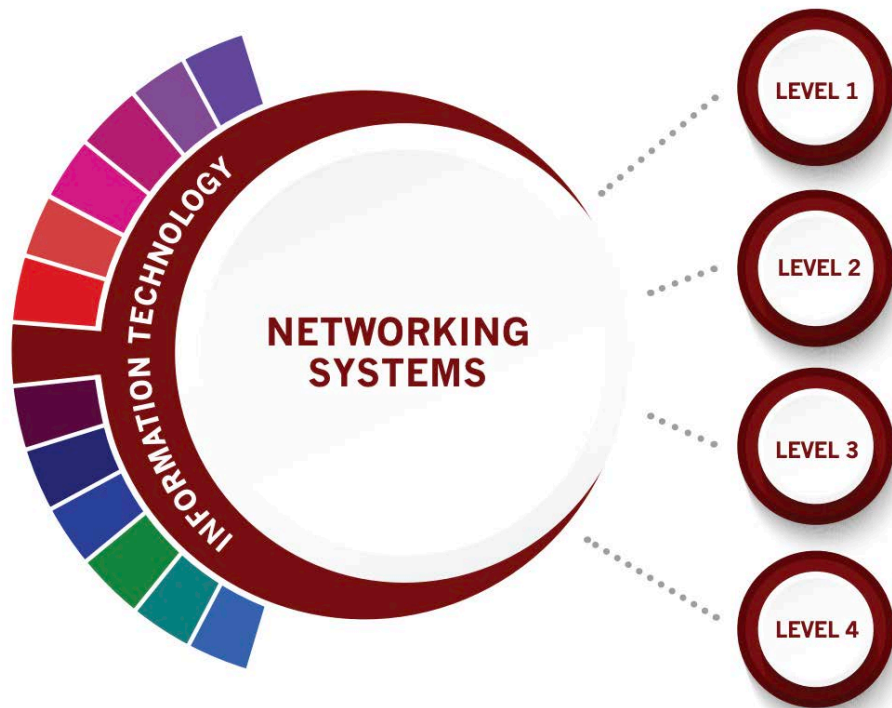
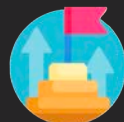
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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•Computer Science I (1 credit)

•AP Computer Science Principles (1 credit)
•Internetworking Technologies I (1 credit)

•Internetworking Technologies II (1 credit)

•Practicum in Information Technology (2 credits)
•Project Based Research (1 credit)
•Career Preparation I (2 credits)

Source: Texas Education Agency

★ Successful completion of the Networking Systems Program of Study will fulfill requirements of a Business and Industry Endorsement.

Industry Based Certifications
<ul style="list-style-type: none"> •Cisco 100-490 RSTech Supporting Cisco Routing and Switching Network Devices •Cisco CCNA (200-301) Implementing and Administering Cisco Solutions •CompTIA A+ Certification •CompTIA Network+ •Computer Networking Fundamentals - Job Ready

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
AEM 6 Business Practitioner	Computer and Information Sciences, General		
Intelligence Planner Certification Program	Computer Systems Networking and Telecommunications		Information Technology
Cisco Certified Entry Networking Technician	Information Technology	Computer and Information Systems Security/Information Assurance	
Microsoft Networking Fundamentals	Network and System Administration/Administrator	Computer Engineering, General	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architects	\$111,633	1,082	23%
Computer Systems Analysts	\$87,568	5,937	29%
Computer Network Support Specialists	\$68,037	1,824	19%

The Networking Systems Program of Study explores the occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This Program of Study may also include exploration into analyzing science, engineering, and other data processing problems to implement and improve computer systems.



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.

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CAREER & TECHNICAL
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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR NETWORKING SYSTEMS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Computer Science I <div>Course# 27330</div> <div>Eligible for LOTE Credit</div>	03580200 (1 Credit)	Required: Algebra I	10-12	Computer Science I is designed to foster students' creativity and innovation by presenting opportunities to design, implement and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor and with various electronic communities to solve the problems presented throughout the course. Data analysis will include the identification of task requirements, planning search strategies and the use of computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students will have access to Project Lead the Way (PLTW) curriculum and will use programs to learn coding, data processing, data security, and task automation.
AP Computer Science Principles <div>Course# 27765</div> <div>Eligible for LOTE Credit</div>	A3580300 (1 Credit)	Recommended: Algebra I	10-12	The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world.
Internetworking Technologies I <div>Course# 27326</div>	N1302803 (1 Credit)	None	10-12	In Internetworking Technologies I, students will obtain the necessary skills to compete in the global economy. Students will learn hands-on technical skills to help them prepare for IT careers as well as post-secondary IT-related degrees. This course provides students with practical skills in networking with a focus on Cisco networking technology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Internetworking Technologies II <div>Course# 27327</div>	N1302804 (1 Credit)	Required: Internetworking Technologies I	10-12	Students learn how to configure routers and switches for advanced functionality. The CCNA 4 course discusses the Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements.
Practicum in Information Technology <div>Course# 47762</div>	13028000 (2 Credits)	Required: Minimum of two high school information technology (IT) courses	10-12	Students will gain advanced knowledge and skills in the application, design, production, implementation, maintenance, evaluation, and assessment of products, services, and systems. Knowledge and skills in the proper use of analytical skills and application of IT concepts and standards are essential to prepare students for success in a technology-driven society. Critical thinking, IT experience, and product development may be conducted in a classroom setting with an industry mentor, as an unpaid or paid internship, as part of a capstone project, or as career preparation.
Project Based Research <div>Course# 27930</div>	12701500 (1 Credit)	None	11-12	Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Career Preparation I <div>Course# 27505</div>	12701300 (2 Credits)	None	11-12	Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

LAW & PUBLIC SAFETY

Career
&
Technical
Education



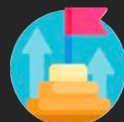
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



EMERGENCY SERVICES

LAW AND PUBLIC SERVICE

LEVEL 1

•Principles of Law, Public Safety, Corrections and Security (1 credit)

LEVEL 2

•Disaster Response (1 credit)

LEVEL 3

•Anatomy and Physiology (1 credit)

LEVEL 4

•EMT Technician-Basic (2 credits)

•Counseling and Mental Health (1 credit)

Source: Texas Education Agency

★ Successful completion of the Emergency Services Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Industry Based Certifications

- Emergency Medical Technician - Basic
- Emergency Medical Responder

BISD – Local Certifications

- FEMA (100)
- FEMA (700)
- Basic Life Support (BLS), CPR, First Aid, AED
- Stop the Bleed Certification

CERTIFICATE/ LICENSE*

ASSOCIATE'S DEGREE

BACHELOR'S DEGREE

MASTER'S/ DOCTORAL DEGREE

Emergency Medical Technology/Technician (EMT Paramedic)

Fire Protection Personnel/
Firefighter

Fire Prevention and Safety Technology/ Technician

Natural Resources Law Enforcement and Protective Services

Fire Protection System Contractor

Fire Science/
Firefighting

Fire Inspector

OCCUPA- TIONS

MEDIAN WAGE

ANNUAL OPENINGS

% GROWTH

Firefighters	\$50,149	2,309	13%
Fire Inspectors and Investigators	\$54,787	161	14%
Emergency Medical Technicians	\$34,091	1,880	31%

The Emergency Services Program of Study focuses on training students to respond to emergency situations, namely medical emergencies and fire-based emergencies. Students may learn how to prevent emergencies, respond appropriately and in accordance with rules and regulations during crises, and investigate and delineate the source of the emergency.

CAREER & TECHNICAL
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OPPORTUNITIES/
COMPETITIONS

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The Law and Public Service Career Cluster® focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

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COURSE INFORMATION FOR EMERGENCY SERVICES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Law, Public Safety, Corrections, and Security <div>Course# 27420</div>	13029200 (1 credit)	None	9	Principles of Law, Public Safety, Corrections, and Security introduces students to professions in law enforcement, protective services, corrections, firefighting, and emergency management services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services. The course provides students with an overview of the skills necessary for careers in law enforcement, fire service, protective services, and corrections.) This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Disaster Response <div>Course# 27445</div>	N1303011 (1 credit)	Recommended: Principles of Law, Public Safety, Corrections, and Security	10-12	Disaster Response includes basic training of students in disaster survival and rescue skills that would improve the ability of citizens to survive until responders or other assistance could arrive. Students will receive education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues and disasters of all kinds.
LEVEL 3 AND 4 COURSES (ADVANCED)				
★ EMT Technician-Basic <i>This course earns Temple College dual credit</i> <i>Student will be responsible for costs associated with TC dual credit</i> <div>Course# 47104</div>	N1303015 (2 credits)	Required: Biology Recommended: Principles of Law, Public Safety, Corrections, and Security and Anatomy and Physiology	12 <small>The licensing requirements from the Texas Department of State Health Services require that candidates be high school graduates. Seniors can take the class with the understanding that they will graduate after completing the course.</small>	Emergency Medical Technician (EMT) – Basic instructs students to meet and exceed standard knowledge needed to be a valid Emergency Medical Technician. The curriculum includes skills necessary for a student to provide entry level emergency medical care, life support, and ambulance service. The EMT—Basic course is an introductory course to concepts, knowledge, and skills needed by EMTs in the areas of communications, transportation, and record keeping. Students interested in working in public safety, including fire, police, and ambulance operators will be capable of performing the job expectations of an EMT safely and effectively after the completion of this course. This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Anatomy and Physiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27115</div>	13020600 (1 Credit)	Required: Biology and a second science credit/ Recommended: A course from the Health Science Program of Study	10-12	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Counseling and Mental Health <div>Course# 27580</div>	13024600 (1 credit)	Recommended: Principles of Human Services	11-12	In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.

LAW & PUBLIC SAFETY

Career
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Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Principles of Law, Public Safety, Corrections and Security (1 credit)

•Law Enforcement I (1 credit)
•Criminal Investigation (1 credit)

•Law Enforcement II (1 credit)
•Counseling and Mental Health (1 credit)

•Forensic Science (1 credit)

★ Successful completion of the Law Enforcement Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Non-Commissioned Security Officer Level II •IAED Emergency Telecommunicator	Law Enforcement Officer	Criminal Justice/Safety Studies/Law Enforcement Administration		
	PI/ Security Guard Counseling	Criminal Justice/ Police Science		
	Code Enforcement Officer	Corrections	Juvenile Corrections	
	Certified Law Enforcement Planner	Criminalistics and Criminal Science	Cyber/ Computer Forensics and Counterterrorism	Natural Resources Law Enforcement and Protective Services

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	\$44,054	793	9%
Correctional Officers and Jailers	\$40,186	4,683	9%
Immigration and Customs Inspectors	\$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	\$91,312	253	25%

The Law Enforcement Program of Study teaches students about the development of, adherence to, and protection of various branches of law. Students may learn how to appropriately and legally respond to breaches in the law according to statutory rules and regulations as well as investigate how and why the breaches occurred.



The Law and Public Service Career Cluster® focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

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COMPETITIONS



COURSE INFORMATION FOR LAW ENFORCEMENT

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Law, Public Safety, Corrections, and Security <div>Course# 27420</div>	13029200 (1 credit)	None	9	Principles of Law, Public Safety, Corrections, and Security introduces students to professions in law enforcement, protective services, corrections, firefighting, and emergency management services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services. The course provides students with an overview of the skills necessary for careers in law enforcement, fire service, protective services, and corrections.) This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Law Enforcement I <div>Course# 27425</div>	13029300 (1 credit)	Recommended: Principles of Law, Public Safety, Corrections, and Security	10-12	Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime. This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Criminal Investigation <div>Course# 27440</div>	13029550 (1 credit)	Recommended: Principles of Law, Public Safety, Corrections, and Security	10-12	Criminal Investigation is a course that introduces students to the profession of criminal investigations. Students will understand basic functions of criminal investigations and procedures and will learn how to investigate or follow up during investigations. Students will learn terminology and investigative procedures related to criminal investigation, crime scene processing, evidence collection, fingerprinting, and courtroom presentation. Through case studies and simulated crime scenes, students will collect and analyze evidence such as fingerprint analysis, bodily fluids, hairs, fibers, shoe and tire impressions, bite marks, drugs, tool marks, firearms and ammunition, blood spatter, digital evidence, and other types of evidence.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Law Enforcement II <div>Course# 27430</div>	13029400 (1 credit)	Recommended: Law Enforcement I	10-12	Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.
Counseling and Mental Health <div>Course# 27580</div>	13024600 (1 credit)	Recommended: Principles of Human Services	11-12	In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.
Forensic Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27415</div>	13029500 (1 credit)	Required: Biology and Chemistry	11-12	Forensic Science is a course that introduces students to the application of science to connect a violation of law to a specific criminal, criminal act, or behavior and victim. Students will learn terminology and procedures related to the search and examination of physical evidence in criminal cases as they are performed in a typical crime laboratory. Using scientific methods, students will collect and analyze evidence such as fingerprints, bodily fluids, hairs, fibers, paint, glass, and cartridge cases. Students will also learn the history and the legal aspects as they relate to each discipline of forensic science.

Science, Technology, Engineering, & Math

Career & Technical Education



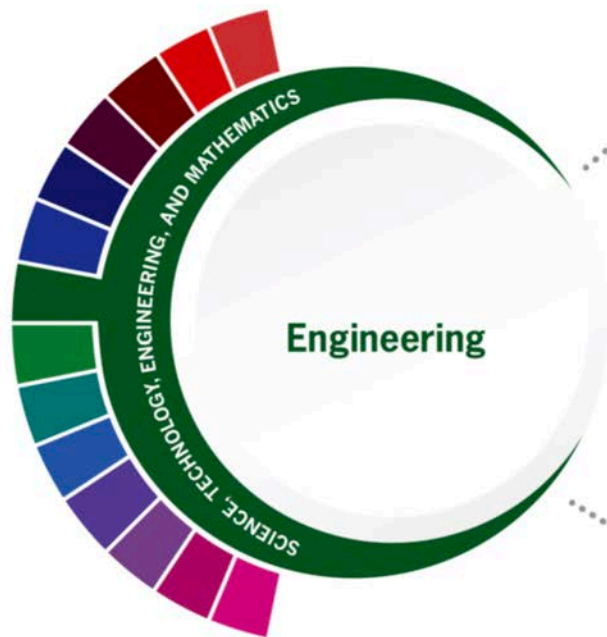
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

LEVEL 1

•Introduction to Engineering Design (PLTW) (1 credit)

LEVEL 2

•Engineering Science (1 credit)
This course is recommended for sophomores, but is considered a CTE advanced course.

LEVEL 3

•Civil Engineering and Architecture (PLTW) (1 credit)
•Aerospace Engineering (PLTW) (1 credit)
•Digital Electronics (1 credit)

LEVEL 4

•Scientific Research and Design (1 credit)

★ 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.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Autodesk Associate (Certified User) Inventor for Mechanical Design	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
•Engineering Technology Foundations	Fluid Power Systems Designer	Drafting and Design Technology/ Technician, General	CAD/CAD Drafting and/or Design Technology/ Technician	Mechanical Engineering
•Autodesk Associate (Certified User) Fusion 360	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
•Autodesk Associate (Certified User) Revit Architecture	Certified Cost Estimator/ Analyst		Construction Engineering Technology	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,707	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

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



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.

CAREER & TECHNICAL STUDENT ORGANIZATIONS (CTSO) and EXPANDED LEARNING OPPORTUNITIES/ COMPETITIONS



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COURSE INFORMATION FOR ENGINEERING

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Introduction to Engineering Design (*PLTW) <div>Course# 27710</div>	N1303742 (1 Credit)	None	9-10	Students study the engineering design process, applying math, science, and engineering standards to identify and design solutions to a variety of real problems. They work both individually and in collaborative teams to identify, research, test, refine, develop, and communicate design solutions using industry practices, standards, and tools. Utilizing PLTW's activity-project-problem-based teaching and learning strategies students' progress from structured activities to complex projects that require detailed planning, documentation, and communication. The course's rigorous pace requires students to develop an engineering mindset. Students apply industry accepted technical communication skills in visual representation using industry-standard 3D design technology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Engineering Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27715</div>	13037500 (1 Credit)	Required: Algebra I, Biology, Chemistry and either Integrated Physics and Chemistry (IPC), or Physics, and at least one credit in a course from the STEM career cluster	10-12	Engineering Science exposes students to major concepts and technologies that they will encounter in a postsecondary Program of Study in any engineering domain. Students will have an opportunity to investigate engineering and high-tech careers. Students will employ science, technology, engineering, and mathematical concepts in the solution of real-world challenge situations. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.
Civil Engineering & Architecture (*PLTW) <div>Course# 27725</div>	N1303747 (1 Credit)	None	10-12	Civil Engineering and Architecture (CEA) is a high school level specialization course in the PLTW Engineering Program. Students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Through both individual and collaborative team activities, projects, and problems, students problem solve as they practice common design and development protocols such as project management and peer review.
Aerospace Engineering (*PLTW) <div>Course# 27726</div>	N1303745 (1 Credit)	None	10-12	This course focuses on the fundamentals of atmospheric and space flight. The course deepens the skills and knowledge of an engineering student within the context of atmospheric and space flight. Students explore the fundamentals of flight in air and space as they bring the concepts to life by designing and testing components related to flight such as an airfoil, propulsion system and a rocket. They learn orbital mechanics concepts and apply these by creating models using industry-standard software. They also apply aerospace concepts to alternative applications such as a wind turbine and parachute. Students simulate a progression of operations to explore a planet, including creating a map of the terrain with a model satellite and using the map to execute a mission using an autonomous robot.
Digital Electronics <i>This course satisfies a high school mathematics graduation requirement</i> <div>Course# 27727</div>	13037600 (1 Credits)	Required: Algebra I and Geometry	10-12	Digital Electronics is the study of electronic circuits that are used to process and control digital signals. Digital electronics is the foundation of modern electronic devices such as cellular phones, digital audio players, laptop computers, digital cameras, and high-definition televisions. The primary focus of this course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry and either Integrated Physics and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Students must meet the 40% laboratory and fieldwork requirement.

*PLTW – Project Lead the Way

Science, Technology, Engineering, & Math

Career & Technical Education



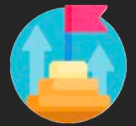
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES

•Fundamentals of Computer Science (1 credit)

LEVEL 1

•Computer Science I
•AP Computer Science Principles (1 credit)

LEVEL 2

•AP Computer Science A (2 credits)

LEVEL 3

•Cybersecurity Capstone (1 credit)
•Practicum in STEM (Cybersecurity) (2 credits)

LEVEL 4

Source: Texas Education Agency

★ Successful completion of the Cybersecurity Program of Study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met.

Industry Based Certifications

- CompTIA A+ Certification
- CompTIA Security+
- Cybersecurity Fundamentals
- Cisco 200-201 CBROPS - Understanding Cisco Cybersecurity Operations Fundamentals

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
GIAC Reverse Engineering Malware	System Networking, and LAN/WAN Management	Computer Systems Networking and Telecommunications	Computer Systems Analysis/Analyst
Certified Advanced Windows Forensic Examiner	Information Technology	Computer Systems Networking and Telecommunications	Information Technology
SAP Certified Technology Professional System Security Architect Examiner	Computer and Information Sciences, General		
Cisco Certified Network Professional Security Certification	Computer Science		

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Information Security Analysts	\$91,915	814	29%
Network and Computer System Admin.	\$82,597	2,814	19%
Computer Systems Analyst	\$87,568	5,937	29%

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.

CAREER & TECHNICAL STUDENT ORGANIZATIONS (CTSO) and EXPANDED LEARNING OPPORTUNITIES/COMPETITIONS



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.

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COURSE INFORMATION FOR CYBERSECURITY

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Fundamentals of Computer Science <div>Course# 27756</div>	03580140 (1 Credit)	None	9	Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.
Computer Science I <div>Course# 27330</div> <div>Eligible for LOTE Credit</div>	03580200 (1 Credit)	Required: Algebra I	10-12	Computer Science I is designed to foster students' creativity and innovation by presenting opportunities to design, implement and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor and with various electronic communities to solve the problems presented throughout the course. Data analysis will include the identification of task requirements, planning search strategies and the use of computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results.
AP Computer Science Principles <div>Course# 27765</div> <div>Eligible for LOTE Credit</div>	A3580300 (1 Credit)	Recommended: Algebra I	10-12	The AP Computer Science Principles course is designed to be equivalent to a first- semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world.
LEVEL 3 AND 4 COURSES (ADVANCED)				
AP Computer Science A <div>Math Course# 27766</div> <div>LOTE Course# 27767</div>	A3580110 (Math) (1 Credit) A3580120 (LOTE) (1 Credit)	Recommended: Algebra I	10-12	AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language.
Cybersecurity Capstone <div>Course# 27768</div>	03580855 (1 Credit)	None	12	In the Cybersecurity Capstone course, students will develop the knowledge and skills needed to explore advanced concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will develop security policies to mitigate risks. The skills obtained in this course prepare students for additional study toward industry certification. A variety of courses are available to students interested in the cybersecurity field. Cybersecurity Capstone may serve as a culminating course in this field of study. Cybersecurity is an evolving discipline concerned with safeguarding computers, networks, programs, and data from unauthorized access. As a field, it has gained prominence with the emergence of a globally-connected society. As computing has become more sophisticated, so too have the abilities of malicious agents looking to penetrate networks and seize private information. By evaluating prior incidents, cybersecurity professionals have the ability to craft appropriate responses to minimize disruptions to corporations, governments, and individuals.
Practicum in STEM (Cybersecurity) <div>Course# 47760</div>	13037400 (2 Credits)	Required: Algebra I and Geometry	12	Practicum in STEM is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. This Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services such as physical science, social science, engineering, including laboratory and testing services, and research and development services.

Science, Technology, Engineering, & Math

Career & Technical Education



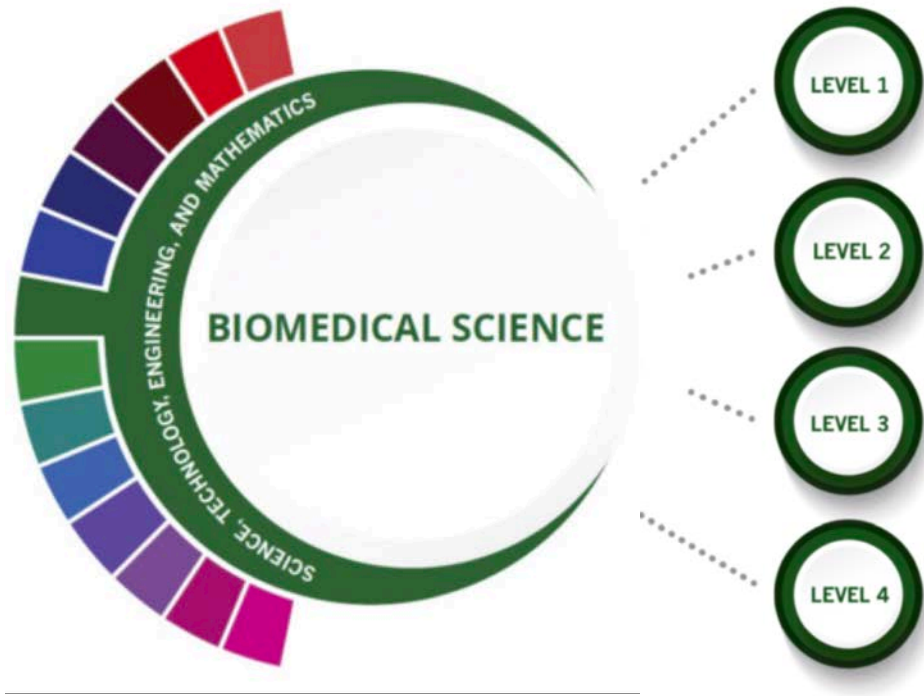
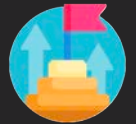
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



Source: Texas Education Agency

COURSES

•Principles of Biosciences (1 credit)

•Biotechnology I (1 credit)

•Medical Microbiology (1 credit)

•Pathophysiology (1 credit)
•Scientific Research and Design (1 credit)

★ Successful completion of the Biomedical Science Program of Study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met.

Industry Based Certifications

•Biotechnician Assistant Credentialing Exam (BACE)

BISD – Local Certifications

•OSHA 10

CERTIFICATE/ LICENSE*

Medical and Clinical Laboratory Technologists

ASSOCIATE'S DEGREE

Histologic Technician

BACHELOR'S DEGREE

Biomedical Engineers

MASTER'S/ DOCTORAL DEGREE

Genetic Counseling

Clinical Laboratory Science/Medical Technology/Technologist

Clinical Laboratory Science/Medical Technology/Technologist

Biomedical Engineers

Medical Scientists

Clinical Laboratory Science/Medical Technology/Technologist

Clinical Laboratory Science/Medical Technology/Technologist

Clinical Laboratory Science/Medical Technology/Technologist

Epidemiology

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical and Laboratory Technicians	\$37,981	1,159	28%
Biological Technicians	\$42,931	452	17%
Forensic Science Technicians	\$48,152	171	35%
Chemical Technicians	\$49,733	672	10%
Medical and Clinical Laboratory Technologists	\$58,760	1,166	25%

The Biomedical Science Program of Study focuses on the study of biology and medicine in order to introduce CTE learners to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing diseases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.



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.

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CAREER & TECHNICAL STUDENT ORGANIZATIONS (CTSO) and EXPANDED LEARNING OPPORTUNITIES/COMPETITIONS



COURSE INFORMATION FOR BIOMEDICAL SCIENCE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Biosciences <div>Course# 27707</div>	13036300 (1 Credit)	None	9-10	Principles of Biosciences is a strong reinforcement of Biology content that provides an overview of biotechnology, bioengineering, and related fields. Topics include genetics, cell structure, proteins, nucleic acids, and the impact of immunological events in biotechnology. Students will further study the increasingly important agricultural, environmental, economic, and political roles of bioenergy and biological remediation; the roles of nanoscience and nanotechnology in biotechnology medical research; and future trends in biological science and biotechnology.
Biotechnology I <div>Course# 27708</div>	13036400 (1 Credit)	Required: Biology	10-12	In Biotechnology I, students will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. Students will conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Biotechnology I will study a variety of topics that include structures and functions of cells, nucleic acids, proteins, and genetics.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Medical Microbiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27116</div>	13020700 (1 Credit)	Required: Biology and Chemistry	10-12	The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.
Pathophysiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27125</div>	13020800 (1 Credit)	Required: Biology and Chemistry	11-12	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

Transportation, Distribution & Logistics

Career
&
Technical
Education



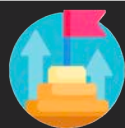
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



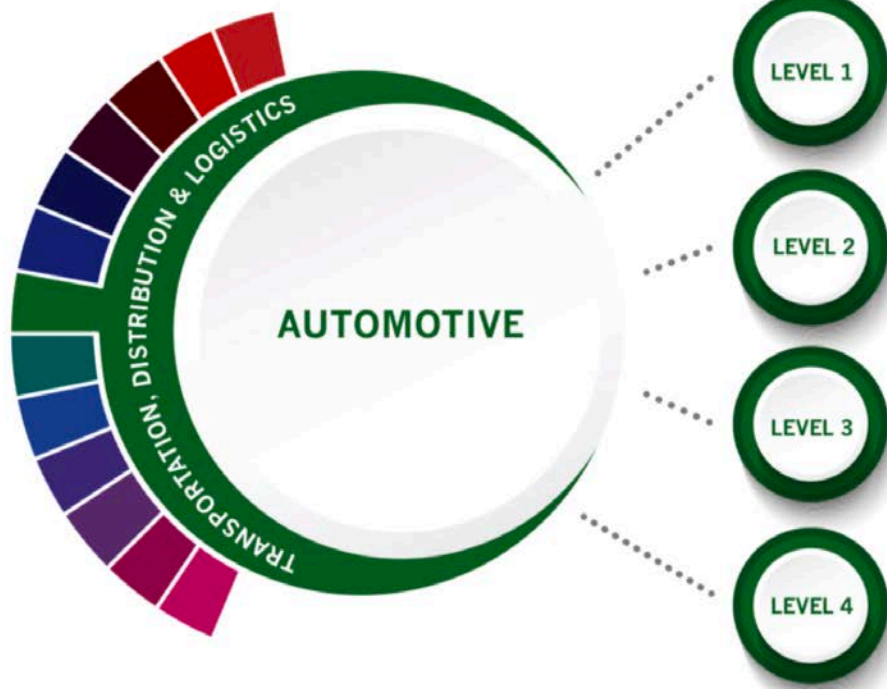
Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES



•Automotive Basics (1 credit)

•Automotive Technology I: Maintenance and Light Repair (2 credits)

This course is recommended for sophomores, but is considered a CTE advanced course.

•Automotive Technology II: Automotive Service (2 credits)

•Practicum in Transportation Systems (2 credits)

★ Successful completion of the Automotive Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications ASE Entry Level Automobile:

- Maintenance & Light Repair
- Automatic Transmission/Transaxle
- Brakes
- Electronic/Electrical Systems
- Engine Performance
- Heating & Air Conditioning
- Engine Repair
- Manual Drive Train and Axles
- Service Technology
- Suspension & Steering
- Collision Mechanical & Electrical Components
- Refrigerant Recovery & Recycling

BISD – Local Certifications

- Pro-Cut Brake Lathe Technician
- OSHA-30
- Basic Automobile Tire Technician

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Master Collision Repair and Refinishing Technician	Autobody/ Collision and Repair Technology/ Technician		Mechanical Engineering
Automobile Technician: various systems and parts	Medium/Heavy Vehicle and Truck Technology/ Technician		
Engine Machinist Technician	Mechanical Engineering/ Mechanical Technology/		
Collision Repair and Refinish			

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Automotive Body and Related Repairers	\$40,144	1,456	25%
Automotive Service Technician and Mechanics	\$38,459	5,557	18%

The Automotive Program of Study teaches students how to repair and refinish automobiles and service various types of vehicles. Students may learn to collect payment for services or supplies and perform typical vehicle maintenance procedures such as lubrication, oil changes, installation of antifreeze, or replacement of accessories like wiper blades or tires.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



The Transportation, Distribution, and Logistics Career Cluster® focuses on careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

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COURSE INFORMATION FOR AUTOMOTIVE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Automotive Basics <div>Course# 27656</div>	13039550 (1 Credit)	None	9	Automotive Basics includes knowledge of the basic automotive systems and the theory and principles of the components that make up each system and how to service these systems. Automotive Basics includes applicable safety and environmental rules and regulations. In Automotive Basics, students will gain knowledge and skills in the repair, maintenance, and servicing of vehicle systems. This study allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Automotive Technology I: Maintenance and Light Repair <div>Course# 47655</div>	13039600 (2 Credits)	None	10-12	Automotive Technology I: Maintenance and Light Repair includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. This course includes applicable safety and environmental rules and regulations. In Automotive Technology I: Maintenance and Light Repair, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
Automotive Technology II: Automotive Service <div>Course# 47660</div>	13039700 (2 Credits)	Required: Automotive Technology I: Maintenance and Light Repair	11-12	Automotive Technology II: Automotive Service includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Automotive Technology II: Automotive Service includes applicable safety and environmental rules and regulations. In this course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
Practicum in Transportation Systems <div>Course# 47665</div>	13040450 (2 Credits)	Recommended: Automotive Technology II	11-12	Practicum in Transportation Systems is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or worked based. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

LAKE BELTON HIGH SCHOOL



Lake Belton High School
9809 FM 2483
Temple, TX 76502
Phone: 254-316-6200

BISD CAREER & TECHNICAL EDUCATION

A **Career Cluster** is a group of careers that share common themes. LBHS offers 12 Texas identified Career

A **Program of Study** is a coordinated, non-duplicative sequence of courses which progress in specificity, beginning with all aspects of industry and leading to more occupation specific instruction. **Lake Belton High School** offers 25 programs of study to assist students with acquiring marketable skills and industry-recognized credentials through better alignment of education, training and employment.

An **Endorsement** consists of a related series of courses that are grouped by interest or skill set.

Career Cluster	PROGRAMS OF STUDY					ENDORSEMENTS
Agriculture, Food, and Natural Resources	Animal Science	Applied Agricultural Engineering	Environmental and Natural Resources	Plant Science	Endorsements provide students with in-depth knowledge of a subject area.	
Architecture and Construction	Carpentry	Construction Management and Inspection				
Arts, A/V Technology and Communications	Digital Communications	Graphic Design and Multimedia Arts				
Business, Marketing and Finance	Accounting and Financial Services	Business Management	Marketing and Sales	Entrepreneurship (INCubator)	There are five endorsement areas: •Arts and Humanities •Business & Industry •Multi-Disciplinary Studies •Public Service •Science, Technology, Engineering and Mathematics Students earn an endorsement by completing the curriculum requirements for the endorsement, including 4th credit of math and science and 2 additional elective credits.	
Education and Training	Teaching and Training					
Health Science	Healthcare Diagnostics	Healthcare Therapeutic				
Hospitality and Tourism	Culinary Arts					
Human Services	Family and Community Services					
Information Technology	Networking Systems					
Law and Public Service	Law Enforcement	Emergency Services				
Science, Technology, Engineering and Math (STEM)	Engineering	Cybersecurity	Programming and Software Development	Biomedical Science		
Transportation, Distribution and Logistics	Automotive					

CTE courses are designed to provide an authentic learning experience through academically rigorous and technology-rich curriculum and real-world applications. Courses are designed specifically for these Programs of Study.

Career & Technical Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

- Principles of Agriculture, Food and Natural Resources (1 credit)
- Small Animal Management (.5 credit)
- Equine Science (.5 credit)
- Livestock Production (1 credit)
- Veterinary Medical Applications (1 credit)
- Advanced Animal Science (1 credit)
- Practicum in Agriculture, Food and Natural Resources (Veterinary Technician) (2 credits)
- Scientific Research and Design (1 credit)

★ Successful completion of the Animal Science Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Certified Veterinary Assistant, Level 1
- Elanco Fundamentals of Animal Science Certification
- Elanco Veterinary Medical Applications Certification
- Equine Management and Evaluation Certification
- Small Animal Science and Technology

BISD – Local Certifications

- OSHA – General Industry

CERTIFICATE/ LICENSE*

Pet Groomer

Veterinary Technician

Licensed Breeder

ASSOCIATE'S DEGREE

Food Science and Technology

Veterinary Studies

Biotechnology Laboratory Technician

Biology Technician

BACHELOR'S DEGREE

Animal Sciences

Agriculture

Biology

Zoology/
Animal Biology

MASTER'S/ DOCTORAL DEGREE

Genetics

Veterinary Medicine

Biological and Physical Sciences

Biological and Biomedical Sciences

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Animal Breeders	\$39,135	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%

The Animal Science Program of Study focuses on the science, research, and business of animals and other living organisms. It teaches students 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.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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.

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COURSE INFORMATION FOR ANIMAL SCIENCE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills.
Small Animal Management <div>Course# 17220</div>	13000400 (.5 Credit)	None	10-12	Students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to animal systems.
Equine Science <div>Course# 17230</div>	13000500 (.5 Credit)	None	10-12	Students will acquire knowledge and skills related to equine animal systems and the equine industry. Equine Science may address topics related to horses, donkeys, and mules. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to animal systems.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Livestock Production <div>Course# 27242</div>	13000300 (1 Credit)	None	10-12	Students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace.
Veterinary Medical Applications <div>Course# 27230</div>	13000600 (1 Credit)	Required: Equine Science, Small Animal Management or Livestock Production	11-12	Veterinary Medical Applications covers topics relating to veterinary practices, including practices for large and small animal species. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
Advanced Animal Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27245</div>	13000700 (1 Credit)	Required: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production Recommended: Veterinary Medical Applications	11-12	Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices.
Practicum in Agriculture, Food, and Natural Resources (Veterinary Technician) <div>Course# 47230</div>	13002500 (2 Credits)	Recommended: Veterinary Medical Applications	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in veterinary science, students will have learning experiences with local veterinarians and will clock the required hours needed to take the Veterinarian Technician certification.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES



LEVEL 1

•Principles of Agriculture, Food and Natural Resources (1 credit)

LEVEL 2

•Agricultural Mechanics and Metal Technologies (1 credit)

LEVEL 3

•Agricultural Structures Design and Fabrication (1 credit)

LEVEL 4

•Agricultural Equipment Design and Fabrication
•Practicum in Agriculture, Food and Natural Resources (Applied Agricultural Engineering) (2 credits)
•Scientific Research and Design (1 credit)

★ Successful completion of the Applied Agricultural Engineering Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•AWS D1.1 Structural Steel •AWS D9.1 Sheet Metal Welding •API 1104 Welding Pipelines and Related Facilities	Certified Professional Agronomist	Heavy Equipment Maintenance Technology/Technician	Agricultural Engineering	
BISD – Local Certifications	Certified Reliability Engineer	Agricultural Mechanization, General	Agricultural Mechanization, General	
•OSHA – General Industry •OSHA-30	Certified Irrigation Designer	Small Engine Mechanics and Repair Technology/Technician		
	Fluid Power Mobile Hydraulic Mechanic	Welding Technology/Welder		

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Outdoor Power Equipment and Other Small Engine Mechanics	\$32,406	366	16%
Welders	\$41,350	6,171	9%
Farm Equipment Mechanics and Service Technicians	\$39,915	304	17%
Mobile Heavy Equipment Mechanics	\$47,299	1,627	16%
Agricultural Engineers	\$64,792	9	13%

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.



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.

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CAREER & TECHNICAL
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COMPETITIONS



COURSE INFORMATION FOR APPLIED AGRICULTURAL ENGINEERING

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student demonstrates professional standards/employability skills as required by business and industry; analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills in agricultural applications.
Agricultural Mechanics and Metal Technologies <div>Course# 27220</div>	13002200 (1 Credit)	Recommended: Principles of Agriculture, Food, and Natural Resources	10-12	Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. The student follows operating instructions for tools and equipment to perform a given task. The student identifies and performs electric wiring skills, plumbing skills, concrete construction skills, carpentry skills, fencing methods, cold and hot metal techniques, assembly of equipment in agricultural systems operations.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Agricultural Structures Design and Fabrication <div>Course# 27221</div>	13002300 (1 Credit)	Recommended: Agricultural Mechanics and Metal Technologies	11-12	Students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication. The student will demonstrate principles of facilities design and fabrication related to agricultural structures. The student explores the different types of power systems used in agricultural structures. The student is expected to construct agricultural structures using appropriate technology. The student demonstrates metal construction techniques related to agricultural design and fabrication of structures.
Agricultural Equipment Design and Fabrication <div>Course# 27222</div>	13002350 (1 Credit)	Recommended: Agricultural Mechanics and Metal Technologies	11-12	Students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication. The student will demonstrate principles of design and fabrication related to agricultural machinery and equipment. The student plans, constructs, and maintains fences, corrals, and other agricultural enclosures. The student demonstrates construction techniques related to design and fabrication of agricultural equipment. The student demonstrates knowledge of laws and regulations related to the construction, design and fabrication of agricultural equipment.
Practicum in Agriculture, Food, and Natural Resources (Applied Agricultural Engineering) <div>Course# 47231</div>	13002500 (2 Credits)	Recommended: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food and natural resources, students must attain academic skills and knowledge, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

**Career
&
Technical
Education**



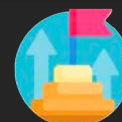
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

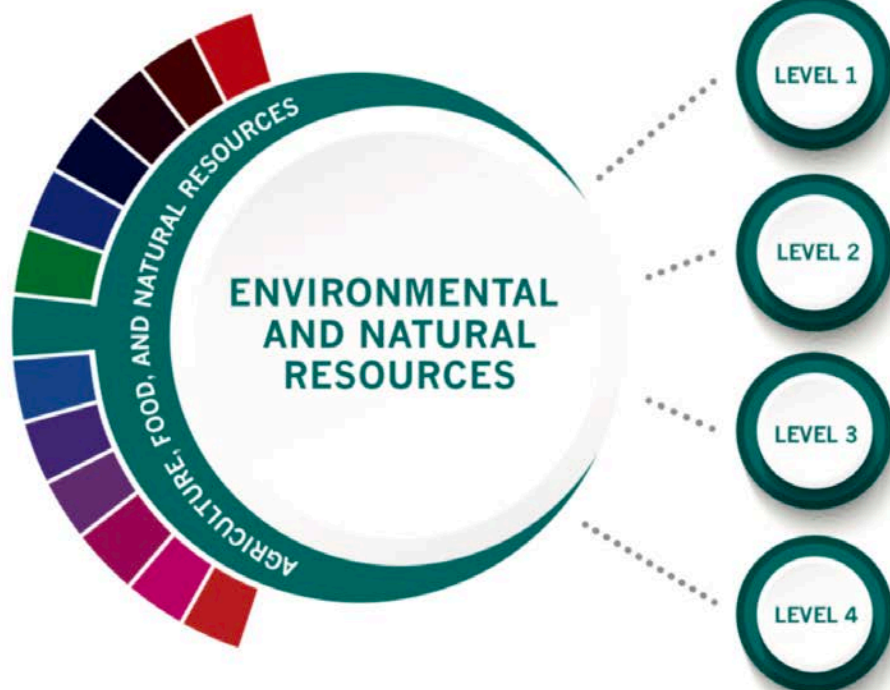
•Principles of Agriculture, Food and Natural Resources (1 credit)

•Wildlife, Fisheries, and Ecology (1 credit)

•Range Ecology Management (1 credit)

•Practicum in Agriculture, Food and Natural Resources (Environmental and Natural Resources) (2 credits)

•Scientific Research and Design (1 credit)



Source: Texas Education Agency

★ Successful completion of the Environmental and Natural Resources Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications		CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Natural Resources Systems		Board Certified Environmental Engineer – Hazardous Waste Management	Environmental Science		
		Certified Water Technologist	Environmental Studies	Environmental/Environmental Health Engineering	
		Wildlife, Fish, and Woodlands Science and Management			
		Certified in Public Health	Environmental Engineering Technology/Environmental Technology	Natural Resources Law Enforcement and Protective Services	Fishing and Fisheries Science and Management
BISD – Local Certifications					
•Texas Hunter Safety					

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Environmental Engineering Technicians	\$53,352	101	32%
Environmental Engineers	\$86,757	288	25%
Environmental Science and Protection Technicians	\$40,268	508	17%
Environmental Scientists and Specialists	\$77,896	644	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

The Environmental and Natural Resources Program of Study explores the occupations and educational opportunities associated with the research, design, and planning of engineering or technical duties in the prevention and control of environmental hazards. This Program of Study may also include exploration into conducting research for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.



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.

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EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR ENVIRONMENTAL & NATURAL RESOURCES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student demonstrates professional standards/employability skills as required by business and industry; analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills in agricultural applications; explains the relationship between AFNR and the environment.
Wildlife, Fisheries, and Ecology <div>Course# 27297</div>	13001500 (1 Credit)	None	10-12	Wildlife, Fisheries, and Ecology Management examines the management of game and non-game wildlife species, fish, and aquacrops and their ecological needs as related to current agricultural practices. The student will analyze the importance of wildlife, with an emphasis on use and management. The student is expected to: analyze the importance of wildlife, fisheries, and ecology management; discuss the history of wildlife, fisheries, and ecology management; discuss policies, laws, and the administration of wildlife, fisheries, and ecology management; and analyze the economic impact of public recreation.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Range Ecology Management <div>Course# 27298</div>	13001600 (1 Credit)	None	10-12	Range Ecology and Management is designed to develop students' understanding of rangeland ecosystems and sustainable forage production. The student develops an understanding of the rangeland ecosystem. The student develops an understanding of rangeland as a dynamic, living, and changeable system. The student analyzes the biotic and abiotic components of a rangeland. The student develops an understanding of the dynamic process of a renewable rangeland resource. The student identifies methods of maintaining and improving rangeland for livestock management. The student identifies methods of maintaining and improving rangeland for wildlife management. The student develops an understanding of rangeland management as it relates to global concerns.
Practicum in Agriculture, Food, and Natural Resources (Environmental and Natural Resources) <div>Course# 47232</div>	13002500 (2 Credits)	Recommended: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food and natural resources, students must attain academic skills and knowledge, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

Career
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Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



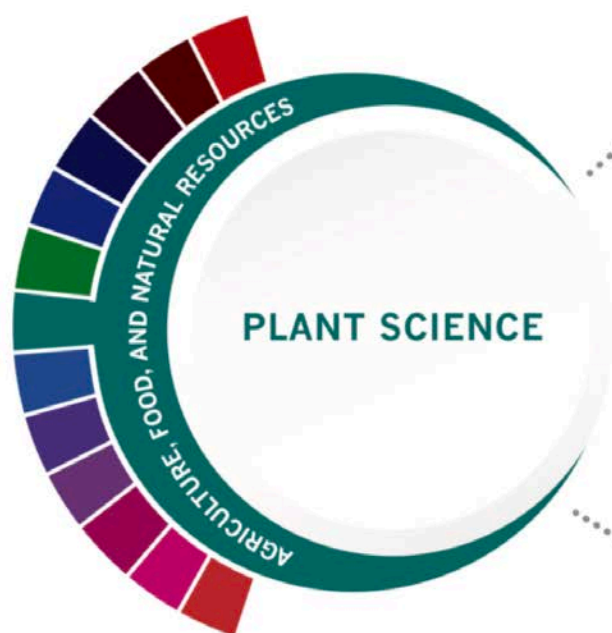
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COURSES



LEVEL 1

- Principles of Agriculture, Food and Natural Resources (1 credit)

LEVEL 2

- Landscape Design and Management (.5 credit)
- Turf Grass Management (.5 credit)
- Greenhouse Operation and Production (1 credit)

LEVEL 3

- Floral Design (1 credit)
- Advanced Floral Design (1 credit)
- Advanced Plant and Soil Science (1 credit)

LEVEL 4

- Practicum in Agriculture, Food and Natural Resources (Floral Design) (2 credits)
- Scientific Research and Design (1 credit)

★ Successful completion of the Plant Science Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Texas State Florist's Association Knowledge Based Floral Certification
- Texas State Florist's Association Level I Floral Certification
- Texas State Florist's Association Level II Floral Certification
- Commercial/Noncommercial Pesticide Applicator
- BASF Plant Science Certification
- Horticulture – Landscaping Job Ready
- Texas Certified Landscape Associate (TCLA)
- Texas Certified Nursery Professional

BISD – Local Certifications

- OSHA – General Industry

CERTIFICATE/ LICENSE*

Pesticide Applicator

Certified Floral Designer

Accredited Member of AIFD

Landscape Ind. Cert. Technician

ASSOCIATE'S DEGREE

Applied Horticulture/ Horticulture Operations, General

Ornamental Horticulture

Agricultural Business and Management, General

Turf and Turfgrass Management

BACHELOR'S DEGREE

Agronomy and Crop Science

Farm/Farm & Ranch Management

MASTER'S/ DOCTORAL DEGREE

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Soil and Plant Scientists	\$54,662	116	21%
Tree Trimmers and Pruners	\$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	\$36,733	196	22%
Landscaping Supervisors	\$44,408	807	19%
Biological Technicians	\$42,931	452	17%

The Plant Science Program of Study focuses on the science, research, and business of plants and other living organisms. It teaches students how to apply biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

CAREER & TECHNICAL
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EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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.

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COURSE INFORMATION FOR PLANT SCIENCE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Agriculture, Food, and Natural Resources (AFNR) <div>Course# 27241</div>	13000200 (1 Credit)	None	9	The student demonstrates professional standards/employability skills as required by business and industry; analyzes concepts related to global diversity; explains the historical, current, and future significance of the AFNR industry; analyzes the structure of AFNR leadership in organizations; demonstrates appropriate personal and communication skills; applies appropriate research methods to AFNR topics; applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records; uses information technology tools to access, manage, integrate, and create information related to AFNR; develops technical knowledge and skills related to soil systems, plant systems, animal systems, food products and processing systems; safely performs basic power, structural, and technical system skills in agricultural applications.
<div>Course# 17265</div> Landscape Design and Management	13001900 (.5 Credit)	None	10-12	Landscape Design and Management is designed to develop an understanding of landscape design and management techniques and practices.
<div>Course# 17266</div> Turf Grass Management	13001950 (.5 Credit)	None	10-12	Turf Grass Management is designed to develop an understanding of turf grass management techniques and practices.
<div>Course# 27267</div> Greenhouse Operation and Production	13002050 (1 Credit)	None	10-12	Greenhouse Operation and Production is designed to develop an understanding of greenhouse production techniques and practices.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Floral Design <i>This course satisfies the fine arts graduation requirement</i> <div>Course# 27260</div>	13001800 (1 Credit)	None	10-12	Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations.
Advanced Floral Design <div>Course# 27262</div>	N1300270 (1 Credit)	Required: Floral Design	11-12	Students are introduced to advanced floral design concepts, with an emphasis on specialty designs and specific occasion planning. This course focuses on building skills in advanced floral design, design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of a specific occasion or event. Students explore the design needs and expectations of clients and propose and evaluate appropriate creations. From conception to evaluation, students are challenged to create and design appropriate specialty floral designs that meet the needs of the client.
Advanced Plant and Soil Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27225</div>	13002100 (1 Credit)	Recommended: Biology, Integrated Physics and Chemistry, Chemistry, or Physics and a minimum of one credit from the courses in the AFNR Career Cluster.	11-12	Advanced Plant and Soil Science provides a way of learning about the natural world. Students should know how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. The student, for at least 40 percent of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices.
Practicum in Agriculture, Food, and Natural Resources (Floral Design) <div>Course# 47245</div>	13002500 (2 Credits)	Recommended: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster	11-12	Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. To prepare for careers in agriculture, food and natural resources, students must attain academic skills and knowledge, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

BUSINESS AND INDUSTRY ENDORSEMENT

Architecture and Construction

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Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



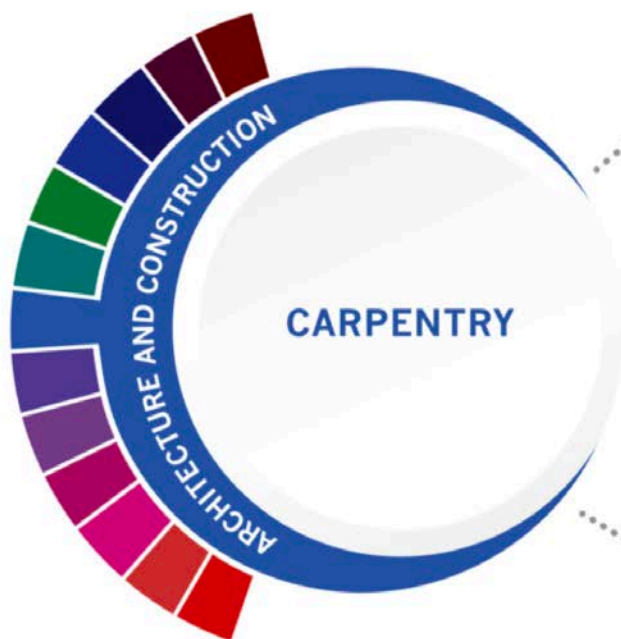
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COURSES



LEVEL 1

•Principles of Construction (1 credit)

LEVEL 2

•Construction Technology I (2 credits)

LEVEL 3

•Construction Technology II (2 credits)

LEVEL 4

•Practicum in Construction Technology (2 credits)

★ Successful completion of the Carpentry Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•NCCER Carpentry, Level 1	Certified Lead Carpenter	Carpentry/ Carpenter	Construction Science	Construction Management
•NCCER Carpentry, Level 2	Certified Installer	Industrial Mechanics and Maintenance Technology		
•NCCER Core	Certified Door Consultant			
BISD – Local Certifications	Fluid Power Connector and Conductor			
•Level 5 Forklift Certification				
•OSHA-10				

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Carpenters	\$35,922	5,031	26%
Cost Estimators	\$63,939	2,239	21%

The Carpentry Program of Study explores the occupations and educational opportunities related to constructing, installing, or repairing structures and fixtures made of wood, such as concrete forms (including frameworks, partitions, joists, studding, rafters, and stairways). This Program of Study may also include exploration into installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
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OPPORTUNITIES/
COMPETITIONS



The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

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COURSE INFORMATION FOR CARPENTRY

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Construction <div>Course# 27601</div>	13004220 (1 Credit)	None	9	Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Construction Technology I <div>Course# 47607</div>	13005100 (2 Credits)	Recommended: Principles of Construction	10-12	In Construction Technology I, students will gain knowledge and skills needed to enter the workforce as carpenters or building maintenance supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, tool usage, building materials, codes, and framing. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Construction Technology II <div>Course# 47615</div>	13005200 (2 Credits)	Required: Construction Technology I	11-12	In Construction Technology II, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Practicum in Construction Technology <div>Course# 47616</div>	13005250 (2 Credits)	Required: Construction Technology II	12	In Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.

Architecture and Construction

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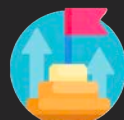
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COURSES



LEVEL 1

•Principles of Construction (1 credit)

LEVEL 2

•Construction Management I (2 credits)

LEVEL 3

•Construction Management II (2 credits)

LEVEL 4

•Practicum in Construction Management (2 credits)

Source: Texas Education Agency

★ Successful completion of the Construction Management and Inspection Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•NCCER Core	Code Enforcement Officer, Texas Department of Health Code Enforcement	Construction Engineering Technology/Technician		Materials Management
BISD – Local Certifications	Certified Cost Estimator/Analyst	Business Administration and Management, General		
•OSHA-10	Certified Professional Estimator	Mechanical Engineering		
	Structural Masonry Special Inspector	Business/Commerce, General	Manufacturing Engineering	

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Construction and Building Inspectors	\$53,914	983	17%
Cost Estimators	\$63,939	2,239	21%
Construction Managers	\$87,402	2,401	14%

The Construction Management and Inspection Program of Study explores the occupations and educational opportunities associated with cost estimates for construction projects or services to aid management in bidding on or determining the price of products or services. This Program of Study may also include exploration into inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.

CAREER & TECHNICAL
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COURSE INFORMATION FOR CONSTRUCTION MANAGEMENT & INSPECTION

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Construction <div>Course# 27601</div>	13004220 (1 Credit)	None	9	Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Construction Management I <div>Course# 47626</div>	13004900 (2 Credits)	Recommended: Algebra I, Geometry, and Principles of Construction	10-12	In Construction Management I, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management I includes the knowledge of design techniques and tools related to the management of architectural and engineering projects. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Construction Management II <div>Course# 47627</div>	13005000 (2 Credits)	Required: Construction Management I	11-12	In Construction Management II, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management II includes knowledge of the design, techniques, and tools related to the management of architectural and engineering projects. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.
Practicum in Construction Management <div>Course# 47625</div>	13006200 (2 Credits)	Required: Construction Management II	12	Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom. This Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment.

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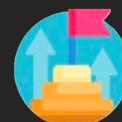
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES



LEVEL 1

- Principles of Arts, Audio/Video Technology, and Communications (1 credit)
- Professional Communications (.5 credit)

LEVEL 2

- Audio/Video Production I (1 credit)
- Digital Audio Technology I (1 credit)

LEVEL 3

- Audio/Video Production II (1 credit)
- Digital Audio Technology II (1 credit)

LEVEL 4

- Practicum in Audio/Video Production (2 credits)
- Practicum in Digital Audio Technology (2 credits)

★ Successful completion of the Digital Communications Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Adobe Certified Professional in Digital Video Using Adobe Premiere Pro	Certified Video Engineer	Recording Arts Technology/Technician		Communications Technology/Technician
•Adobe Certified Professional in Visual Design	Commercial Audio Technician	Cinematography and Film/Video Production		
•Adobe Certified Professional in Visual Design Using Adobe Photoshop	Certified AM Directional Specialist	Radio and TV Broadcasting Technician	Radio and Television	
•Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign	Certified Broadcast Radio Engineer	Music Technology	Agricultural Communication/Journalism	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%

The Digital Communications Program of Study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This Program of Study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

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.

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COMPETITIONS



COURSE INFORMATION FOR DIGITAL COMMUNICATIONS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Arts, Audio Video Technology, and Communications Course# 27349	13008200 (1 Credit)	None	9	Careers in the Arts, Audio/Video Technology, and Communications 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. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities. This 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.
Professional Communications Course# 17282	13009900 (.5 Credit)	None	9-12	Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.
Audio/Video Production I Course# 27350	13008500 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Students will be expected to develop an understanding of the industry with a focus on pre-production, production, and post-production audio and video products.
Digital Audio Technology I Course# 27395	13009950 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Digital Audio Technology I was designed to provide students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, music production and live sound, and additional opportunities and skill sets. Digital Audio Technology I does not re-place Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Audio/Video Production II Course# 27355	13008600 (1 Credit)	Required: Audio/Video Production I	10-12	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video.
Digital Audio Technology II Course# 27396	13009960 (1 Credit)	Required: Digital Audio Technology I	10-12	Digital Audio Technology II was designed to provide additional opportunities and skill sets for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, and music production and live sound. Digital Audio Technology II does not replace Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.
Practicum in Audio/Video Production Course# 47360	13008700 (2 Credits)	Required: Audio/Video Production II	11-12	Careers in audio/video production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying preproduction, production, and post-production audio and video products in a professional environment.
Practicum in Digital Audio Technology Course# 47349	N1300996 (2 Credits)	Required: Digital Audio Technology I & Digital Audio Technology II	11-12	The Practicum for Digital Audio is a new innovative course currently being developed by TEA. This course will build upon the concepts taught in Digital Audio Production II and students will be expected to develop an understanding of the audio industry with a focus on industry pathways such as live sound, broadcast, streaming, podcasting, studio recording and audio for film, video and games. Instruction will be delivered through lab-based classroom experiences or career preparation opportunities.

BUSINESS AND INDUSTRY ENDORSEMENT

Arts, A/V Technology and Communications

Career
&
Technical
Education



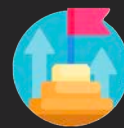
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Principles of Arts, Audio/Video Technology, and Communications (1 credit)

•Digital Media (1 credit)
•Graphic Design and Illustration I (1 credit)
•Commercial Photography I (1 credit)

•Graphic Design and Illustration II (1 credit)
•Commercial Photography II (1 credit)

•Practicum in Graphic Design and Illustration (2 credits)
•Practicum in Commercial Photography (2 credits)

★ Successful completion of the Graphic Design and Multimedia Arts Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorse-

Source: Texas Education Agency

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 Visual Design
- Certified Professional Photographer
- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign
- Adobe Certified Professional in Visual Effects and Motion Graphics Using Adobe After Effects

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Certified Digital Designer	Animation, Interactive Technology, Video Graphics and Special Effects		
WOW Certified Web Designer Apprentice	Graphic Design		
Adobe Suite Certifications	Game and Interactive Media Design	Intermedia/Multimedia	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

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.

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.

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CAREER & TECHNICAL
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EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR DESIGN & MULTIMEDIA ARTS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Arts, Audio Video Technology, and Communications <div>Course# 27349</div>	13008200 (1 Credit)	None	9	Careers in the Arts, Audio/Video Technology, and Communications 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. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities. This 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.
Digital Media <div>Course# 27340</div>	13027800 (1 Credit)	None	10-12	In Digital Media, students will analyze and assess current and emerging technologies, while designing and creating multimedia projects that address customer needs and resolve a problem. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society. Students will enhance reading, writing, computing, communication, and critical thinking and apply them to the IT environment.
Graphic Design and Illustration I <div>Course# 27370</div>	13008800 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design.
Commercial Photography I <div>Course# 27380</div>	13009100 (1 Credit)	None	10-12	Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Graphic Design and Illustration II <div>Course# 27375</div>	13008900 (1 Credit)	Required: Graphic Design and Illustration I	10-12	Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills. This 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.
Commercial Photography II <div>Course# 27384</div>	13009200 (1 Credit)	Recommended: Commercial Photography I	10-12	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography.
Practicum in Graphic Design and Illustration <div>Course# 47370</div>	13009000 (2 Credits)	Required: Graphic Design and Illustration II	11-12	Careers in graphic design and illustration span all aspects of the advertising and visual communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Practicum in Commercial Photography <div>Course# 47385</div>	13009250 (2 Credits)	Required: Commercial Photography I	11-12	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography.

Business, Marketing, and Finance

Career & Technical Education



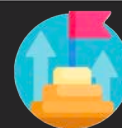
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COURSES



•Principles of Business, Marketing, and Finance (1 credit)

•Money Matters (1 credit)
•Business Information Management I (1 credit)
•Accounting I (1 credit)

•Accounting II (1 credit)
•Financial Analysis (1 credit)

•Practicum in Business Management (2 credits)

Source: Texas Education Agency

★ Successful completion of the Accounting & Financial Services Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE	OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
•Microsoft Office Specialist: Microsoft Excel Expert (Excel 2019)	Certified Management Accountant	Real Estate	Accounting	Financial Accounting	Accountants and Auditors	\$71,469	14,436	22%
•Intuit Quickbooks Certified User	Certified Internal Auditor	Financial, General		Business Administration	Loan Officers	\$68,598	2,419	19%
BISD – Local Certifications	Certified Income Specialist	Financial Planning and Services		Financial Planning	Personal Financial Advisors	\$86,965	1,861	52%
•Foundations in Personal Finance Certification	Certified Public Accountant	Certified Income Specialist			Administrative Service Managers	\$96,138	2,277	21%
					Insurance Underwriters	\$66,206	594	14%

The Accounting and Financial Services Program of Study teaches CTE concentrators 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.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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.

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COURSE INFORMATION FOR ACCOUNTING & FINANCIAL SERVICES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Money Matters <div>Course# 27025</div>	13016200 (1 Credit)	Recommended: Principles of Business, Marketing, and Finance	10-12	In Money Matters, students will investigate money management from a personal financial perspective. Students will apply critical-thinking skills to analyze financial options based on current and projected economic factors. Students will gain knowledge and skills necessary to establish short-term and long-term financial goals. Students will examine various methods of achieving short-term and long-term financial goals through various methods such as investing, tax planning, asset allocating, risk management, retirement planning, and estate planning.
Business Information Management I <div>Course# 27000</div>	13011400 (1 Credit)	None	10-12	In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.
Accounting I <div>Course# 27010</div>	13016600 (1 Credit)	Recommended: Principles of Business, Marketing, and Finance	10-12	Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Accounting II <i>This course satisfies a high school mathematics graduation requirement</i> <div>Course# 27015</div>	13016700 (1 Credit)	Required: Accounting I	11-12	Accounting encompasses careers that record, classify, summarize, analyze, and communicate a business's financial information/business transactions for use in management decision making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information.
Financial Analysis <div>Course# 27014</div>	13016800 (1 Credit)	Required: Accounting I	11-12	In Financial Analysis, students will apply knowledge and technical skills in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students will develop analytical skills by actively evaluating financial results of multiple businesses, interpreting results for stakeholders, and presenting strategic recommendations for performance improvement.
Practicum in Business Management <div>Course# 47020</div>	13012200 (2 Credits)	Recommended: Course from Accounting & Financial Services Program of Study	11-12	Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Business, Marketing, and Finance

Career & Technical Education



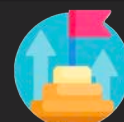
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COURSES



LEVEL 1

- Principles of Business, Marketing and Finance (1 credit)

LEVEL 2

- Business Information Management I (1 credit)
- Business Information Management II (1 credit)

LEVEL 3

- Business Management (1 credit)

LEVEL 4

- Statistics and Business Decision Making (1 credit)
- Practicum in Business Management (2 credits)

Source: Texas Education Agency

★ Successful completion of the Business Management Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE	OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
<ul style="list-style-type: none"> •Microsoft Office Specialist: Microsoft Word Expert (Word 2019) •Entrepreneurship and Small Business 	Certified Records Manager	Business Administration			Administrative Service Managers	\$96,138	2,277	21%
	Certified Facility Manager	Business/Commerce		Business Management	Management Analysts	\$87,651	4,706	32%
	Certified Commercial Contracts Manager	Public Administration			General and Operations Manager	\$107,640	18,679	20%
	Teradata 14 Basics/Certified Technical Specialist	Business Management	Management Science		Operations Research Analysts	\$78,083	1,128	38%
					Supervisors of Administrative Support Workers	\$57,616	14,982	20%

The Business Management Program of Study teaches CTE concentrators how to plan, direct, and coordinate the administrative services and operations of an organization. Through this Program of Study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This Program of Study will also introduce students to mathematical modeling tools and organizational evaluation methods.



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.

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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR BUSINESS MANAGEMENT

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Business Information Management I <div>Course# 27000</div>	13011400 (1 Credit)	None	10-12	In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.
Business Information Management II <div>Course# 27005</div>	13011500 (1 Credit)	Required: Business Information Management I	10-12	In Business Information Management II, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Business Management <div>Course# 27032</div>	13012100 (1 Credit)	None	10-12	Business Management is designed to familiarize students with the concepts related to business management as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills.
Statistics and Business Decision Making <i>This course satisfies a high school math graduation requirement</i> <div>Course# 27031</div>	13016900 (1 Credit)	Required: Algebra II	11-12	Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid.
Practicum in Business Management <div>Course# 47020</div>	13012200 (2 Credits)	Recommended: Business Information Management II	11-12	Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Business, Marketing, and Finance

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES



LEVEL 1

- Principles of Business, Marketing and Finance (1 credit)

LEVEL 2

- Sports and Entertainment Marketing (.5 credit)
- Virtual Business (.5 credit)

LEVEL 3

- Social Media Marketing (.5 credit)
- Advertising (.5 credit)
- Statistics and Business Decision Making (1 credit)

LEVEL 4

- Advanced Marketing (2 credits)

Source: Texas Education Agency

★ Successful completion of the Marketing & Sales Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications

•Stukent Social Media Marketing Certification

CERTIFICATE/ LICENSE*

Certified Management Accountant

Certified Internal Auditor

Certified Income Specialist

Certified Public Accountant

ASSOCIATE'S DEGREE

Real Estate

Financial, General

Financial Planning and Services

Certified Income Specialist

BACHELOR'S DEGREE

Accounting

MASTER'S/ DOCTORAL DEGREE

Financial Accounting

Business Administration

Financial Planning

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Marketing Research Analysts and Marketing Specialists	\$70,346	4,664	40%
Insurance Sales Agents	\$43,181	5,886	30%
Wholesale and Retail Buyers	\$51,106	1,299	19%
First-Line Supervisors of Retail Sales Workers	\$72,550	2,826	15%

The Marketing and Sales Program of Study teaches CTE concentrators how to collect information to determine potential sales of a product or service and/or create a marketing campaign to market or distribute goods and services. Through this Program of Study, students will learn the skills necessary to understand and apply data on customer demographics, preferences, needs, and buying habits.



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.

CAREER & TECHNICAL
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COURSE INFORMATION FOR MARKETING & SALES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Sports and Entertainment Marketing <div>Course# 17023</div>	13034600 (.5 Credit)	Recommended: Principles of Business, Marketing and Finance	10-12	Sports and Entertainment Marketing will provide students with a thorough understanding of the marketing concepts and theories that apply to sports and entertainment. The areas this course will cover include basic marketing concepts, publicity, sponsorship, endorsements, licensing, branding, event marketing, promotions, and sports and entertainment marketing strategies.
Virtual Business <div>Course# 17024</div>	13012000 (.5 Credit)	None	10-12	Virtual Business is designed for students to start a virtual business by creating a web presence, conducting online and off-line marketing, examining contracts appropriate for an online business, and demonstrating project-management skills. Students will also demonstrate bookkeeping skills for a virtual business, maintain business records, and understand legal issues associated with a virtual business.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Social Media Marketing <div>Course# 17025</div>	13034650 (.5 Credit)	Recommended: Principles of Business, Marketing and Finance or any Marketing class	10-12	Social Media Marketing is designed to look at the rise of social media and how marketers are integrating social media tools in their overall marketing strategy. The course will investigate how the marketing community measures success in the new world of social media. Students will manage a successful social media presence for an organization, understand techniques for gaining customer and consumer buy-in to achieve marketing goals, and properly select social media platforms to engage consumers and monitor and measure the results of these efforts.
Advertising <div>Course# 17030</div>	13034200 (.5 Credit)	Recommended: Principles of Business, Marketing and Finance	10-12	Advertising is designed as a comprehensive introduction to the principles and practices of advertising. Students will gain knowledge of techniques used in current advertising, including print, broadcast, and digital media. The course explores the social, cultural, ethical, and legal issues of advertising, historical influences, strategies, media decision processes as well as integrated marketing communications, and careers in advertising and sales promotion. The course provides an overview of how communication tools can be used to reach target audiences and increase consumer knowledge.
Statistics and Business Decision Making <i>This course satisfies a high school math graduation requirement</i> <div>Course# 27031</div>	13016900 (1 Credit)	Required: Algebra II	11-12	Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid.
Advanced Marketing <div>Course# 47030</div>	13034700 (2 Credits)	Required: One credit from the courses in the Marketing Program of Study	11-12	In Advanced Marketing, students will gain knowledge and skills that help them become proficient in one or more of the marketing functional areas. Students will illustrate appropriate management and research skills to solve problems related to marketing. This course covers technology, communication, and customer-service skills.

Business, Marketing, and Finance

Career
&
Technical
Education



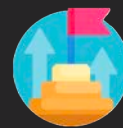
Programs of study
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occupations.



Rigorous courses are
based on the
Foundation High
School Program with
endorsements.



Programs of study may also include relevant
early college credit opportunities,
including dual credit, industry-based
certifications, advanced placement (AP) and
work-based learning activities.



COURSES

- Principles of Business, Marketing and Finance (1 credit)
- Business Information Management I (1 credit)
- Entrepreneurship (1 credit)
(INCubator.edu Program)
- Entrepreneurship II (1 credit)
(Accelerator.edu Program)
- Practicum in Business Management (2 credits)
- Project-Based Research (1 credit)

Source: Texas Education Agency

★ Successful completion of the Entrepreneurship Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications

•Entrepreneurship
& Small Business

CERTIFICATE/ LICENSE*

ASSOCIATE'S DEGREE

BACHELOR'S DEGREE

MASTER'S/ DOCTORAL DEGREE

Certified Facility Manager	Business Administration and Management	Business Administration and Management	Business Administration and Management
Certified Management Accountant	Business/Commerce	Business/Commerce	Business/Commerce
Certified Project Consultant	Public Administration	Public Administration	Public Administration
Accredited Management Consultant	Business Management	Management Science	Management Science

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
General and Operations Managers	\$107,640	18,679	20%
Management Analysts	\$87,651	4,706	32%
Managers, All Others	\$113,110	1,794	26%

The Entrepreneurship Program of Study teaches CTE learners how to plan, direct, and coordinate the management and operations of public or private sector organizations. Through this Program of Study, students will learn the skills necessary to formulate policies, manage daily operations, analyze management structures, and plan for the use of materials and human resources.



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.

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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR ENTREPRENEURSHIP

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Business, Marketing, and Finance <div>Course# 27021</div>	13011200 (1 Credit)	None	9	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance. This Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.
Business Information Management I <div>Course# 27000</div>	13011400 (1 Credit)	None	10-12	In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.
Entrepreneurship <div>Course# 27030</div>	13034400 (1 Credit)	None	10-12	In Entrepreneurship, students will gain the knowledge and skills needed to become an entrepreneur. Students will learn the principles necessary to begin and operate a business. The primary focus of the course is to help students understand the process of analyzing a business opportunity, preparing a business plan, determining feasibility of an idea using research, and developing a plan to organize and promote the business and its products and services. In addition, students will understand the capital required, the return on investment desired, and the potential for profit.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Entrepreneurship II <div>Course# 27038</div>	N1303423 (1 Credit)	Required: Entrepreneurship	11-12	Students will work in close cooperation with local industry leaders, community members, and educators to develop ideas and objectives, complete a business model canvas, pitch to potential investors, register with governmental agencies, and develop brand identity. The goal and outcome of the course is to have a business launched by the end of the course or have the tools necessary to launch and operate a business.
Project-Based Research <div>Course# 27043</div>	12701500 (1 Credit)	None	11-12	Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct indepth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Practicum in Business Management <div>Course# 47020</div>	13012200 (2 Credits)	None	11-12	Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Education & Training

**Career
&
Technical
Education**



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

- Principles of Education and Training (1 credit)
- Principles of Human Services (1 credit)
- Child Development (1 credit)
- Instructional Practices (2 credits)
- Practicum in Education and Training (2 credits)

★ Successful completion of the Teaching and Training Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Educational Aide I	Texas Educator Certification Program	Teacher Education	Bilingual and Multilingual Education	Instruction and Learning
	Educational Instructional Technology	Education, General (or specific subject area)		Educational Leadership and Administration
BISD – Local Certifications	Counselor, Professional	Special Education		
•OSHA – General Industry	Athletic Trainer	Health and Physical Education/Fitness		Social and Philosophical Foundations of Education
•Pre-Service Child-Care Certificate				

OCCUPA-TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Adult Basic and Secondary Education and Literacy Teachers and Instructors	\$48,069	862	17%
Middle School Teachers, Except Special and CTE	\$54,510	6,407	21%
CTE Teachers, Secondary School	\$56,360	719	9%
Special Education Teachers, Secondary School	\$56,720	980	18%

The Teaching and Training Program of Study prepares students for careers related to teaching, instruction, and creation of instructional and enrichment materials. The Program of Study introduces CTE concentrators to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



The Education and Training Career Cluster® focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training Career Cluster.

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COURSE INFORMATION FOR TEACHING & TRAINING

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Education & Training Course# 27506	13014200 (1 Credit)	None	9	Principles of Education and Training is designed to introduce learners to the various careers available within the Education and Training Career Cluster. Students use self-knowledge as well as educational and career information to analyze various careers within the Education and Training Career Cluster. Students will develop a graduation plan that leads to a specific career choice in the student's interest area. This Career Cluster focuses on planning, managing, and providing education and training services and related learning support services.
Principles of Human Services Course# 27501	13024200 (1 Credit)	None	9	Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services Career Cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or high-demand human services careers.
Child Development Course# 27570	13024700 (1 Credit)	Recommended: Principles of Human Services	10-12	Child Development is a technical laboratory course that addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Instructional Practices Course# 47560	13014400 (2 Credits)	Required: 1 credit from Education and Training Career Cluster	11-12	Instructional Practices is a field-based (practicum) internship that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators or trainers in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and complete other responsibilities of teachers, trainers, paraprofessionals, or other educational personnel.
Practicum in Education & Training Course# 47565	13014500 (2 Credits)	Required: Instructional Practices	12	Practicum in Education and Training is a field-based internship that provides students background knowledge of child and adolescent development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of classroom teachers, trainers, paraprofessionals, or other educational personnel.

Health Science

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

COURSES

•Principles of Health Science (1 credit)

•Medical Terminology (1 credit)

•Anatomy and Physiology (1 credit)

•Health Science Theory (1 credit)

•Medical Microbiology (1 credit)

•Pathophysiology (1 credit)

•Practicum in Health Science (Phlebotomy)

(2 credits)

•Practicum in Health Science (CCMA) (2 credits)

★ Successful completion of the Healthcare Diagnostics Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Certified Clinical Medical Assistant
- Certified EKG Technician
- Phlebotomy Technician

BISD – Local Certifications

- Basic Life Support (BLS), CPR, First Aid
- Stop the Bleed Certification

CERTIFICATE/
LICENSE*

ASSOCIATE'S
DEGREE

BACHELOR'S
DEGREE

MASTER'S/
DOCTORAL
DEGREE

Medical
Sonographer

Nuclear Medical Technology/
Technologist

Radiologist

Radiologic
Technologist

Magnetic
Resonance
Imaging (MRI)
Technology/
Technician

Medical
Radiologic
Technology/
Science -
Radiation
Therapist

Radiologic
Technology/
Science -
Radiographer

Medical
Assistant

Medical/
Clinical
Assistant

Family and
General
Practitioners

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Diagnostic Medical Sonographers	\$69,909	495	35%
Phlebotomists	\$30,597	1,442	36%
Nuclear Medicine Technologists	\$75,962	91	13%
Radiologic Technologists	\$55,494	1,196	19%
Magnetic Resonance Imaging Technologists	\$68,661	217	21%

The Healthcare Diagnostics Program of Study introduces students to occupations and educational opportunities related to performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This Program of Study may also include exploration into the opportunities associated with blood laboratories as well as radiologic technology, and ultrasonic technology.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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COURSE INFORMATION FOR HEALTHCARE DIAGNOSTIC

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Health Science <div>Course# 27100</div>	13020200 (1 Credit)	None	9	The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry. This Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.
Medical Terminology <div>Course# 27102</div>	13020300 (1 Credit)	None	10-12	The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Health Science Theory <div>Course# 27103</div>	13020400 (1 Credit)	Required: Biology	10-12	The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.
Anatomy and Physiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27115</div>	13020600 (1 Credit)	Required: Biology and a second science credit/ Recommended: A course from the Health Science Program of Study	10-12	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Medical Microbiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27116</div>	13020700 (1 Credit)	Required: Biology and Chemistry Recommended: A course from the Health Science Program of Study	10-12	The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.
Pathophysiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27125</div>	13020800 (1 Credit)	Required: Biology and Chemistry Recommended: A course from the Health Science Program of Study	11-12	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology.
Practicum in Health Science Phlebotomy Technician <div>Course# 47115</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Certified Phlebotomy Certification, and EKG.
Practicum in Health Science Certified Clinical Medical Assistant (CCMA) <div>Course# 47112</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Patient Care Technician (PCT) and EKG and they prepare for a career in hospitals or long-term care facilities.

Health Science

Career
&
Technical
Education



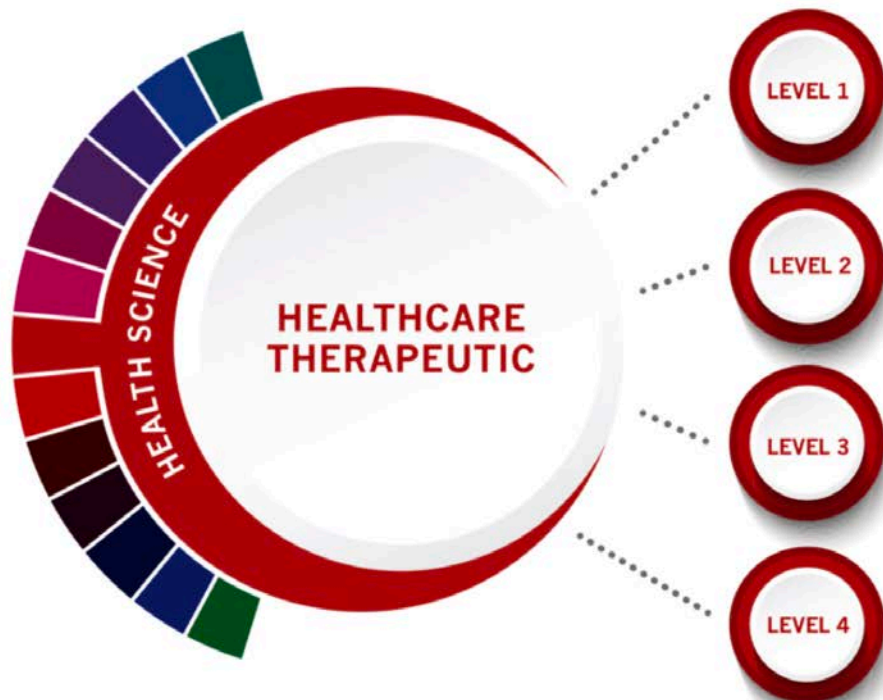
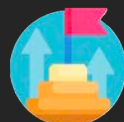
Programs of study
are aligned with
high-wage, high-skill,
and in-demand
occupations.



Rigorous courses are
based on the
Foundation High
School Program with
endorsements.



Programs of study may also include relevant
early college credit opportunities,
including dual credit, industry-based
certifications, advanced placement (AP) and
work-based learning activities.



COURSES

•Principles of Health Science (1 credit)

•Medical Terminology (1 credit)

•Anatomy and Physiology (1 credit)

•Health Science Theory (1 credit)

•Medical Microbiology (1 credit)

•Pathophysiology (1 credit)

•Practicum in Health Science (Pharmacy Technician,
Certified Clinical Medical Assistant, Patient Care
Technician, Phlebotomy) (2 credits)

★ Successful completion of the Healthcare Therapeutic Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Certified Clinical Medical Assistant
- Pharmacy Technician
- Certified EKG Technician
- Phlebotomy Technician
- Patient Care Technician (CPCT)
- Certified Dental Assistant

BISD – Local Certifications

- Basic Life Support (BLS), CPR, First Aid
- Stop the Bleed Certification

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Dental Assistant	Dental Hygienist		Dentist
Surgical Technologist			Physician Assistant
Medical Assistant	Medical/ Clinical Assistant		Family and General Practitioners
Pharmacy Aides			Pharmacist

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	21%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%
Dental Assistants	\$34,840	4,422	31%

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.



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.

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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
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EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR HEALTHCARE THERAPEUTIC

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Health Science <div>Course# 27100</div>	13020200 (1 Credit)	None	9	The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry. This Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.
Medical Terminology <div>Course# 27102</div>	13020300 (1 Credit)	None	10-12	The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Health Science Theory <div>Course# 27103</div>	13020400 (1 Credit)	Required: Biology	10-12	The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.
Anatomy and Physiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27115</div>	13020600 (1 Credit)	Required: Biology and a second science credit/ Recommended: A course from the Health Science Program of Study	10-12	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Medical Microbiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27116</div>	13020700 (1 Credit)	Required: Biology and Chemistry/ Recommended: A course from the Health Science Program of Study	10-12	The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.
Pathophysiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27125</div>	13020800 (1 Credit)	Required: Biology and Chemistry/ Recommended: A course from the Health Science Program of Study	11-12	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology.
Practicum in Health Science (Pharmacy Technician) <div>Course# 47110</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exam Pharmacy Technician (ExCPT).
Practicum in Health Science Certified Clinical Medical Assistant (CCMA) <div>Course# 47111</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Certified Medical Assistant, and EKG as they prepare for careers in clinical services (not hospital setting).
Practicum in Health Science Patient Care Technician (PCT) <div>Course# 47112</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Patient Care Technician (PCT) and EKG and they prepare for a career in hospitals or long-term care facilities.
Practicum in Health Science Phlebotomy Technician <div>Course# 47115</div>	13020500 (2 Credits)	Required: Health Science Theory and Biology	11-12	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be able to take certification exams for Certified Phlebotomy Certification, and EKG.

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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CULINARY ARTS

LEVEL 1

•Introduction to Culinary Arts (1 credit)

LEVEL 2

•Culinary Arts (2 credits)

LEVEL 3

•Advanced Culinary Arts (2 credits)

LEVEL 4

•Practicum in Culinary Arts (2 credits)

Source: Texas Education Agency

★ Successful completion of the Culinary Arts Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
	Certified Chef	Hotel and Restaurant Management		
BISD – Local Certifications	Food Service Management Professional	Restaurant Culinary and Catering Management	Food Service Systems Administration/Management	
	Comprehensive Food Safety	Hospitality Administration/Management, General		
•ServSafe Manager	Certified Food and Beverage Executive	Culinary Arts/ Chef Training	Culinary Science and Food Service Management	Business Administration Management, General
•Texas Agrilife Food Handlers				

OCCUPA-TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Food and Beverage Managers	\$55,619	1,561	28%
Chef and Head Cooks	\$43,285	1,366	25%
Food Science Technicians	\$34,382	236	11%

The Culinary Arts Program of Study introduces students to occupations and educational opportunities related to the planning, directing, or coordinating activities of a food and beverage organization or department. This Program of Study also explores opportunities involved in directing and participating in the preparation and cooking of food.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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COURSE INFORMATION FOR CULINARY ARTS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Introduction to Culinary Arts <div>Course# 27595</div>	13022550 (1 Credit)	None	9	Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course. This Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services.
Culinary Arts <div>Course# 47525</div>	13022600 (2 Credits)	Recommended: Introduction to Culinary Arts	10-12	Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Advanced Culinary Arts <div>Course# 47530</div>	13022650 (2 Credits)	Required: Culinary Arts	10-12	Advanced Culinary Arts will extend content and enhance skills introduced in Culinary Arts by in-depth instruction of industry-driven standards in order to prepare students for success in higher education, certifications, and/or immediate employment.
Practicum in Culinary Arts <div>Course# 47535</div>	13022700 (2 Credits)	Required: Culinary Arts	11-12	Practicum in Culinary Arts is a unique practicum that provides occupationally specific opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Culinary Arts integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace.

HUMAN SERVICES

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Principles of Human Services (1 credit)

LEVEL 1

•Child Development (1 credit)
•Professional Communications (.5 credit)
•Lifetime Nutrition and Wellness (.5 credit)

LEVEL 2

•Counseling and Mental Health (1 credit)
•Family and Community Services (1 credit)

LEVEL 3

•Practicum in Human Services (2 credits)

LEVEL 4



FAMILY AND
COMMUNITY
SERVICES

★ Successful completion of the Family and Community Services Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Child Development Associate (CDA)	Human Development and Family Studies	Human Development and Family Studies		
•Community Health Workers	Community Health Services/ Liaison/ Counseling	Human Services/Sciences, General		Marriage and Family Therapy/ Counseling
BISD – Local Certifications	Distance Credentialed Counselor	Family and Consumer Sciences		Human Services/Sciences
•OSHA – General Industry	Educator Certification in Family and Consumer Sciences	Community Health Services	Child and Family Services	Family Studies
•Pre-Service Child-Care Certificate				

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Child, Family, and School Social Workers	\$41,350	2,221	17%
Social and Community Services Managers	\$65,146	608	33%
Marriage and Family Therapists	\$42,266	217	35%
Social and Human Service Assistants	\$32,448	2,822	25%
Mental Health and Substance Abuse and Behavioral Counselors	\$42,120	576	39%

The Family and Community Services Program of Study introduces students to knowledge and skills related to social services, including child and human development and consumer sciences. CTE concentrators may learn about or practice managing social and community services or teaching family and consumer sciences. Students may follow career paths in social work or therapy for children, families, or school communities.



The Human Services Career Cluster® focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services.

DO YOU WANT MORE INFORMATION ON COLLEGE AND CAREER ADVICE?
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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR FAMILY & COMMUNITY SERVICES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Human Services <div>Course# 27501</div>	13024200 (1 credit)	None	9	Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services Career Cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or high-demand human services careers. This Career Cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services.
Professional Communications <div>Course# 17282</div>	13009900 (.5 credit)	None	9-12	Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.
Lifetime Nutrition and Wellness <div>Course# 17545</div>	13024500 (.5 credit)	Recommended: Principles of Human Services or Principles of Health Science	9-12	Lifetime Nutrition and Wellness is a laboratory course that allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences.
Child Development <div>Course# 27570</div>	13024700 (1 credit)	Recommended: Principles of Human Services	10-12	Child Development is a technical laboratory course that addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Counseling and Mental Health <div>Course# 27580</div>	13024600 (1 credit)	Recommended: Principles of Human Services	11-12	In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.
Family and Community Services <div>Course# 27575</div>	13024900 (1 credit)	Recommended: Principles of Human Services	10-12	Family and Community Services is a laboratory-based course designed to involve students in realistic and meaningful community-based activities through direct service or service-learning experiences. Students are provided opportunities to interact with and provide services to individuals, families, and the community through community or volunteer services. Emphasis is placed on developing and enhancing organizational and leadership skills and characteristics.
Practicum in Human Services <div>Course# 47570</div>	13025000 (2 credits)	None	11-12	Practicum in Human Services provides background knowledge and occupation-specific training that focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community-services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the human services cluster.

Information Technology

Career
&
Technical
Education



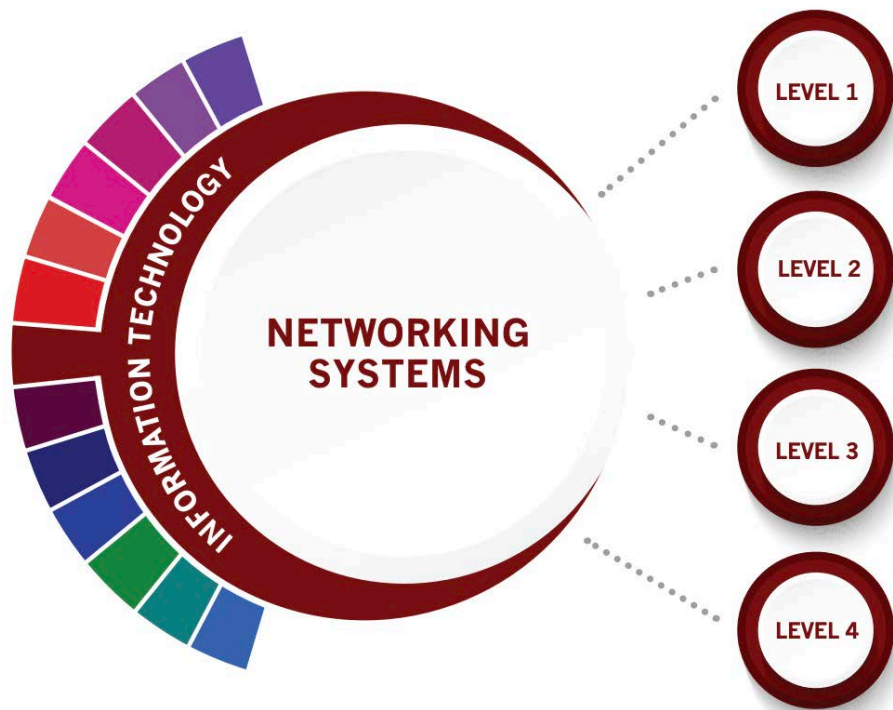
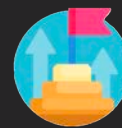
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



•Computer Science I (1 credit)

•AP Computer Science Principles (1 credit)

•Networking/Lab (2 credits)

•Project Based Research (1 credit)

•Career Preparation I (2 credits)

Source: Texas Education Agency

★ Successful completion of the Networking Systems Program of Study will fulfill requirements of a Business and Industry Endorsement.

Industry Based Certifications
<ul style="list-style-type: none"> •CompTIA A+ Certification •CompTIA Network+ •Computer Networking Fundamentals - Job Ready •Google Cloud Certified Professional – Cloud Architect

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
AEM 6 Business Practitioner	Computer and Information Sciences, General		
Intelligence Planner Certification Program	Computer Systems Networking and Telecommunications		Information Technology
Cisco Certified Entry Networking Technician	Information Technology	Computer and Information Systems Security/Information Assurance	
Microsoft Networking Fundamentals	Network and System Administration/Administrator	Computer Engineering, General	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architects	\$111,633	1,082	23%
Computer Systems Analysts	\$87,568	5,937	29%
Computer Network Support Specialists	\$68,037	1,824	19%

The Networking Systems Program of Study explores the occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This Program of Study may also include exploration into analyzing science, engineering, and other data processing problems to implement and improve computer systems.



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.

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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR NETWORKING SYSTEMS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Computer Science I <div>Course# 27330</div> <div>Eligible for LOTE Credit</div>	03580200 (1 Credit)	Required: Algebra I	10-12	Computer Science I is designed to foster students' creativity and innovation by presenting opportunities to design, implement and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor and with various electronic communities to solve the problems presented throughout the course. Data analysis will include the identification of task requirements, planning search strategies and the use of computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students will have access to Project Lead the Way (PLTW) curriculum and will use programs to learn coding, data processing, data security, and task automation.
AP Computer Science Principles <div>Course# 27765</div> <div>Eligible for LOTE Credit</div>	A3580300 (1 Credit)	Recommended: Algebra I	10-12	The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Networking/Lab <div>Course# 27751</div> <div>Course# 27752</div>	13027400 Networking (1 Credit) 13027410 Networking Lab (1 Credit)	None	11-12	<p>The class 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. Students will develop knowledge of the concepts and skills related to data networking technologies and practices in order to apply them to personal or career development.</p> <p>To prepare for success, students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Students can elect to take the lab with the course, but only the course (13027400) can be taken alone.</p>
Project Based Research <div>Course# 27930</div>	12701500 (1 Credit)	None	11-12	Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Career Preparation I <div>Course# 27505</div>	12701300 (2 Credits)	None	11-12	Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

LAW & PUBLIC SAFETY

**Career
&
Technical
Education**



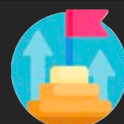
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



EMERGENCY SERVICES

LAW AND PUBLIC SERVICE

LEVEL 1

•Principles of Law, Public Safety, Corrections and Security (1 credit)

LEVEL 2

•Disaster Response (1 credit)

LEVEL 3

•Anatomy and Physiology (1 credit)

LEVEL 4

•EMT Technician-Basic (2 credits)

•Counseling and Mental Health (1 credit)

Source: Texas Education Agency

★ Successful completion of the Emergency Services Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Industry Based Certifications

- Emergency Medical Technician - Basic
- Emergency Medical Responder

BISD – Local Certifications

- FEMA (100)
- FEMA (700)
- Basic Life Support (BLS), CPR, First Aid, AED
- Stop the Bleed Certification

CERTIFICATE/ LICENSE*

ASSOCIATE'S DEGREE

BACHELOR'S DEGREE

MASTER'S/ DOCTORAL DEGREE

Emergency Medical Technology/Technician (EMT Paramedic)

Fire Protection Personnel/Firefighter

Fire Prevention and Safety Technology/ Technician

Natural Resources Law Enforcement and Protective Services

Fire Protection System Contractor

Fire Science/Firefighting

Fire Inspector

OCCUPA- TIONS

MEDIAN WAGE

ANNUAL OPENINGS

% GROWTH

Firefighters	\$50,149	2,309	13%
Fire Inspectors and Investigators	\$54,787	161	14%
Emergency Medical Technicians	\$34,091	1,880	31%

The Emergency Services Program of Study focuses on training students to respond to emergency situations, namely medical emergencies and fire-based emergencies. Students may learn how to prevent emergencies, respond appropriately and in accordance with rules and regulations during crises, and investigate and delineate the source of the emergency.

CAREER & TECHNICAL
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COMPETITIONS

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The Law and Public Service Career Cluster® focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

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COURSE INFORMATION FOR EMERGENCY SERVICES

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Law, Public Safety, Corrections, and Security <div>Course# 27420</div>	13029200 (1 credit)	None	9	Principles of Law, Public Safety, Corrections, and Security introduces students to professions in law enforcement, protective services, corrections, firefighting, and emergency management services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services. The course provides students with an overview of the skills necessary for careers in law enforcement, fire service, protective services, and corrections.) This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Disaster Response <div>Course# 27445</div>	N1303011 (1 credit)	Recommended: Principles of Law, Public Safety, Corrections, and Security	10-12	Disaster Response includes basic training of students in disaster survival and rescue skills that would improve the ability of citizens to survive until responders or other assistance could arrive. Students will receive education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues and disasters of all kinds.
LEVEL 3 AND 4 COURSES (ADVANCED)				
★ EMT Technician-Basic <i>This course earns Temple College dual credit</i> <i>Student will be responsible for costs associated with TC dual credit</i> <div>Course# 47104</div>	N1303015 (2 credits)	Required: Biology Recommended: Principles of Law, Public Safety, Corrections, and Security and Anatomy and Physiology	12 <small>The licensing requirements from the Texas Department of State Health Services require that candidates be high school graduates. Seniors can take the class with the understanding that they will graduate after completing the course.</small>	Emergency Medical Technician (EMT) – Basic instructs students to meet and exceed standard knowledge needed to be a valid Emergency Medical Technician. The curriculum includes skills necessary for a student to provide entry level emergency medical care, life support, and ambulance service. The EMT—Basic course is an introductory course to concepts, knowledge, and skills needed by EMTs in the areas of communications, transportation, and record keeping. Students interested in working in public safety, including fire, police, and ambulance operators will be capable of performing the job expectations of an EMT safely and effectively after the completion of this course. This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Anatomy and Physiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27115</div>	13020600 (1 Credit)	Required: Biology and a second science credit/ Recommended: A course from the Health Science Program of Study	10-12	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Counseling and Mental Health <div>Course# 27580</div>	13024600 (1 credit)	Recommended: Principles of Human Services	11-12	In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.

LAW & PUBLIC SAFETY

Career
&
Technical
Education



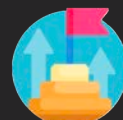
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



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COURSES

•Principles of Law, Public Safety, Corrections and Security (1 credit)

•Law Enforcement I (1 credit)
•Criminal Investigation (1 credit)

•Law Enforcement II (1 credit)
•Counseling and Mental Health (1 credit)

•Forensic Science (1 credit)

★ Successful completion of the Law Enforcement Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Non-Commissioned Security Officer Level II •IAED Emergency Telecommunicator	Law Enforcement Officer	Criminal Justice/Safety Studies/Law Enforcement Administration		
	Private Investigator/ Security Guard	Criminal Justice/ Police Science		
	Code Enforcement Officer	Corrections	Juvenile Corrections	
	Certified Law Enforcement Planner	Criminalistics and Criminal Science	Cyber/ Computer Forensics and Counterterrorism	Natural Resources Law Enforcement and Protective Services

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	\$44,054	793	9%
Correctional Officers and Jailers	\$40,186	4,683	9%
Immigration and Customs Inspectors	\$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	\$91,312	253	25%

The Law Enforcement Program of Study teaches students about the development of, adherence to, and protection of various branches of law. Students may learn how to appropriately and legally respond to breaches in the law according to statutory rules and regulations as well as investigate how and why the breaches occurred.



The Law and Public Service Career Cluster® focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR LAW ENFORCEMENT

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Law, Public Safety, Corrections, and Security <div>Course# 27420</div>	13029200 (1 credit)	None	9	Principles of Law, Public Safety, Corrections, and Security introduces students to professions in law enforcement, protective services, corrections, firefighting, and emergency management services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services. The course provides students with an overview of the skills necessary for careers in law enforcement, fire service, protective services, and corrections.) This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Law Enforcement I <div>Course# 27425</div>	13029300 (1 credit)	Recommended: Principles of Law, Public Safety, Corrections, and Security	10-12	Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime. This Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.
Criminal Investigation <div>Course# 27440</div>	13029550 (1 credit)	Recommended: Principles of Law, Public Safety, Corrections, and Security	10-12	Criminal Investigation is a course that introduces students to the profession of criminal investigations. Students will understand basic functions of criminal investigations and procedures and will learn how to investigate or follow up during investigations. Students will learn terminology and investigative procedures related to criminal investigation, crime scene processing, evidence collection, fingerprinting, and courtroom presentation. Through case studies and simulated crime scenes, students will collect and analyze evidence such as fingerprint analysis, bodily fluids, hairs, fibers, shoe and tire impressions, bite marks, drugs, tool marks, firearms and ammunition, blood spatter, digital evidence, and other types of evidence.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Law Enforcement II <div>Course# 27430</div>	13029400 (1 credit)	Recommended: Law Enforcement I	10-12	Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.
Counseling and Mental Health <div>Course# 27580</div>	13024600 (1 credit)	Recommended: Principles of Human Services	11-12	In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations, and the implications of their actions. Professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.
Forensic Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27415</div>	13029500 (1 credit)	Required: Biology and Chemistry	11-12	Forensic Science is a course that introduces students to the application of science to connect a violation of law to a specific criminal, criminal act, or behavior and victim. Students will learn terminology and procedures related to the search and examination of physical evidence in criminal cases as they are performed in a typical crime laboratory. Using scientific methods, students will collect and analyze evidence such as fingerprints, bodily fluids, hairs, fibers, paint, glass, and cartridge cases. Students will also learn the history and the legal aspects as they relate to each discipline of forensic science.

Science, Technology, Engineering, & Math

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



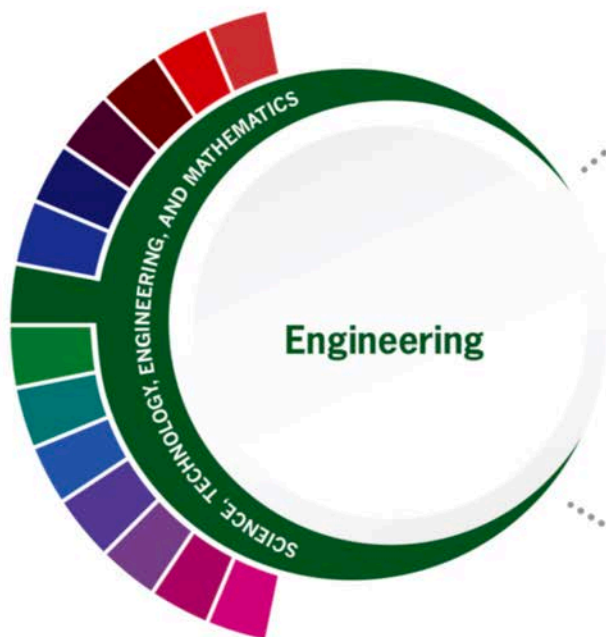
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COURSES



LEVEL 1

•Introduction to Engineering Design (PLTW) (1 credit)

LEVEL 2

•Engineering Science (1 credit)
This course is recommended for sophomores, but is considered a CTE advanced course.

LEVEL 3

•Civil Engineering and Architecture (PLTW) (1 credit)
•Aerospace Engineering (PLTW) (1 credit)
•Digital Electronics (1 credit)

LEVEL 4

•Scientific Research and Design (1 credit)

★ Successful completion of the Cybersecurity program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met.

Source: Texas Education Agency

Industry Based Certifications

- Autodesk Associate (Certified User) Inventor for Mechanical Design
- Engineering Technology Foundations
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) Revit Architecture

CERTIFICATE/ LICENSE*

Engineer,
Professional

Fluid Power
Systems
Designer

Certified
Biomedical
Auditor

Certified Cost
Estimator/
Analyst

ASSOCIATE'S DEGREE

Electrical and
Electronics
Engineering

Drafting and De-
sign
Technology/
Technician,
General

Engineering
Technology

BACHELOR'S DEGREE

Electrical and
Electronics
Engineering

CAD/CAD
Drafting
and/or Design
Technology/
Technician

Bioengineering
and Biomedical
Engineering

Construction
Engineering
Technology

MASTER'S/ DOCTORAL DEGREE

Electrical and
Electronics
Engineering

Mechanical
Engineering

Bioengineering
and Biomedical
Engineering

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,707	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

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



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.

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COURSE INFORMATION FOR ENGINEERING

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Introduction to Engineering Design (*PLTW) <div>Course# 27710</div>	N1303742 (1 Credit)	None	9-10	Students study the engineering design process, applying math, science, and engineering standards to identify and design solutions to a variety of real problems. They work both individually and in collaborative teams to identify, research, test, refine, develop, and communicate design solutions using industry practices, standards, and tools. Utilizing PLTW's activity-project-problem-based teaching and learning strategies students' progress from structured activities to complex projects that require detailed planning, documentation, and communication. The course's rigorous pace requires students to develop an engineering mindset. Students apply industry accepted technical communication skills in visual representation using industry-standard 3D design technology.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Engineering Science <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27715</div>	13037500 (1 Credit)	Required: Algebra I, Biology, Chemistry and either Integrated Physics and Chemistry (IPC), or Physics, and at least one credit in a course from the STEM career cluster	10-12	Engineering Science exposes students to major concepts and technologies that they will encounter in a postsecondary Program of Study in any engineering domain. Students will have an opportunity to investigate engineering and high-tech careers. Students will employ science, technology, engineering, and mathematical concepts in the solution of real-world challenge situations. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.
Civil Engineering & Architecture (*PLTW) <div>Course# 27725</div>	N1303747 (1 Credit)	None	10-12	Civil Engineering and Architecture (CEA) is a high school level specialization course in the PLTW Engineering Program. Students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Through both individual and collaborative team activities, projects, and problems, students problem solve as they practice common design and development protocols such as project management and peer review.
Aerospace Engineering (*PLTW) <div>Course# 27726</div>	N1303745 (1 Credit)	None	10-12	This course focuses on the fundamentals of atmospheric and space flight. The course deepens the skills and knowledge of an engineering student within the context of atmospheric and space flight. Students explore the fundamentals of flight in air and space as they bring the concepts to life by designing and testing components related to flight such as an airfoil, propulsion system and a rocket. They learn orbital mechanics concepts and apply these by creating models using industry-standard software. They also apply aerospace concepts to alternative applications such as a wind turbine and parachute. Students simulate a progression of operations to explore a planet, including creating a map of the terrain with a model satellite and using the map to execute a mission using an autonomous robot.
Digital Electronics <i>This course satisfies a high school mathematics graduation requirement</i> <div>Course# 27727</div>	13037600 (1 Credits)	Required: Algebra I and Geometry	10-12	Digital Electronics is the study of electronic circuits that are used to process and control digital signals. Digital electronics is the foundation of modern electronic devices such as cellular phones, digital audio players, laptop computers, digital cameras, and high-definition televisions. The primary focus of this course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry and either Integrated Physics and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Students must meet the 40% laboratory and fieldwork requirement.

*PLTW – Project Lead the Way

Science, Technology, Engineering, & Math

Career
&
Technical
Education



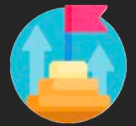
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Fundamentals of Computer Science (1 credit)

•Computer Science I
•AP Computer Science Principles (1 credit)

•AP Computer Science A (2 credits)

•Cybersecurity Capstone (1 credit)
•Practicum in STEM (Cybersecurity) (2 credits)

Source: Texas Education Agency

★ Successful completion of the Cybersecurity Program of Study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met.

Industry Based Certifications

- CompTIA A+ Certification
- CompTIA Security+
- Cybersecurity Fundamentals

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
GIAC Reverse Engineering Malware	System Networking, and LAN/WAN Management	Computer Systems Networking and Telecommunications	Computer Systems Analysis/Analyst
Certified Advanced Windows Forensic Examiner	Information Technology	Computer Systems Networking and Telecommunications	Information Technology
SAP Certified Technology Professional System Security Architect Examiner	Computer and Information Sciences, General		
Cisco Certified Network Professional Security Certification	Computer Science		

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Information Security Analysts	\$91,915	814	29%
Network and Computer System Admin.	\$82,597	2,814	19%
Computer Systems Analyst	\$87,568	5,937	29%

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.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
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COMPETITIONS



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.

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COURSE INFORMATION FOR CYBERSECURITY

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Fundamentals of Computer Science <div>Course# 27756</div>	03580140 (1 Credit)	None	9	Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.
Computer Science I <div>Course# 27330</div> <div>Eligible for LOTE Credit</div>	03580200 (1 Credit)	Required: Algebra I	10-12	Computer Science I is designed to foster students' creativity and innovation by presenting opportunities to design, implement and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor and with various electronic communities to solve the problems presented throughout the course. Data analysis will include the identification of task requirements, planning search strategies and the use of computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results.
AP Computer Science Principles <div>Course# 27765</div> <div>Eligible for LOTE Credit</div>	A3580300 (1 Credit)	Recommended: Algebra I	10-12	The AP Computer Science Principles course is designed to be equivalent to a first- semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world.
LEVEL 3 AND 4 COURSES (ADVANCED)				
AP Computer Science A <div>Math Course# 27766</div> <div>LOTE Course# 27767</div>	A3580110 (Math) (1 Credit) A3580120 (LOTE) (1 Credit)	Recommended: Algebra I	10-12	AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language.
Cybersecurity Capstone <div>Course# 27768</div>	03580855 (1 Credit)	None	12	In the Cybersecurity Capstone course, students will develop the knowledge and skills needed to explore advanced concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will develop security policies to mitigate risks. The skills obtained in this course prepare students for additional study toward industry certification. A variety of courses are available to students interested in the cybersecurity field. Cybersecurity Capstone may serve as a culminating course in this field of study. Cybersecurity is an evolving discipline concerned with safeguarding computers, networks, programs, and data from unauthorized access. As a field, it has gained prominence with the emergence of a globally-connected society. As computing has become more sophisticated, so too have the abilities of malicious agents looking to penetrate networks and seize private information. By evaluating prior incidents, cybersecurity professionals have the ability to craft appropriate responses to minimize disruptions to corporations, governments, and individuals.
Practicum in STEM (Cybersecurity) <div>Course# 47760</div>	13037400 (2 Credits)	Required: Algebra I and Geometry	12	Practicum in STEM is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. This Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services such as physical science, social science, engineering, including laboratory and testing services, and research and development services.

Career & Technical Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Fundamentals of Computer Science (1 credit)

•AP Computer Science Principles (1 credit)
•Computer Science I (1 credit)

•AP Computer Science A (2 credits)
•Computer Science II (1 credit)

•Practicum in STEM (Programming and Software Development) (2 credits)

★ Successful completion of the Programming and Software Development Program of Study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met.

Source: Texas Education Agency

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
<ul style="list-style-type: none"> •Certified Entry-Level Python Programmer (PCEP) •Oracle Certified Associate Java SE 8 Programmer 	Certified Computing Professional	Computer Programming/ Programmer General	Management Information Systems, General	
	Cloud Technology Associate Certification	Computer Software Engineer		
	AEM 6 Developer	Computer Science		
	AEM 6 Developer	Information Science/Studies		

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Software Developers, Applications	\$104,499	6,311	30%
Software Developer, Systems Software	\$103,334	2,985	25%
Computer Programmers	\$79,893	1,454	9%

The Programming and Software Development Program of Study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This Program of Study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.



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.

CAREER & TECHNICAL
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COURSE INFORMATION FOR PROGRAMMING & SOFTWARE DEVELOPMENT

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Fundamentals of Computer Science <div>Course# 27756</div>	03580140 (1 Credit)	None	9	Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts.
Computer Science I <div>Course# 27330</div> <div>Eligible for LOTE Credit</div>	03580200 (1 Credit)	Required: Algebra I	10-12	Computer Science I is designed to foster students' creativity and innovation by presenting opportunities to design, implement and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor and with various electronic communities to solve the problems presented throughout the course. Data analysis will include the identification of task requirements, planning search strategies and the use of computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create a solution, and evaluate the results. Students will have access to Project Lead the Way (PLTW) curriculum and will use programs to learn coding, data processing, data security, and task automation.
AP Computer Science Principles <div>Course# 27765</div> <div>Eligible for LOTE Credit</div>	A3580300 (1 Credit)	Recommended: Algebra I	10-12	The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Computer Science II <div>Course# 27331</div> <div>Eligible for LOTE Credit</div>	03580300 (1 Credit)	Required: Algebra I, Computer Science I or Fundamentals of Computer Science	11-12	Computer Science II will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will have access to Project Lead the Way (PLTW) curriculum and will use programs to learn coding, data processing, data security, and task automation. This class will build on the concepts taught in Computer Science I.
AP Computer Science A <div>Math Course# 27766</div> <div>LOTE Course# 27767</div>	A3580110 (Math) (1 Credit) A3580120 (LOTE) (1 Credit)	Recommended: Algebra I	10-12	AP Computer Science A introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language.
Practicum in STEM (Programming and Software Development) <div>Course# 47761</div>	13037400 (2 Credits)	Required: Algebra I and Geometry Recommended: Two STEM Program of Study credits	12	Practicum in STEM is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. This Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services such as physical science, social science, engineering, including laboratory and testing services, and research and development services.

STEM or BUSINESS & INDUSTRY ENDORSEMENT

Science, Technology, Engineering, & Math

Career & Technical Education



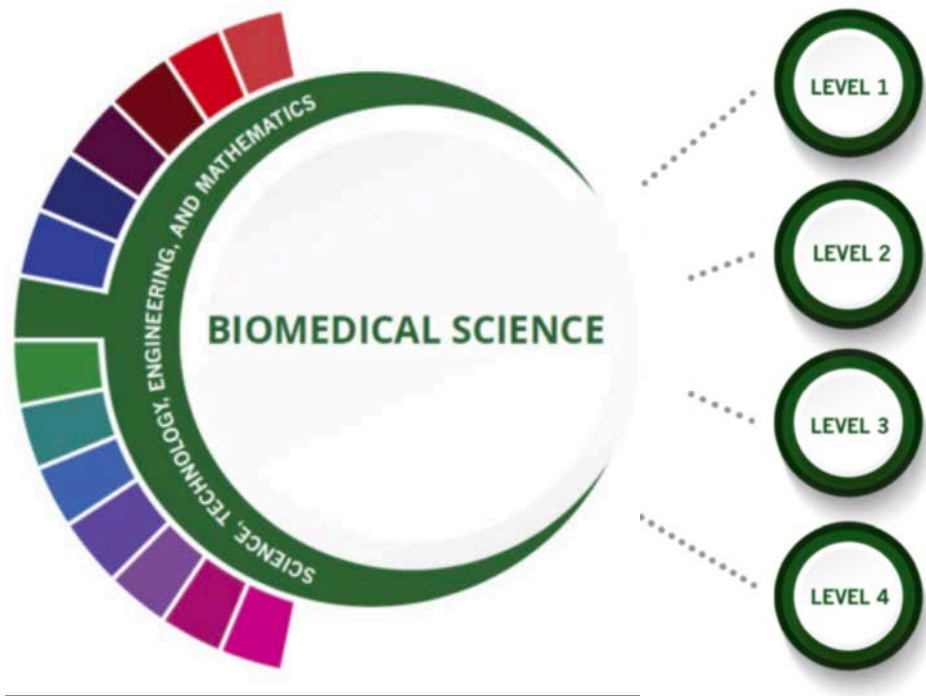
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



Source: Texas Education Agency

COURSES

- Principles of Biosciences (1 credit)
- Biotechnology I (1 credit)
- Medical Microbiology (1 credit)
- Pathophysiology (1 credit)
- Scientific Research and Design (1 credit)

★ Successful completion of the Biomedical Science Program of Study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met.

Industry Based Certifications	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
•Biotechnician Assistant Credentialing Exam (BACE)	Medical and Clinical Laboratory Technologists	Histologic Technician	Biomedical Engineers	Genetic Counseling
BISD – Local Certifications		Clinical Laboratory Science/Medical Technology/Technologist	Biomedical Engineers	Medical Scientists
•OSHA 10			Clinical Laboratory Science/Medical Technology/Technologist	Epidemiology

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical and Laboratory Technicians	\$37,981	1,159	28%
Biological Technicians	\$42,931	452	17%
Forensic Science Technicians	\$48,152	171	35%
Chemical Technicians	\$49,733	672	10%
Medical and Clinical Laboratory Technologists	\$58,760	1,166	25%

The Biomedical Science Program of Study focuses on the study of biology and medicine in order to introduce CTE learners to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing diseases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.



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.

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CAREER & TECHNICAL
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OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR BIOMEDICAL SCIENCE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Biosciences <div>Course# 27707</div>	13036300 (1 Credit)	None	9-10	Principles of Biosciences is a strong reinforcement of Biology content that provides an overview of biotechnology, bioengineering, and related fields. Topics include genetics, cell structure, proteins, nucleic acids, and the impact of immunological events in biotechnology. Students will further study the increasingly important agricultural, environmental, economic, and political roles of bioenergy and biological remediation; the roles of nanoscience and nanotechnology in biotechnology medical research; and future trends in biological science and biotechnology.
Biotechnology I <div>Course# 27708</div>	13036400 (1 Credit)	Required: Biology	10-12	In Biotechnology I, students will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. Students will conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Biotechnology I will study a variety of topics that include structures and functions of cells, nucleic acids, proteins, and genetics.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Medical Microbiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27116</div>	13020700 (1 Credit)	Required: Biology and Chemistry	10-12	The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases.
Pathophysiology <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27125</div>	13020800 (1 Credit)	Required: Biology and Chemistry	11-12	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology.
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

Transportation, Distribution & Logistics

**Career
&
Technical
Education**



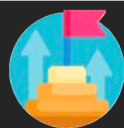
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



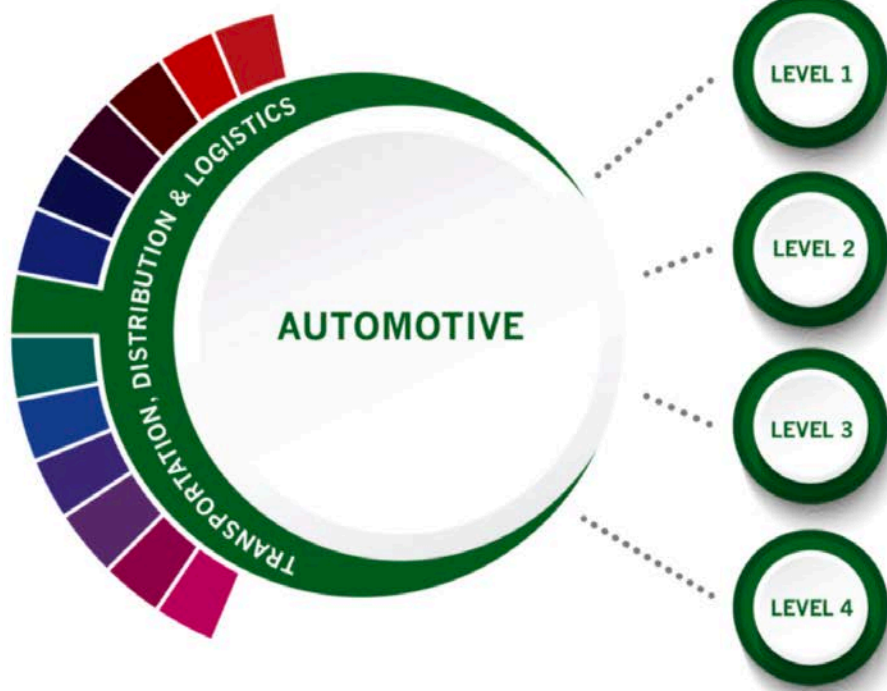
Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES



•Automotive Basics (1 credit)

•Automotive Technology I: Maintenance and Light Repair (2 credits)

This course is recommended for sophomores, but is considered a CTE advanced course.

•Automotive Technology II: Automotive Service (2 credits)

•Practicum in Transportation Systems (2 credits)

★ Successful completion of the Automotive Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications ASE Entry Level Automobile:

- Maintenance & Light Repair
- Automatic Transmission/Transaxle
- Brakes
- Electronic/Electrical Systems
- Engine Performance
- Heating & Air Conditioning
- Engine Repair
- Manual Drive Train and Axles
- Service Technology
- Suspension & Steering
- Collision Mechanical & Electrical Components
- Refrigerant Recovery & Recycling

BISD – Local Certifications

- Pro-Cut Brake Lathe Technician
- OSHA-30
- Basic Automobile Tire Technician

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Master Collision Repair and Refinishing Technician	Autobody/ Collision and Repair Technology/ Technician		Mechanical Engineering
Automobile Technician: various systems and parts	Medium/Heavy Vehicle and Truck Technology/ Technician		
Engine Machinist Technician	Mechanical Engineering/ Mechanical Technology/ Technician		
Collision Repair and Refinish			

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Automotive Body and Related Repairers	\$40,144	1,456	25%
Automotive Service Technician and Mechanics	\$38,459	5,557	18%

The Automotive Program of Study teaches students how to repair and refinish automobiles and service various types of vehicles. Students may learn to collect payment for services or supplies and perform typical vehicle maintenance procedures such as lubrication, oil changes, installation of antifreeze, or replacement of accessories like wiper blades or tires.

CAREER & TECHNICAL
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OPPORTUNITIES/
COMPETITIONS



The Transportation, Distribution, and Logistics Career Cluster® focuses on careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

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COURSE INFORMATION FOR AUTOMOTIVE

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Automotive Basics <div>Course# 27656</div>	13039550 (1 Credit)	None	9	Automotive Basics includes knowledge of the basic automotive systems and the theory and principles of the components that make up each system and how to service these systems. Automotive Basics includes applicable safety and environmental rules and regulations. In Automotive Basics, students will gain knowledge and skills in the repair, maintenance, and servicing of vehicle systems. This study allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Automotive Technology I: Maintenance and Light Repair <div>Course# 47655</div>	13039600 (2 Credits)	None	10-12	Automotive Technology I: Maintenance and Light Repair includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. This course includes applicable safety and environmental rules and regulations. In Automotive Technology I: Maintenance and Light Repair, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
Automotive Technology II: Automotive Service <div>Course# 47660</div>	13039700 (2 Credits)	Required: Automotive Technology I: Maintenance and Light Repair	11-12	Automotive Technology II: Automotive Service includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Automotive Technology II: Automotive Service includes applicable safety and environmental rules and regulations. In this course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.
Practicum in Transportation Systems <div>Course# 47665</div>	13040450 (2 Credits)	Recommended: Automotive Technology II	11-12	Practicum in Transportation Systems is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or worked based. This Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

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Belton New Tech @ Waskow
320 North Blair
Belton, TX 76513
Phone: 254-215-2500

BNT@W CAREER & TECHNICAL EDUCATION

A **Career Cluster** is a group of careers that share common themes. BNT@W offers 3 Texas identified Career Clusters.

A **Program of Study** is a coordinated, non-duplicative sequence of courses which progress in specificity, beginning with all aspects of industry and leading to more occupation specific instruction. **Belton New Tech High School @ Waskow** offers 4 programs of study to assist students with acquiring marketable skills and industry-recognized credentials through better alignment of education, training and employment.

An **Endorsement** consists of a related series of courses that are grouped by interest or skill set.

Career Cluster	PROGRAMS OF STUDY		ENDORSEMENTS
Arts, A/V Technology and Communications @ New Tech	Digital Communications	Graphic Design and Multimedia Arts (Animation)	Business and Industry
Law and Public Service	Government and Public Administration		Public Service
Transportation, Distribution and Logistics	Drone (Unmanned Flight)		Business and Industry or STEM

CTE courses are designed to provide an authentic learning experience through academically rigorous and technology-rich curriculum and real-world applications. Courses are designed specifically for these Programs of Study.

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

LEVEL 1

•Principles of Arts, Audio/Video Technology, and Communications (1 credit)

LEVEL 2

•Audio/Video Production I (1 credit)

LEVEL 3

•Audio/Video Production II (1 credit)

LEVEL 4

•Practicum of Audio/Video Production (2 credits)

Source: Texas Education Agency

★ Successful completion of the Digital Communications Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Industry Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere Pro
- Adobe Certified Professional in Visual Design
- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign

CERTIFICATE/ LICENSE*

Certified Video Engineer

Commercial Audio Technician

Certified AM Directional Specialist

Certified Broadcast Radio Engineer

ASSOCIATE'S DEGREE

Recording Arts Technology/Technician

Cinematography and Film/ Video Production

Radio and TV Broadcasting Technician

Music Technology

BACHELOR'S DEGREE

Communications Technology/ Technician

Radio and Television

Agricultural Communication/ Journalism

MASTER'S/ DOCTORAL DEGREE

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%

The Digital Communications Program of Study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This Program of Study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

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.

DO YOU WANT MORE INFORMATION ON COLLEGE AND CAREER ADVICE?

Visit the BISD College and Career Center to visit with BISD and Texas Workforce Commission Specialists



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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR DIGITAL COMMUNICATIONS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Arts, Audio Video Technology, and Communications <div>Course# 27349</div>	13008200 (1 Credit)	None	9	Careers in the Arts, Audio/Video Technology, and Communications 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. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities. This 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.
Audio/Video Production I <div>Course# 27350</div>	13008500 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on preproduction, production, and post-production audio and video products.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Audio/Video Production II <div>Course# 27355</div>	13008600 (1 Credit)	Required: Audio/Video Production I	10-12	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video.
Practicum of Audio/Video Production <div>Course# 47360</div>	13008700 (2 Credits)	Required: Audio/Video Production II	11-12	Careers in audio/video production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying preproduction, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Arts, A/V Technology and Communications

Career
&
Technical
Education



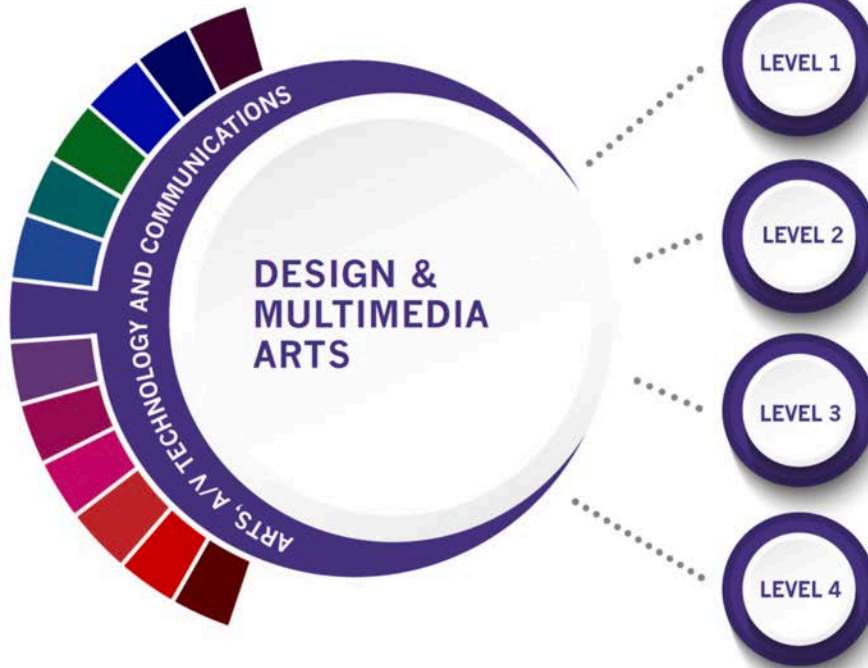
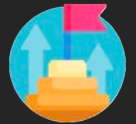
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

•Principles of Arts, Audio/Video Technology, and Communications (1 credit)

•Animation I (1 credit)
•Video Game Design (1 credit)

•Animation II (1 credit)

•Practicum in Animation (2 credits)

★ Successful completion of the Design & Multimedia Arts Program of Study (four or more credits with one Level 3 or 4 course) will fulfill the requirement of a Business and Industry Endorsement.

Source: Texas Education Agency

Industry Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere Pro
- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- 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 Effects and Motion Graphics Using Adobe After Effects

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Certified Digital Designer	Animation, Interactive Technology, Video Graphics and Special Effects		
WOW Certified Web Designer Apprentice	Graphic Design		
Adobe Suite Certifications	Game and Interactive Media Design	Intermedia/Multimedia	

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

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.

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.

DO YOU WANT MORE INFORMATION ON COLLEGE AND CAREER ADVICE?

Visit the BISD College and Career Center to visit with BISD and Texas Workforce Commission Specialists



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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR DESIGN & MULTIMEDIA ARTS

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Arts, Audio Video Technology, and Communications <div>Course# 27349</div>	13008200 (1 Credit)	None	9	Careers in the Arts, Audio/Video Technology, and Communications 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. Within this context, students will be expected to develop an understanding of the various and multifaceted career opportunities in this cluster and the knowledge, skills, and educational requirements for those opportunities. This 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.
Animation I <div>Course# 27343</div>	13008300 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.
Video Game Design <div>Course# 27346</div>	13009970 (1 Credit)	Recommended: Principles of Arts, Audio Video Technology, and Communications	10-12	Video Game Design will allow students to explore one of the largest industries in the global marketplace and the new emerging careers it provides in the field of technology. Students will learn gaming, computerized gaming, evolution of gaming, artistic aspects of perspective, design, animation, technical concepts of collision theory, and programming logic. Students will participate in a simulation of a real video game design team while developing technical proficiency in constructing an original game design.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Animation II <div>Course# 27344</div>	13008400 (1 Credit)	Required: Animation I	11-12	Careers in animation span all aspects of motion graphics. Within this context, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.
Practicum in Animation <div>Course# 47365</div>	13008450 (2 Credits)	Required: Animation II	11-12	Careers in animation span all aspects of the arts, audio/video technology, and communications industry. Building upon the concepts taught in Animation II and its corequisite Animation II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

LAW & PUBLIC SERVICE

Career
&
Technical
Education



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES

LEVEL 1

•Principles of Government and Public Administration (1 credit)

LEVEL 2

•Political Science I (1 credit)

LEVEL 3

•Political Science II (1 credit)

LEVEL 4

•Public Management and Administration (1 credit)
•Practicum in Local, State, and Federal Government (2 credits)

★ Successful completion of the Government and Public Administration Program of Study will fulfill the requirement of a Public Service Endorsement.

Source: Texas Education Agency

Industry Based
Certifications
•None Available

CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL DEGREE
Certified Public Accountant	Accounting and Business Manage-	Accounting and Finance	Accounting
Tax Professional/ Appraiser/ Assessor-Collector	Financial Mathematics		Taxation
Real Estate Broker/Sales Agent	Finance, General		Finance, General
Attorney	Legal Assistant/Paralegal		Law
Board Certification in Types of Law			International Law and Legal Studies

OCCUPA- TIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Tax Examiners and Collectors, Revenue Agents	\$47,445	307	9%
Financial Examiners	\$76,731	412	27%
Appraisers and Assessors of Real Estate	\$54,496	529	21%
Lawyers	\$126,131	2,801	19%
Paralegal and Legal Assistants	\$50,544	2,837	19%

The Government and Public Administration Program of Study explores the occupations and educational opportunities associated with examining, evaluating, and investigating conformity with laws and regulations. This Program of Study will also explore the opportunities related to developing comprehensive plans and programs for use of land and physical facilities of jurisdictions, such as towns, cities, counties, and metropolitan areas.



The Law and Public Service Career Cluster® focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

DO YOU WANT MORE INFORMATION ON COLLEGE AND CAREER ADVICE?
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CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



COURSE INFORMATION FOR GOVERNMENT & PUBLIC ADMINISTRATION

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Government and Public Administration <div>Course# 27036</div>	13018200 (1 credit)	None	9-11	Principles of Government and Public Administration introduces students to foundations of governmental functions and career opportunities within the United States and abroad. Students will examine governmental documents such as the U.S. Constitution, current U.S. Supreme Court and federal court decisions, and the Bill of Rights.
Political Science I <div>Course# 27037</div>	13018300 (1 credit)	None	10-12	Political Science I introduces students to political theory through the study of governments; public policies; and political processes, systems, and behavior.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Political Science II <div>Course# 27039</div>	13018400 (1 credit)	None	10-12	Political Science II uses a variety of learning methods and approaches to examine the processes, systems, and political dynamics of the United States and other nations. The dynamic component of this course includes current U.S. and world events.
Public Management and Administration <div>Course# 27041</div>	13018600 (1 credit)	None	10-12	Public Management and Administration reviews actions and activities that governments and nonprofit administrations commonly use and that resemble private-sector management. Students will be introduced to management tools that maximize the effectiveness of different types and styles of administrators and affect the quality of life of citizens in the community.
Practicum in Local, State, and Federal Government <div>Course# 27042</div>	13019000 (1 credit)	None	11-12	Students in the Practicum in Local, State, and Federal Government will concurrently learn advanced concepts of political science and government workings in the classroom setting and in the workplace. In addition, students will apply technical skills pertaining to government and public administration in a direct mentorship by individuals in professional settings such as government, public management and administration, national security, municipal planning, foreign service, revenue, taxation, and regulation. Students will also be able to extend their learning in government and public administration by researching legal careers.

Transportation, Distribution & Logistics

**Career
&
Technical
Education**



Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



COURSES



LEVEL 1

•Robotics I (1 credit)

LEVEL 2

•Robotics II (1 credit)

This course is recommended for sophomores in the Drone (Unmanned Flight) Regional Program of Study, but is considered a CTE advanced course. This course also satisfies a high school math graduation requirement.

LEVEL 3

•Introduction to Unmanned Aerial Vehicles (UAV) (1 credit)

LEVEL 4

•Scientific Research and Design (1 credit)

Source: Texas Education Agency

★ Successful completion of the Drone (Unmanned Flight) regional Program of Study will fulfill requirements of the Business and Industry Endorsement or STEM Endorsement if the math and science requirements are met.

Industry Based Certifications

•FAA Part 107
Remote Drone
Pilot

BISD – Local
Certifications

•OSHA 10

CERTIFICATE/ LICENSE*

Commercial Pilots

ASSOCIATE'S DEGREE

Airline Pilots,
Co-pilots, and
Flight Engineers

BACHELOR'S DEGREE

MASTER'S/ DOCTORAL DEGREE

OCCUPA- TIONS

Aerospace
Engineering
and Operations
Technicians

MEDIAN WAGE

\$60,757

ANNUAL OPENINGS

114

% GROWTH

9%

Avionics
Technicians

\$59,114

170

9%

Airline Pilots,
Co-Pilots, and
Flight
Engineers

\$165,130

1,150

9%

Commercial
Pilots

\$86,310

548

9%

The Drone-Unmanned Flight regional Program of Study introduces CTE learners to the occupations and education opportunities related to operating or designing an unmanned aircraft using a ground-based controller and the systems of communications between the controller and the aircraft.

CAREER & TECHNICAL
STUDENT ORGANIZATIONS
(CTSO)
and
EXPANDED LEARNING
OPPORTUNITIES/
COMPETITIONS



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COURSE INFORMATION FOR DRONE (UNMANNED FLIGHT)

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Robotics I <div>Course# 27769</div>	13037000 (1 Credit)	None	9-10	In Robotics I, students will transfer academic skills to component designs in a project-based environment through implementation of the design process. Students will build prototypes or use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.
Robotics II <i>This course is recommended for sophomores in the Drone (Unmanned Flight) Regional Program of Study, but is considered a CTE advanced course. This course also satisfies a high school math graduation requirement.</i> <div>Course# 27779</div>	13037050 (1 Credit)	Required: Robotics I	10-12	In Robotics II, students will explore artificial intelligence and programming in the robotic and automation industry. Through implementation of the design process, students will transfer academic skills to component designs in a project-based environment. Students will build prototypes and use software to test their designs.
Introduction to Unmanned Aerial Vehicles (UAV) <div>Course# 27728</div>	N1304670 (1 Credit)	None	10-12	The Introduction to Unmanned Aerial Vehicle (UAV) Flight course is designed to prepare students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations, and safety regulations. Students are also exposed to mission planning procedures, environmental factors, and human factors involved in the UAV industry. After completing the first three courses in this Program of Study, students will be eligible to take and earn the Part 107 Remote Drone Pilot Industry Based Certification. Students must be at least 16 years old to earn this IBC, per FAA requirements.
LEVEL 3 AND 4 COURSES (ADVANCED)				
Scientific Research and Design <i>This course satisfies a high school science graduation requirement</i> <div>Course# 27735</div>	13037200 (1 Credit)	Required: Biology, Chemistry, Integrated Physics, and Chemistry (IPC) or Physics	11-12	Scientific Research and Design is a broad-based course that has the components of any rigorous scientific or engineering Program of Study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.

CTE MIDDLE SCHOOL PROGRAMS



Belton Middle School
1704 Sparta Rd.
Belton, TX 76513
Phone: 254-215-2800



South Belton Middle School
805 Sagebrush
Belton, TX 76513
Phone: 254-215-3000



Lake Belton Middle School
8818 Tarver Dr.
Temple, TX 76502
Phone: 254-215-2900



North Belton Middle School
7907 Prairie View Rd.
Temple, TX 76502
Phone: 254-316-5200



BISD MIDDLE SCHOOL CTE PROGRAM

Belton Middle School • Lake Belton Middle School • North Belton Middle School • South Belton Middle School

A **Career Cluster** is a group of careers that share common themes. BISD offers 12 Texas identified Career Clusters. In 2023-24, BISD middle schools will offer the first course in the Health Science Career Cluster.

In Belton ISD, middle school students in 8th grade will have the opportunity to take **Principles of Health Science**.

This opportunity will expose students to a variety of careers in the Healthcare industry, help them explore and develop interests, and develop foundational technical and employability skills that they will continue to build in high school.

This class will help prepare students to take a series of courses in the Healthcare Diagnostics or Healthcare Therapeutic programs of study in high school.

An **Endorsement** consists of a related series of courses that are grouped by interest or skill set.

Career Cluster	PROGRAMS OF STUDY		ENDORSEMENTS
Health Science	Healthcare Diagnostics	Healthcare Therapeutic	Public Service

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Principles of Health Science (27100)	13020200 (1 Credit)	None	8-9	<p>The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry. This Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.</p> <p>Students will also have the opportunity to participate in the middle school division of Health Occupations Student Organization.</p>

CTE courses are designed to provide an authentic learning experience through academically rigorous and technology-rich curriculum and real-world applications. Courses are designed specifically for these Programs of Study.

BISD MIDDLE SCHOOL CTE PROGRAM

Belton Middle School • Lake Belton Middle School • North Belton Middle School • South Belton Middle School

A **Career Cluster** is a group of careers that share common themes. BISD offers 12 Texas identified Career Clusters. In 2023-24, BISD middle schools will offer high school elective credit that will prepare students for the STEM Career Cluster in high school.

In Belton ISD, middle school students in 8th grade will have the opportunity to take **PLTW high school elective credit**.

This opportunity will expose students to STEM related: design and modeling, automation and robotics, flight and space, and app creators.

These courses will help prepare students for high school STEM Programs of Study.

An **Endorsement** consists of a related series of courses that are grouped by interest or skill set.

Career Cluster	PROGRAMS OF STUDY			ENDORSEMENTS	
Science, Technology, Engineering and Math (STEM)	Engineering	Cybersecurity	Programming and Software Development	Biomedical Science	STEM

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE	COURSE DESCRIPTION
LEVEL 1 AND 2 COURSES				
Robotics I PLTW Gateway (12343) •Design and Modeling •Automation and Robotics	N1303756 (.5 Credit) for full year	None	7-8	Design and Modeling Students will apply the design process to solve problems and understand the influence of creativity and innovation in their lives. Using design software, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions. Automation and Robotics Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.
Robotics II PLTW Gateway (12344) •Flight and Space •App Creators	N1303757 (.5 Credit) for full year	None	7-8	Flight and Space The exciting world of aerospace comes alive through the Flight and Space (FS) unit. Students become engineers as they design, prototype, and test models to learn about the science of flight and what it takes to travel and live in space. They solve real-world aviation and space challenges and plan a mission to Mars. App Creators App Creators introduces students to the field of computer science and the concepts of computational thinking, through the creation of mobile apps. Students are challenged to be creative and innovative, as they collaboratively design and develop mobile solutions to engaging, authentic problems.



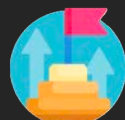
Programs of study are aligned with high-wage, high-skill, and in-demand occupations.



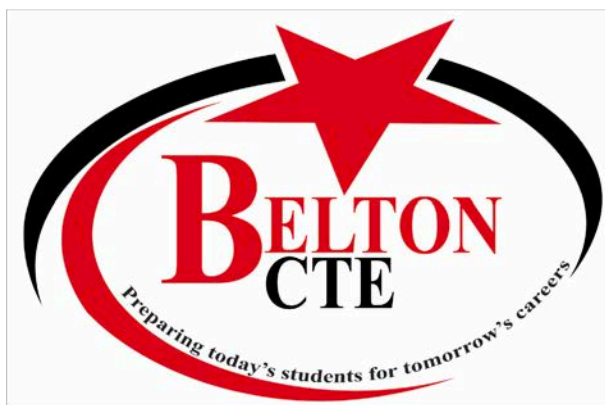
Rigorous courses are based on the Foundation High School Program with endorsements.



Programs of study may also include relevant early college credit opportunities, including dual credit, industry-based certifications, advanced placement (AP) and work-based learning activities.



FACILITIES AND FORMS



BISD AGRICULTURE SCIENCE FACILITY (AG BARN)

The Belton Independent School District Agriculture Science Facility (Ag Barn) is located at 1012 W. 2nd Avenue in Belton, Texas.

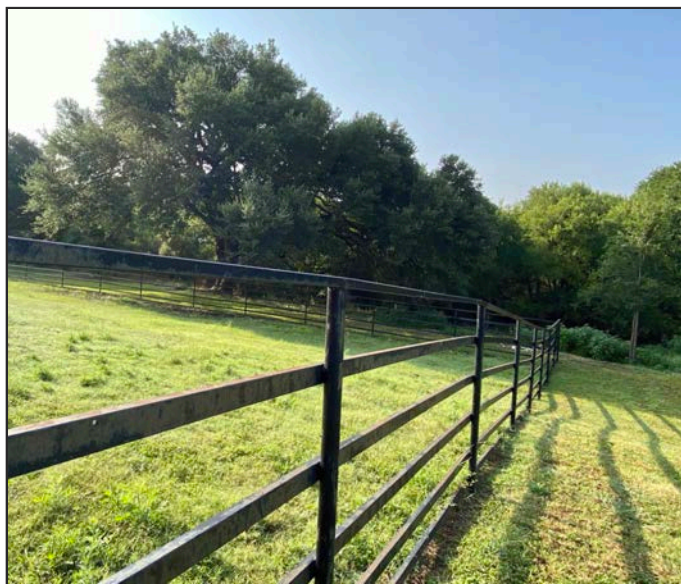
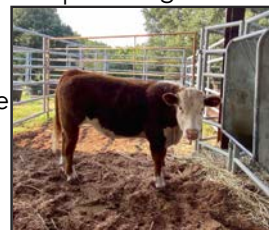
The purpose of this facility is to provide an extension to classroom instruction to maximize learning and to allow FFA members to utilize the facility for their Supervised Agriculture Experience (SAE) program animal projects. The facility is used by students to learn animal care, livestock judging practices along with skills such as weighing and leading animals.



Pen Rental and Agreement

Students interested in renting space at the BISD Agriculture Science Facility are asked to complete a use agreement and pay a farm maintenance fee.

Maintenance Fee – There is a \$100 farm maintenance fee per pen and it must be paid to Belton ISD upon assignment of a pen. Pens will be assigned on a first come-first serve basis and will not be changed without agriculture science teacher approval. The facility is not intended to serve as long-term housing for privately-owned animals.



For a copy of the use agreement and for more information, contact the BISD CTE office at: 254-215-2109

Feeding & Care – Animals may only be fed between the hours of 5 a.m. and 9 p.m. An agriculture science teacher must approve any changes to feeding times for safety reasons. Animals must be fed and watered twice a day unless otherwise instructed. Animal pens must be cleaned and maintained daily.

Farm Expansion – Beginning in 2023, the farm will be expanded, using funds approved in the 2022 bond referendum.



Request for CTE Services Form

The Belton ISD Career and Technical Education department provides practicum experiences for students as they acquire leadership, academic and technical skills as they learn in a relevant and hands-on environment that will help them succeed in post-secondary educational and/or training programs and current and emerging professions. During practicum opportunities, students will also learn professional standards/employability skills such as oral and written communication, leadership, teamwork, appreciation for diversity, conflict management, customer service, work ethic, and adaptability.

The CTE Department has the opportunity to offer limited services by students who are enrolled in practicum classes and working to gain experience and qualifications necessary for their chosen program of study.

Any service request should be formally requested through the Director for Career and Technical Education on this Request for Services Form. CTE teachers should not be contacted directly. The Director will assess any time constraints, alignment of curriculum and feasibility.

Services and products that are offered include:

- Audio/Video Production
- Basic Automotive Services
- Construction Products
- Culinary
- Floral Arrangements for Events
- Photography Services and Products
- Various Graphic Design Products
- Welding Services

Requestor	
Phone #	
Email	
Project Name	
Project Description	
Request Date	
Completion/ Event Date	

To be completed by BISD CTE Administration only:

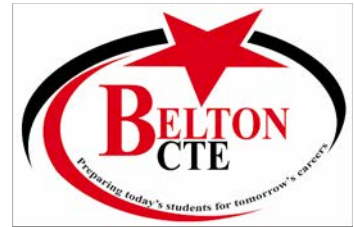
1. Can BISD CTE complete this project? Yes ☐ No ☐
2. Disposition of Proceeds (activity funds, campus, etc.) _____
3. Teacher/Sponsor Signature _____
4. CTE Director's Signature _____

MISSION

The mission of the Belton Independent School District CTE program is to challenge, prepare, and empower all students to acquire leadership, academic and technical skills in a hands-on environment that will help them succeed in post-secondary educational/training programs, prepare for a globally competitive workforce and embrace civic responsibility.

CTE ADVISORY COMMITTEE

Federal and State Laws mandate the creation and use of advisory committees. The Carl D. Perkins Law Section 122(c)(5) states that a school district must create a plan that “describes how the eligible agency will actively involve parents, academic and Career and Technical Education teachers, administrators, faculty, career guidance and academic counselors, local business (including small businesses), and labor organizations in the planning, development, implementation, and evaluation of such Career and Technical Education programs”



The Texas State Plan for Career and Technical Education additionally states that, **“Texas school districts have local advisory committees for CTE that are involved in decisions related to the implementation, improvement and evaluation of CTE programs.”**

The Belton ISD CTE Advisory Committee meets quarterly during the school year, and engages stakeholders to assist educators in establishing, operating, and evaluating programs which serve the needs of students, business and industry, and to provide expertise pertaining to high-wage, high-skill and in-demand occupations.

Members of the committee are involved in multiple activities including:

- Curriculum development
- Work-based learning placement
- CTE advocacy
- In-service training for educators
- Leadership activities
- Recruiting
- Legislative and program evaluation.

For more information on how to get involved contact:

Stephanie Ferguson, Ed.D.
BISD Director of K-12 Career Readiness
stephanie.ferguson@bisd.net
254-215-2000

Public Notification of Nondiscrimination in CTE

Public Notification of Nondiscrimination in Career and Technical Education Programs

Belton Independent School District offers Career and Technical Education programs in the following career clusters: Agriculture, Food and Natural Resources; Architecture and Construction; Arts, A/V Technology and Communications; Business, Marketing and Finance; Education and Training; Health Science; Hospitality and Tourism; Human Services; Law and Public Safety; Science, Technology, Engineering and Mathematics; and Transportation, Distribution and Logistics.

It is the policy of Belton Independent School District not to discriminate on the basis of race, color, national origin, sex or handicap in its vocational programs, services or activities as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended.

It is the policy of Belton Independent School District not to discriminate on the basis of race, color, national origin, sex, handicap, or age in its employment practices as required by Title VI of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975, as amended; and Section 504 of the Rehabilitation Act of 1973, as amended.

Belton Independent School District will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs.

For information about your rights or grievance procedures, contact the Title IX Coordinator at todd.schiller@bisd.net and/or the Section 504 Coordinator at jennifer.ramirez@bisd.net.

Notificación Publica de No Discriminación en Programas de Educación Técnica y Vocacional

El Distrito Escolar Independiente de Belton ofrece programas de Educación Profesional y Técnica en los siguientes grupos de carreras: Agricultura, Alimentos y Recursos Naturales; Arquitectura y Construcción; Artes, Tecnología A/V y Comunicaciones; Negocios, Marketing y Finanzas; Educación y entrenamiento; Ciencia de la salud; Hospitalidad y Turismo; Servicios Humanos; Derecho y Seguridad Pública; Ciencia, Tecnología, Ingeniería y Matemáticas; y Transporte, Distribución y Logística.

Es norma de El Distrito Escolar Independiente de Belton no discriminar en sus programas, servicios o actividades vocacionales por motivos de raza, color, origen nacional, sexo o impedimento, tal como lo requieren el Título VI de la Ley de Derechos Civiles de 1964, según enmienda; Título IX de las Enmiendas en la Educación de 1972, y la Sección 504 de la Ley de Rehabilitación de 1973, según enmienda.

Es norma de El Distrito Escolar Independiente de Belton no discriminar en sus procedimientos de empleo por motivos de raza, color, origen nacional, sexo, impedimento o edad, tal como lo requieren el Título VI de la Ley de Derechos Civiles de 1964, según enmienda; Título IX de las Enmiendas en la Educación, de 1972, la ley de Discriminación por Edad, de 1975, según enmienda; y la Sección 504 de la Ley de Rehabilitación de 1973, según enmienda.

El Distrito Escolar Independiente de Belton tomará las medidas necesarias para asegurar que la falta de habilidad en el uso del inglés no sea un obstáculo para la admisión y participación en todos los programas educativos y vocacionales.

Para información sobre sus derechos o procedimientos de quejas, comuníquese con el Coordinador del Título IX en todd.schiller@bisd.net y/o el Coordinador de la Sección 504 en jennifer.ramirez@bisd.net.