



CTE Programs of Study

2022-2023 School Year

For complete information regarding CTE programs in TCISD, contact:

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Programs of study are course sequences that prepare students with the knowledge and skills necessary for success in their chosen career. All programs of study include a variety of occupations that require different levels of education and training. Selecting a program of study provides you with an area of focus, along with flexibility and a variety of ideas to pursue.

Deciding on a program of study can help you prepare for your future. The intent is not for you to decide on a specific occupation for the rest of your life but to select an area into which you can begin directing your energies. Identifying a program of study can help you in selecting school courses, activities, and part-time employment. It can also help guide your participation in workplace readiness programs like school-to-work, internship, or cooperative education.

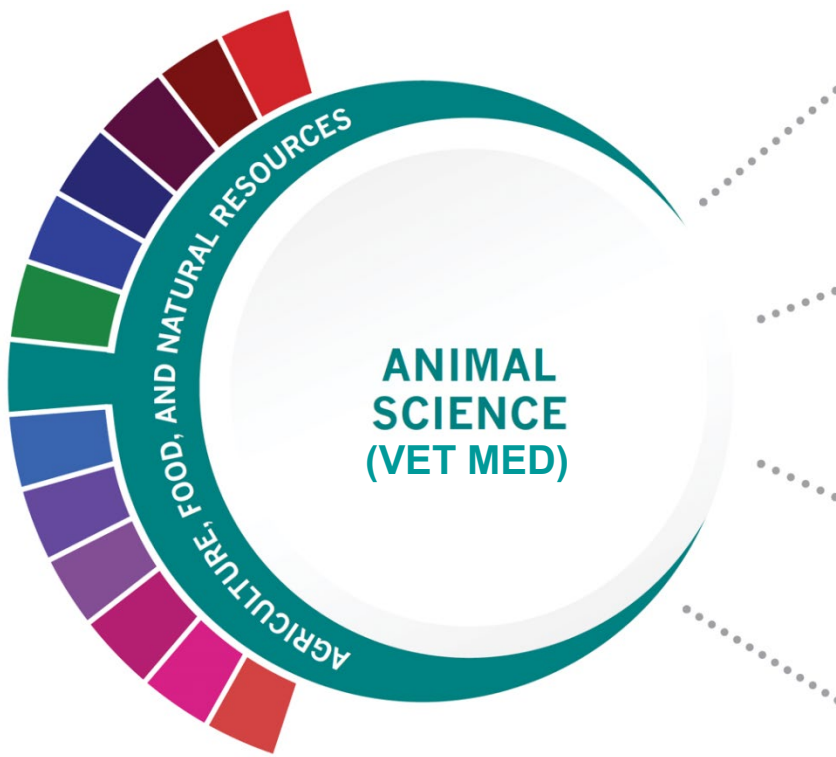
A program of study choice is not a permanent commitment. As you have new experiences, you will learn new things about yourself and may change it. If you decide on a new program of study, you should discuss it with your counselor and adjust your future course selections in accordance with your new career direction.

Students will be asked to choose a program of study from the fourteen career clusters identified by the Texas Education Agency. These programs of study are broad areas of study which are flexible, overlapping in nature, and allow students to change as new knowledge and experiences are acquired. Programs of study are open, rather than narrow, allowing the student more options while providing a focus and relevance to education.

Using the student's career interests and aptitude information, the counselor and student will develop a graduation plan in one of the following programs of study. For complete information, see <https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/approved-cte-programs-study>.



Agriculture, Food and Natural Resources Cluster



Level 1

Principles of Agriculture, Food, and Natural Resources

Level 2

Small Animal Management
Equine Science

Level 3

Veterinary Medical Applications

Level 4

Practicum in Agriculture, Food, and Natural Resources

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Licensed Veterinary Technician	Pet Groomer	Food Science and Technology	Animal Sciences	Genetics
Feedyard Technician in Cattle Care and Handling	Veterinary Technician	Veterinary Studies	Agriculture	Veterinary Medicine
Certified Veterinary Assistant	Licensed Breeder	Biotechnology Laboratory Technician	Biology	Biological and Physical Sciences
		Biology Technician	Zoology/Animal Biology	Biological and Biomedical Sciences

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Texas FFA	Agri-Science Fair 4H Volunteer at a local farm or veterinary office FFA Supervised Agriculture Experience (SAE)

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



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.

Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020



TCHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Agriculture, Food, and Natural Resources	7710	13000200 (1 credit)	None	9
Small Animal Management	7722	13000400 (0.5 credit)	PREQ: Principles of AFNR	10
Equine Science	7832	13000500 (0.5 credit)	PREQ: Principles of AFNR	10
Veterinary Medical Applications	7752	13000600 (1 credit)	PREQ: Equine Science, Small Animal Management	11
Practicum in Agriculture, Food, and Natural Resources	7754	13002500 (2 credits)	PREQ: Veterinary Medical Applications	12

7710 Principles of Agriculture, Food & Natural Resources (Grades 9-12; 1 Credit)

PEIMS 13000200

This course will prepare students for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. This course allows students to develop knowledge and skills regarding career opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for success, students need to have opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

7722 Small Animal Management (Grades 10-12; 1/2 Credit)

PEIMS 13000400

Co Requisite: 7832 Equine Science

This course will prepare students for careers in the field of animal science, students need to enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, 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 knowledge and skills in a variety of settings. Suggested small animals which may be included in the course of study include, but are not limited to, small mammals, amphibians, reptiles, avian, dogs, and cats.

7832 Equine Science (Grades 10-12; 1/2 Credit)

PEIMS 13000500

Co Requisite: 7722 Small Animal Management

In Equine Science, 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, 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 in a variety of settings.

7752 Veterinary Medical Applications (Grades 11-12; 1 Credit)

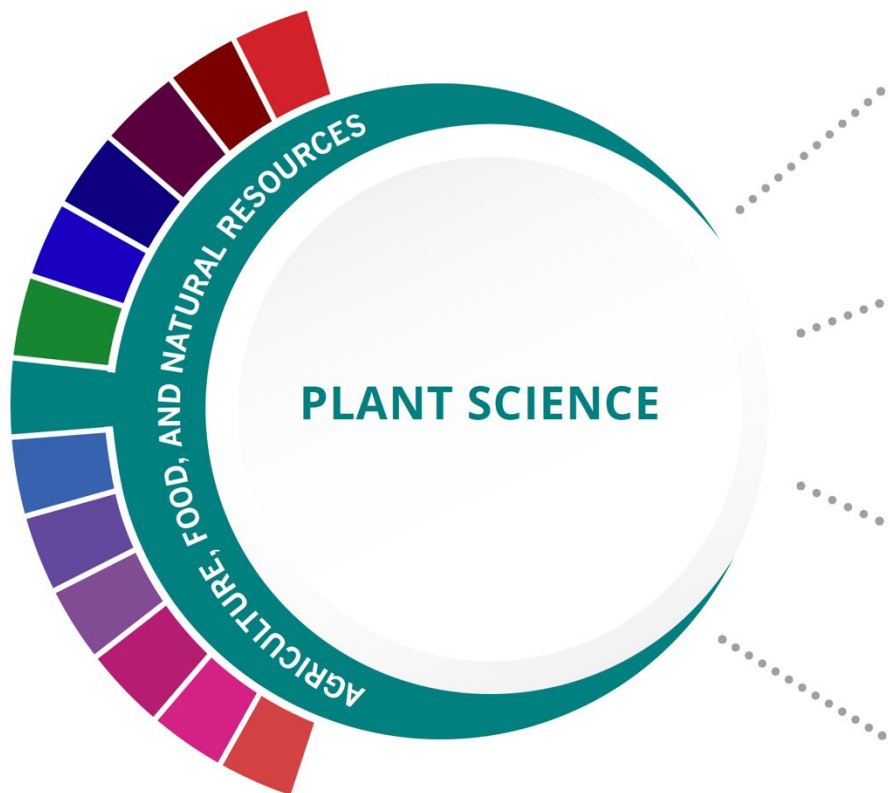
PEIMS 13000600

To be prepared for careers in the field of animal science, students need to 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. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills and technologies in a variety of settings. Topics covered in this course include, but are not limited to, veterinary practices as they relate to both large and small animal species.

7754 Practicum in Agriculture, Food and Natural Resources)(Grade 12; 2 Credits)

PEIMS 13002500

The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Agriculture, Food, and Natural Resources cluster. The practicum is designed to give students supervised practical application of knowledge and skills. Students must obtain an internship at an approved Veterinary Clinic for 300 hours.



Level 1 Principles of Agriculture, Food, and Natural Resources

Level 2 Floral Design

Level 3 Horticultural Science

Level 4 Advanced Plant and Soil Science

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Landscape Irrigation Technician License	Pesticide Applicator	Applied Horticulture/ Horticulture Operations, General	Applied Horticulture/ Horticulture Operations, General	Applied Horticulture/ Horticulture Operations, General
Commercial/ Noncommercial Pesticide Applicator	Certified Floral Designer	Ornamental Horticulture	Agronomy and Crop Science	Agronomy and Crop Science
Texas State Floral Association Level One Floral Certification	Accredited Member of AIFD	Agricultural Business and Management, General	Agricultural Business and Management, General	Agricultural Business and Management, General
Texas State Floral Association Level Two Floral Certification	Landscape Industry Certified Technician	Turf and Turfgrass Management	Turf and Turfgrass Management	Farm/Farm and Ranch Management

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Texas FFA	Work part-time at a florist; start or work for a local landscaping business FFA Supervised Agriculture Experience (SAE)

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.



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.

Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020

TCHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Agriculture, Food, and Natural Resources	7710	13000200 (1 credit)	None	9
Floral Design	7711	13001800 (1 credit)	PREQ: Principles of AFNR	10
Horticultural Science	7750	13002000 (1 credit)	PREQ: Floral Design	11
Advanced Plant and Soil Science	7812	13002100 (1 credit)	PREQ: Horticulture and 1 Science credit	12

7710 Principles of Agriculture, Food & Natural Resources (Grades 9-12; 1 Credit)

PEIMS 13000200

This course will prepare students for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. This course allows students to develop knowledge and skills regarding career opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for success, students need to have opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

7711 Floral Design (Grades 10-12; 1 Credit)

PEIMS 13001800

Students will design and arrange flowers, foliage, and related plant materials for interior locations. Included will be the opportunity to make football mums, dance corsages, and flower arrangements. To examine floral design in relation to contemporary designs, business practices, specialty items, creativity, and careers in the floral industry. Floral Design also counts for Fine Arts Credit.

7750 Horticulture (Grades 11-12; 1 Credit)

PEIMS 13002000

Horticulture Science is designed to build upon the fundamentals of floral design and develop an understanding of common horticultural management practices as they relate to food and ornamental plant production.

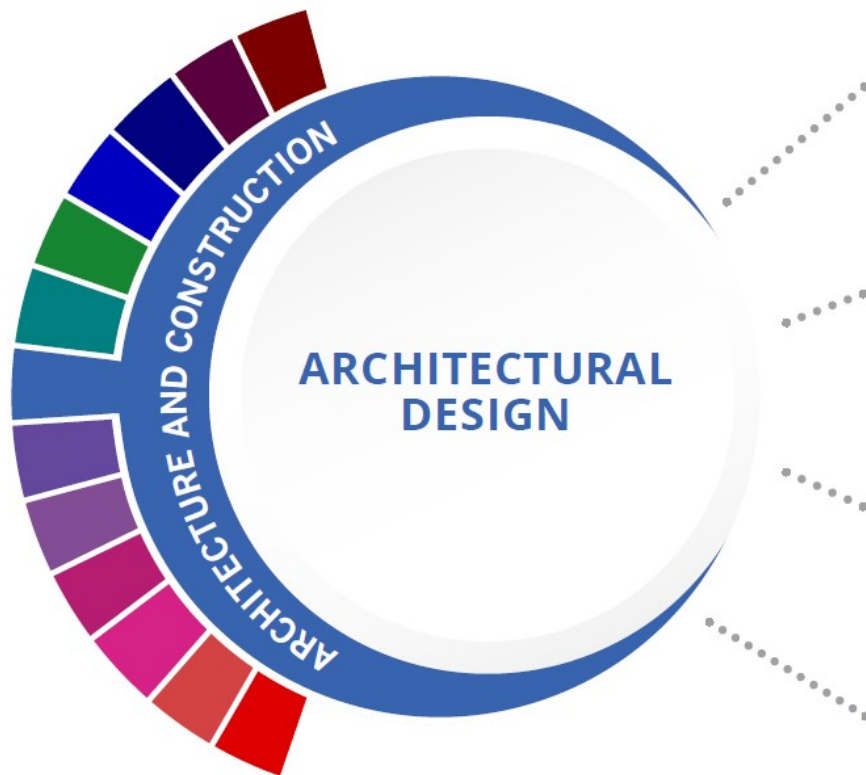
7812 Advanced Plant & Soil Science (Grades 12; 1 Credit)

PEIMS 13002100

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. To prepare for careers in plant and soil science, students must attain academic skills and knowledge, acquire technical knowledge and skills related to plant and soil science and the workplace. This course will satisfy the 3rd or 4th Science graduation requirement.



Architecture and Construction Cluster



Level 1 Principles of Architecture

Level 2 Architectural Design I

Level 3 Architectural Design II

Level 4 Practicum in Architectural Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User in AutoCAD	Certified Photogrammetric Technologist	Architecture	Architecture	Architecture
Autodesk Certified Professional or User in AutoCAD Civil 3D	Certified Development, Design & Construction Professional	Interior Design	Interior Design	Interior Architecture
Autodesk Certified Professional or User in Autodesk Revit Architecture	National Council Certified Interior Designer	Civil Engineering, General	Civil Engineering, General	Civil Engineering, General
Autodesk Certified Professional or User in Autodesk Revit MEP Electrical	LEED AP Building Design & Construction	Geographic Information Science and Cartography	Geographic Information Science and Cartography	Geographic Information Science and Cartography

Occupations	Median Wage	Annual Openings	% Growth
Architects	\$77,043	808	16%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Architectural/ Civil Drafters	\$50,170	1,068	9%
Construction Managers	\$87,402	2,401	14%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Shadow an architect, interior designer, or civil engineer. SkillsUSA	Intern at an architecture firm.

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Architectural Design program of study explores the occupations and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study may also include exploration into collecting and interpreting geographic information, researching and preparing maps, and interior design.



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.

Successful completion of the Architectural Design program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020



TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Architecture	7840	13004210 (1 credit)	None	9
Architectural Design I	7743	13004600 (1 credit)	PREQ: Principles of Architecture, Algebra I and English I	10
Architectural Design II	7744	13004700 (2 credits)	PREQ: Architectural Design I	11
Practicum in Architectural Design	7748	13004800 (2 credits)	PREQ: Architectural Design II	12

7840 Principles of Architecture (Grades 9-12; 1 Credit)

PEIMS 13004210

Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management. Achieving proficiency in decision making and problem solving is an essential skill for career planning and lifelong learning. Students use self-knowledge, education, and career information to set and achieve realistic career and educational goals. Job-specific training can be provided through training modules that identify career goals in trade and industry areas. Classroom studies include topics such as safety, work ethics, communication, information technology applications, systems, health, environment, leadership, teamwork, ethical and legal responsibility, employability, and career development and include skills such as problem solving, critical thinking, and reading technical drawings.

7743 Architectural Design I (Grades 10-12; 1 Credit)

PEIMS 13004600

Second year instruction is designed to focus on drawing orthographic views and development using computer software applications for Architectural drafting. Software used: Auto CAD.

7744 Architectural Design II (Grades 11-12; 2 Credits)

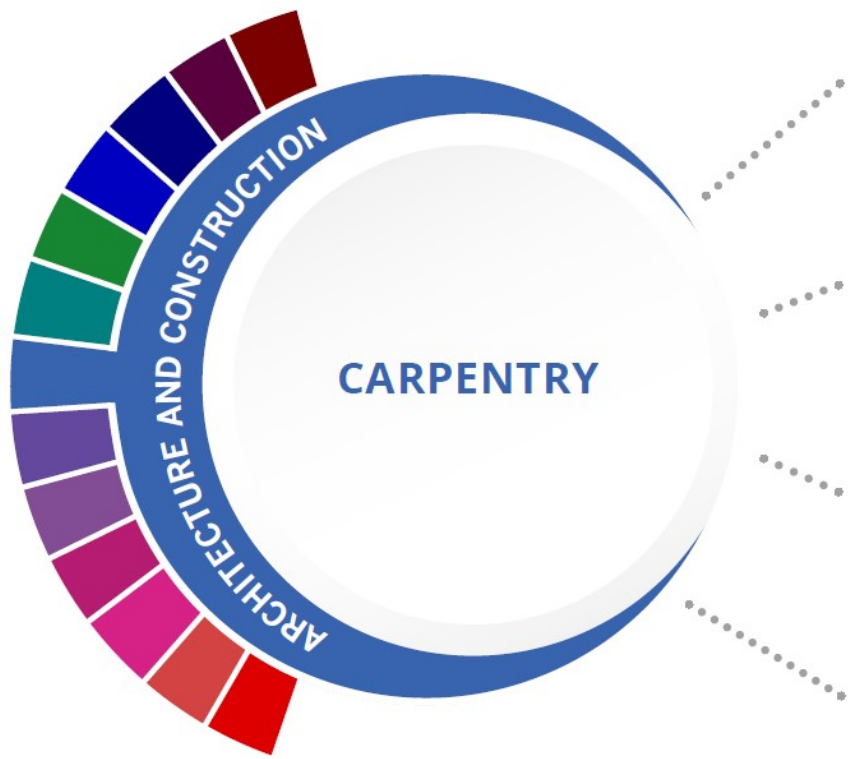
PEIMS 13004700

Advanced instruction enhances skills and knowledge of drawing orthographic views and development using computer software applications for architectural drafting. Software used: Auto CAD. Students will be members of the LMHS or TCHS Architecture Club. Club t-shirt fee and LMHS or TCHS Activity fee will also be given at the beginning of the school year. Students taking this course should expect to attend 3 to 4 Saturday competition dates and at least 4 to 6 after school shop periods during the SkillsUSA Competition season.

7748 Practicum in Architectural Design (Grade 12; 2 Credits)

PEIMS 13004800

Fourth year instruction, involves an independent Architectural Design project and a more in-depth use of Auto CAD. Students will be members of the LMHS or TCHS Architecture Club. Club t-shirt fee and LMHS or TCHS Activity fee will also be given at the beginning of the school year. Students taking this course should expect to attend 3 to 4 Saturday competition dates and at least 4 to 6 after school shop periods during the SkillsUSA Competition season. Students will be required to purchase boots.



Level 1 Principles of Construction

Level 2 Construction Technology I

Level 3 Construction Technology II

Level 4 Practicum in Construction Technology

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
NCCER Carpentry, Level 1 & 2	Certified Lead Carpenter	Carpentry/ Carpenter	Construction Science	Construction Management
NCCER Commercial Carpenter	Certified Installer	Industrial Mechanics and Maintenance Technology		
NCCER Core Curriculum	Certified Door Consultant			
NCCER Construction Technology	Fluid Power Connector and Conductor			

Occupations	Median Wage	Annual Openings	% Growth
Carpenters	\$35,922	5,031	26%
Cost Estimators	\$63,939	2,239	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Shadow a carpenter or millwright. SkillsUSA	Obtain an NCCER certification in Millwright Level 1 or Carpentry Level 1

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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.



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.

Successful completion of the Carpentry program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020



ITC

Class of 2026 and Beyond

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Construction	7841	13004220 (1 credit)	None	9
Construction Technology I	7866	13005100 (2 credits)	PREQ: Principles of Construction	10
Construction Technology II	7867	13005200 (2 credits)	PREQ: Construction Technology I	11
Practicum in Construction Technology	7846	13005250 (2 credits)	PREQ: Construction Technology II	12

Class of 2023 - 2025

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 credit)	None	9
Construction Technology I	7866	13005100 (2 credits)	None	10
Construction Technology II	7867	13005200 (2 credits)	PREQ: Construction Technology I	11
Practicum in Construction Technology	7846	13005250 (2 credits)	PREQ: Construction Technology II	12

7841 Principles of Construction (Carpentry- ITC Building) (Grades 9-12; 1 Credit)**PEIMS 13004220**

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. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. **Students will need to purchase appropriate boots. Drug testing is mandatory for this course.**

7866 Construction Technology I (Carpentry - ITC Building) (Grades 10-12; 2 Credits)**PEIMS 13005100**

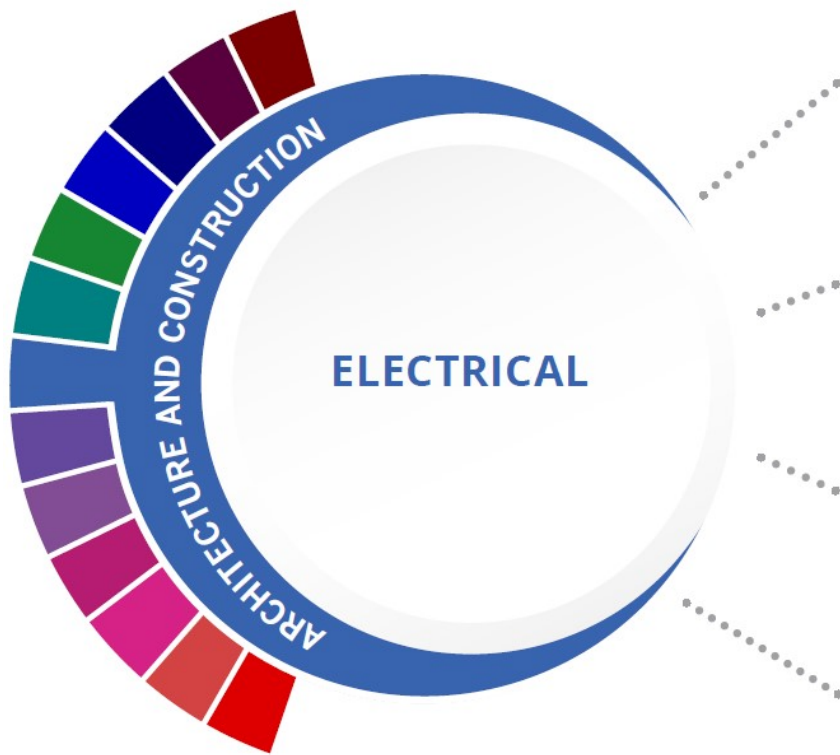
In Construction Technology I, students will gain knowledge and skills needed to enter the workforce as carpenters or building maintenance supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, tool usage, building materials, codes, and framing. Students will be required to purchase boots. **Students will need to purchase appropriate boots. Drug testing is mandatory for this course.**

7867 Construction Technology II (Carpentry - ITC Building) (Grades 11-12; 2 Credits)**PEIMS 13005200**

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. Students will be required to purchase boots. **Students will need to purchase appropriate boots. Drug testing is mandatory for this course.**

7846 Practicum in Construction Technology (Carpentry - ITC Building) (Grade 12: 2 Credits)**PEIMS 13005250**

Practicum in Construction Technology 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. Students will be required to purchase boots. **Students will need to purchase appropriate boots. Drug testing is mandatory for this course.**



Level 1 Principles of Construction

Level 2 Electrical Technology I
Occupational Safety and Environmental Technology I

Level 3 Electrical Technology II

Level 4 Practicum in Construction Technology

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE 'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
NCCER Electrical, Level 1 & 2	Electrical Plans Examiner	Electrician	Construction Science	Construction Management
NCCER Electronic Systems Technician, Level 1 & 2	Certified Electrical Inspector - Master	Communica- tions Systems Installation and Repair Technology		
Electrical Apprenticeship Certificate, Level 1	Fiber Optics Technician - Outside Plant			
NCCER Commercial Electrician	Certification in Fire Alarm Systems - Level 1			

Occupations	Median Wage	Annual Openings	% Growth
Electrical Linemen	\$54,184	1,314	28%
Electricians	\$44,013	8,460	21%
Electrical and Electronics Installers	\$37,544	245	19%
Security and Fire Alarm Installers	\$43,638	1,112	22%
Telecommunication Line Installers and Repairers	\$49,150	1,228	10%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Shadow an electrician or fiber optics line installer SkillsUSA	Intern or shadow an electrician

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Electrical program of study explores the occupations and educational opportunities associated with installing, maintaining, and repairing electrical wiring, equipment, and fixtures. This program of study may also include exploration into installing and repairing telecommunications cable including fiber optics.



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.

Successful completion of the Electrical program of study will fulfill requirements of the Business and Industry endorsement and STEM endorsement if the math and science requirements are met. Revised - July 2020



ITC

Class of 2026 and Beyond

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Construction	7842	13004220 (1 credit)	None	9
Occupational Safety and Environmental Technology I	7868	N1303680 (1 credit)	PREQ: Principles of Construction	10
Electrical Technology I	7771	13005600 (1 credit)	PREQ: Principles of Construction	10
Electrical Technology II	7844	13005700 (2 credit)	PREQ: Electrical Technology I and Occupational Safety and Environmental Technology I	11
Practicum in Construction Technology	7847	13005250 (2 credits)	PREQ: Electrical Technology II	12

Class of 2023-2025

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 credit)	None	9
Occupational Safety and Environmental Technology I	7868	N1303680 (1 credit)	None	10
Electrical Technology I	7771	13005600 (1 credit)	None	10
Electrical Technology II	7844	13005700 (2 credit)	PREQ: Electrical Technology I and Occupational Safety and Environmental Technology I	11
Practicum in Construction Technology	7847	13005250 (2 credits)	PREQ: Electrical Technology II	12

7842 Principles of Construction (Electrical- ITC Building) (Grades 9-12; 1 Credit)**PEIMS 13004220**

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. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. **Students will need to purchase appropriate boots for this course. Drug testing is mandatory for this course.**

7868 Occupational Safety & Environmental Technology (Electrical-ITC Building)**PEIMS N1303680****(Grades 10-12; 1 Credit) Co Requisite: 7771 Electrical Technology I**

Students will investigate the field of Occupational Safety and Health Administration and Environmental Technology, which is charged with the tasks of ensuring that business and industry provide a safe workplace, free from hazards and bringing about a reduction in the occurrence of job-related injuries and fatalities. Students will be required to purchase boots. **Students will need to purchase appropriate boots for this course. Drug testing is mandatory for this course.**

7771 Electrical Technology I (Electrical & Instrumentation - ITC Building)**PEIMS 13005600****(Grade 10-12; 1 Credit) Co Requisite: 7868 Occupational Safety & Environmental Technology**

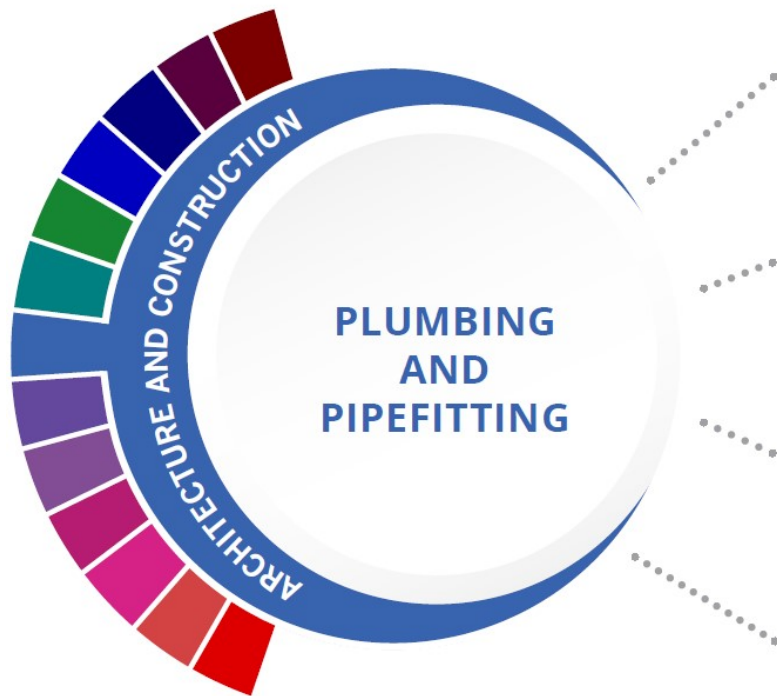
In Electrical Technology, students gain knowledge and skills specific to those needed to enter the work force as an electrician or building maintenance supervisor or prepare for a postsecondary degree in construction. Students acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, and the reading of electrical drawings, schematics, and specifications. Students will be required to purchase boots. **Students will need to purchase appropriate boots for this course. Drug testing is mandatory for this course.**

7844 Electrical Technology II (Electrical & Instrumentation - ITC Building) (Grade 11-12; 2 Credits)**PEIMS 13005700**

In Advanced Electrical Technology, students gain advanced knowledge and skills specific to those needed to enter the work force as an electrician or building maintenance technician or supervisor or prepare for a postsecondary degree in construction. Students acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, alternating current and direct current motors, conductor installation, installation of electrical services, and electric lighting installation. Students will be required to purchase boots. **Students will need to purchase appropriate boots for this course. Drug testing is mandatory for this course.**

7847 Practicum in Construction Technology (Electrical & Instrumentation - ITC Building) (Grade 11-12; 2 Credits)**PEIMS 13005250**

Practicum in Construction Technology 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. Students will be required to purchase boots. **Students will need to purchase appropriate boots for this course. Drug testing is mandatory for this course.**



Level 1 Principles of Construction

Level 2 Pipefitting Technology I/Lab

Level 3 Pipefitting Technology II/Lab

Level 4 Practicum in Construction Technology

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
NCCER Pipefitting, Level 1	Commercial Plumbing Inspector	Plumbing Technology/ Plumber	Construction Science	Construction Management
NCCER Plumbing, Level 1 & 2	Journey Level Pipefitter- Steamfitter	Electrical and Power Transmission Installation/ Installer, General	Operations Management and Supervision	Operations Management and Supervision
NCCER Construction Technology	Plumbing Plans Inspector	Pipefitting/ Pipefitter and Sprinkler Fitter		
Tradesman Plumber – Limited License	Certified Service Manager	High Performance and Custom Engine Technician/ Mechanic		

Occupations	Median Wage	Annual Openings	% Growth
Mechanics, Installers, and Repairers	\$63,710	4,243	17%
Plumbers, Pipefitters and Steamfitters	\$44,928	5,765	23%
Helpers-Pipelayers, Plumbers, Pipefitters, and Steamfitters	\$30,098	1,567	18%
Pipe Installers	\$31,616	802	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Job shadow a plumber, pipefitter, or steamfitter SkillsUSA	Obtain a Core Curriculum NCCER certification in Pipefitting Level 1 or Plumbing Level 1

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Plumbing and Pipefitting program of study explores the occupations and educational opportunities related to assembling, installing, or repairing pipes, fittings, or fixtures of heating, water, or drainage systems. This program of study may also include exploration into maintaining pipe supports or related hydraulic or pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, or industrial production or processing systems.



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.

Successful completion of the Plumbing and Pipefitting program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020



ITC

Class of 2026

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Construction	7865	13004220 (1 credit)	None	9
Pipefitting Technology I/Lab	7872 7874	N1300425 (1 credit) N1300427 (1 credit)	PREQ: Algebra I and Geometry, Principles of Construction	10
Pipefitting Technology II/Lab	7873 7875	N1300426 (1 credit) N1300428 (1 credit)	PREQ: Pipefitting Technology I	11
Practicum in Construction Technology	7848	13005250 (2 credits)	PREQ: Pipefitting Technology II	12

Class of 2023-2025

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 credit)	None	9
Pipefitting Technology I/Lab	7872 7874	N1300425 (1 credit) N1300427 (1 credit)	PREQ: Algebra I and Geometry, Principles of Construction	10
Pipefitting Technology II/Lab	7873 7875	N1300426 (1 credit) N1300428 (1 credit)	PREQ: Pipefitting Technology I	11
Practicum in Construction Technology	7848	13005250 (2 credits)	PREQ: Pipefitting Technology II	12

7865 Principles of Construction (Pipefitting - ITC Building) (Grades 9-12; 1 Credit) PEIMS 1300422

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. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment. Students will be required to purchase boots. **Drug testing is mandatory for this course.**

7872 Pipefitting Technology I (ITC Building) PEIMS N1300425

(Grades 10-12; 1 Credit 1st Semester) Co Requisite: 7874

7874 Pipefitting Technology I/Lab (ITC Building) PEIMS N1300427
(Grades 10-12; 1 Credit 2nd Semester) Co Requisite: 7872

Students will learn the types of work performed, responsibilities and career opportunities within the industry, and safety principles associated with pipefitting. Additionally, students will learn care, selection, and use of hand and power tools of the trade and ladder and scaffold safety, selection, construction, and the associated hazards. Oxyfuel cutting and associated safety procedures will be reinforced. Students will learn the maintenance, operation, and safety of motorized equipment. Students will be required to purchase boots. **Drug testing is mandatory for this course.**

7873 Pipefitting Technology II (ITC Building) PEIMS N1300426
(Grades 11-12; 1 Credit 1st Semester) Co Requisite: 7875

7875 Pipefitting Technology II/Lab (ITC Building) PEIMS N1300428
(Grades 11-12; 1 Credit 1st Semester) Co Requisite: 7873

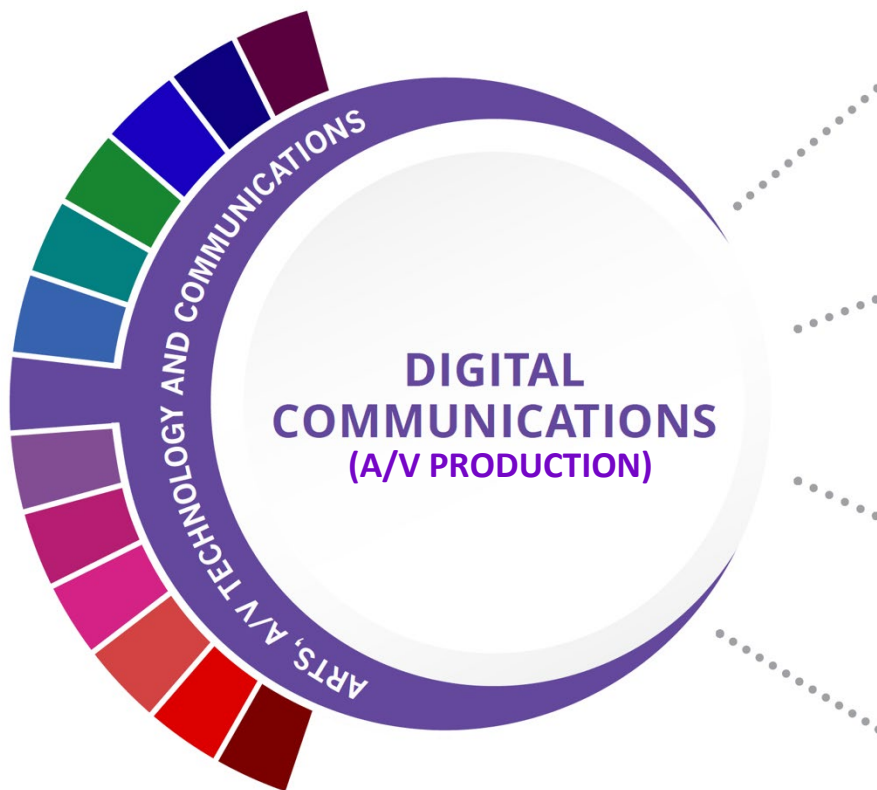
Students will learn about, be able to identify and install various types of piping systems and valves. Students will learn to read detail and drawing sheets and how to use mathematics to solve problems related to Pipefitting construction. Students will also be educated in how to prepare, fabricate, and assemble threaded pipe, socket weld, and butt weld installations. Excavating per Occupational Safety and Health Administration (OSHA) standards as well as grading and elevations of trenching and backfilling will also be taught. **Drug testing is mandatory for this course.**

7848 Practicum in Construction Technology (Pipefitting - ITC Building) (Grade 12; 2 Credits) PEIMS 13005250

Practicum in Construction Technology 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. Students will be required to purchase boots. **Drug testing is mandatory for this course.**



Arts, Audio/Video Technology, and Communications Cluster



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

Level 2 Audio/Video Production I

Level 3 Audio Video Production II/Lab

Level 4 Practicum of Audio/Video Production

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Apple Final Cut Pro X	Certified Video Engineer	Recording Arts Technology/Technician	Recording Arts Technology/Technician	Communications Technology/Technician
Apple Logic Pro X	Commercial Audio Technician	Cinematography and Film/Video Production	Cinematography and Film/Video Production	Cinematography and Film/Video Production
Adobe Certified Associate Premiere Pro	Certified AM Directional Specialist	Radio and Television Broadcasting Technology/Technician	Radio and Television	Radio and Television
Adobe Certified Associate Certifications	Certified Broadcast Radio Engineer	Music Technology	Agricultural Communication/Journalism	Agricultural Communication/Journalism

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Shadow a production team Participate in SkillsUSA or TSA	Intern at a local television station or video production company Work with a local company on a project

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.

Successful completion of the Digital Communications program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020



TCHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Arts, A/V Technology, and Communications	7755	13008200 (1 credit)	None	9
Audio/Video Production I	7756	13008500 (1 credit)	PREQ: Principles of Arts, A/V Technology, and Communications	10
Audio Video Production II/Lab	7853	13008610 (2 credits)	PREQ: Audio/Video Production I	11
Practicum in Audio/Video Production	7758	13008700 (2 credits)	PREQ: Audio/Video Production II/Lab	12

7755 Principles of Arts, A/V Technology & Communications (Grades 9-10, 1 Credit)

PEIMS 13008200

Careers in the Arts, Audio/Video Technology, and Communications career cluster require, in addition to 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.

7756 Audio/Video Production I (Grades 10-11; 1 Credit)

PEIMS 13008500

Introduces students to 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 pre-production, production, and post-production audio and video activities.

7853 Audio/Video Production II/Lab (Grades 11-12; 2 Credits)

PEIMS 13008610

Introduces students to 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 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 activities. This course may be implemented in an advanced audio format or an advanced format, including both audio and video.

7758 Practicum in Audio Video Production (Grade 12; 2 Credits)

PEIMS 13008700

Introduces students to 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 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 audio and video activities in a studio environment. This course may be implemented in an advanced audio, video, or animation format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.



Business, Marketing and Finance Cluster



Level 1 Business Information Management I

Level 2 Business Information Management II

Level 3 Career Preparation I

Level 4 Career Preparation II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Office Specialist or Expert- Excel	Certified Records Manager	Business Administration	Business Administration	Business Administration
Microsoft Office Specialist or Expert - Word	Certified Facility Manager	Business/ Commerce	Business/ Commerce	Business Management
Google Cloud Certified Professional – G-Suite	Certified Commercial Contracts Manager	Public Administration	Public Administration	Public Administration
Certified Associate in Project Management	Teradata 14 Basics/ Certified Technical Specialist	Business Management	Management Science	Management Science

Occupations	Median Wage	Annual Openings	% Growth
Administrative Service Managers	\$96,138	2,277	21%
Management Analysts	\$87,651	4,706	32%
General and Operations Managers	\$107,640	18,679	20%
Operations Research Analysts	\$78,083	1,128	38%
Supervisors of Administrative Support Workers	\$57,616	14,982	20%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Business Professional of America (BPA), Future Business Leaders of America (FBLA), and DECA	Internship with local business or chamber of commerce

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Business Management program of study teaches CTE learners 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.

Successful completion of the Business Management program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020



TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 credit)	None	9
Business Information Management II	7768	13011500 (1 credit)	PREQ: Business Information Management I	10
Career Preparation I	7729	12701300 (2 credits)	PREQ: Business Information Management II	11
Career Preparation II	7815	12701305 (3 credits)	PREQ: Career Preparation I	12

7767 Business Information Management I (Grades 9-12; 1 Credit)

PEIMS 13011400

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. **This is a required course for graduation starting with the freshman class of 2022.**

7768 Business Information Management II (Grades 10-12; 1 Credit)

PEIMS 13011500

This is an occupationally specific course which introduces the concepts and skills for producing business documents and correspondence through the use of the document cycle and word processing equipment. Special emphasis is placed on automated management of business records, database management, electronic spreadsheets, and management of information flow, electronic mail, desktop publishing, and graphics. The course provides preparation for employment or advanced standing at the postsecondary level. **(Pre-requisite: Business Information Management I)**

7729 Career Preparation I (Grade 11-12; 2 Credits)

PEIMS 12701300

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. **(Prerequisite: Must be a senior unless in the Business Management Program of Study).**

7815 Career Preparation II (Grade 12; 3 Credits)

PEIMS 12701305

Career Preparation I – Second Time Taken 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.



Level 1 Principles of Business, Marketing, and Finance

Level 2 Advertising
Sports and Entertainment Marketing

Level 3 Advanced Marketing

Level 4 Practicum in Marketing

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Office Specialist or Expert - Excel	Certified Product Manager	Marketing/ Marketing Management, General	Marketing/ Marketing Management, General	Marketing
Microsoft Office Specialist or Expert - Word	DMA Certified Marketing Professional	Consumer Merchandising/ Retailing Management	Business Administration	Business Administration
Google Analytics Individual Qualification	Certified Salesperson	International Marketing	Applied Economics	Applied Economics
Entrepreneurship and Small Business	Real Estate Appraiser	Business	Marketing Research	Advertising

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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%
First-Line Supervisors of Retail Sales Workers	\$72,550	2,826	15%
Wholesale and Retail Buyers	\$51,106	1,229	19%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Business Professionals of America (BPA), Future Business Leaders of America (FBLA), and DECA	Internship with local marketing firm; shadow a real estate agent; operate a school store on campus

The Marketing and Sales program of study teaches CTE learners 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.

Successful completion of the Marketing and Sales program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020



TCHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Business, Marketing, and Finance	7764	13011200 (1 credit)	None	9
Sports and Entertainment Marketing	7747	13034600 (.5 credit)	PREQ: Principles of Business, Marketing, and Finance	10
Advertising	7858	13034200 (.5 credit)	PREQ: Principles of Business, Marketing, and Finance	10
Advanced Marketing	7856	13034700 (2 credits)	PREQ: Sports and Entertainment Marketing, Advertising	11
Practicum in Marketing	7857	13034800 (2 credits)	PREQ: Advanced Marketing	12

7764 Principles of Business, Marketing, and Finance (Grades 9-12, 1 Credit)

PEIMS 13011200

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, 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.

7747 Sports and Entertainment Marketing (Grade 10-11; ½ Credit)

PEIMS 13034600

Co Requisite: 7858 Advertising

This course will provide students with a thorough understanding of the marketing concepts and theories that apply to sports and sporting events and entertainment. The areas this course will cover include basic marketing, target marketing and segmentation, sponsorship, event marketing, promotions, sponsorship proposals, and implementation of sports and entertainment marketing plans. This course will also provide students an opportunity to develop promotional plans, sponsorship proposals, endorsement contracts, sports and entertainment marketing plans, and evaluation and management techniques.

7858 Advertising (Grades 10-11; 1/2 Credit)

PEIMS 13034200

Co Requisite: 7747 Sports Entertainment and Marketing

This course is designed to provide 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.

7856 Advanced Marketing (Grades 11-12; 2 Credits)

PEIMS 13034700

Students will run the 409stingstore plus create and apply marketing, accounting, purchasing, web development skills in this 2-hour class. Advanced Marketing is a series of dynamic activities that focus on the customer to generate a profitable exchange. Students gain knowledge and skills that help them to be proficient in one or more of the marketing functional areas associated with distribution, financing, marketing information management, pricing, product planning, promotion, purchasing, risk management, and selling skills. Students integrate skills from academic subjects, information technology, interpersonal communication, and management training to make responsible decisions.

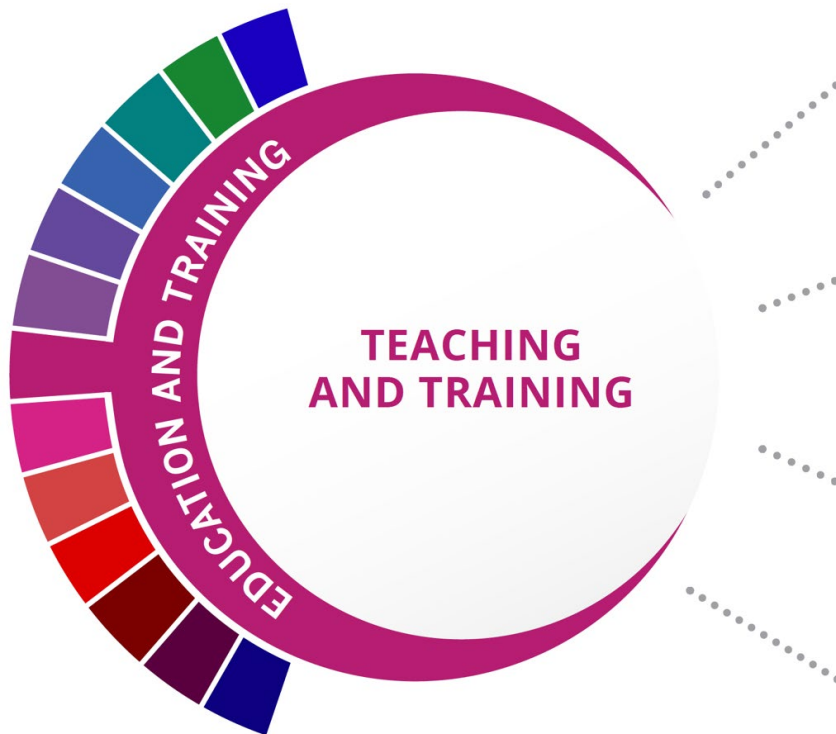
7857 Practicum in Marketing (Grade 12; 2 Credits)

PEIMS 13034800

Practicum in Marketing is a series of dynamic activities that focus on the customer to generate a profitable exchange. Students will gain knowledge and skills that help them to be proficient in one or more of the marketing functional areas associated with distribution, financing, marketing information management, pricing, product planning, promotion, purchasing, risk management, and selling skills. Students will integrate skills from academic subjects, information technology, interpersonal communication, and management training to make responsible decisions. The practicum course is a paid or unpaid experience for students participating in a coherent sequence of career and technical courses in marketing.



Education and Training Cluster



Level 1	Principles of Education and Training
Level 2	Human Growth and Development
Level 3	Instructional Practices
Level 4	Practicum in Education and Training

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL 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)	Education, General (or specific subject area)	Educational Leadership and Administration, General
	Counselor, Professional	Special Education	Special Education	Special Education
	Athletic Trainer	Health and Physical Education/Fitness	Health and Physical Education/Fitness	Social and Philosophical Foundations of Education

Occupations	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 Career/ Technical Education	\$54,510	6,407	15%
Career and Technical Education Teachers, Secondary School	\$56,360	719	9%
Special Education Teachers, Secondary School	\$56,720	980	18%

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Texas Association of Future Educators, or Family, Career and Community Leaders of America	Teach a community education class; intern as a teaching assistant or tutor; serve as a camp counselor.

The Teaching and Training program of study prepares CTE learners for careers related to teaching, instruction, and creation of instructional and enrichment materials. The program of study introduces CTE learners 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.



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.

Successful completion of the Teaching and Training program of study will fulfill requirements of the Public Service Endorsement. Revised - July 2020



TCHS and LMHS

Class of 2026 and Beyond

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Education and Training	7700	13014200 (1 credit)	None	9
Human Growth and Development	NEW for the 2023-2024 school year!	13014300 (1 credit)	PREQ: Principles of Education and Training	10
Instructional Practices	7702	13014400 (2 credits)	PREQ: Human Growth and Development	11
Practicum in Education and Training	7707	13014500 (2 credits)	PREQ: Instructional Practices	12

Class of 2023 - 2025

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 credit)	None	9
Principles of Education and Training	7700	13014200 (1 credit)	None	10
Instructional Practices	7702	13014400 (2 credits)	PREQ: Principles of Education and Training	11
Practicum in Education and Training	7707	13014500 (2 credits)	PREQ: Instructional Practices	12

7700 Principles of Education and Training (Grades 9-12: 1 Credit)**PEIMS 13014200**

The Principles of Education and Training course is designed to introduce students to the various careers available within the education and training career cluster. Students use self-knowledge and educational and career information to analyze various careers within the education and training career cluster. Students will also gain an understanding of the basic knowledge and skills essential to teaching inside the classroom. Students will develop a plan to job shadow and intern at a field site school.

Human Growth and Development (Grades 10-12; 1 Credit) NEW for the 2023-2024 school year!**PEIMS 13014300**

Human Growth and Development is an examination of human development across the lifespan with emphasis on research, theoretical perspectives, and common physical, cognitive, emotional, and social developmental milestones. The course covers material that is generally taught in a postsecondary, one-semester introductory course in developmental psychology or human development.

7702 Instructional Practices in Education and Training (Ready, Set, Teach I) (Grades 11-12; 2 credits)**PEIMS 13014400**

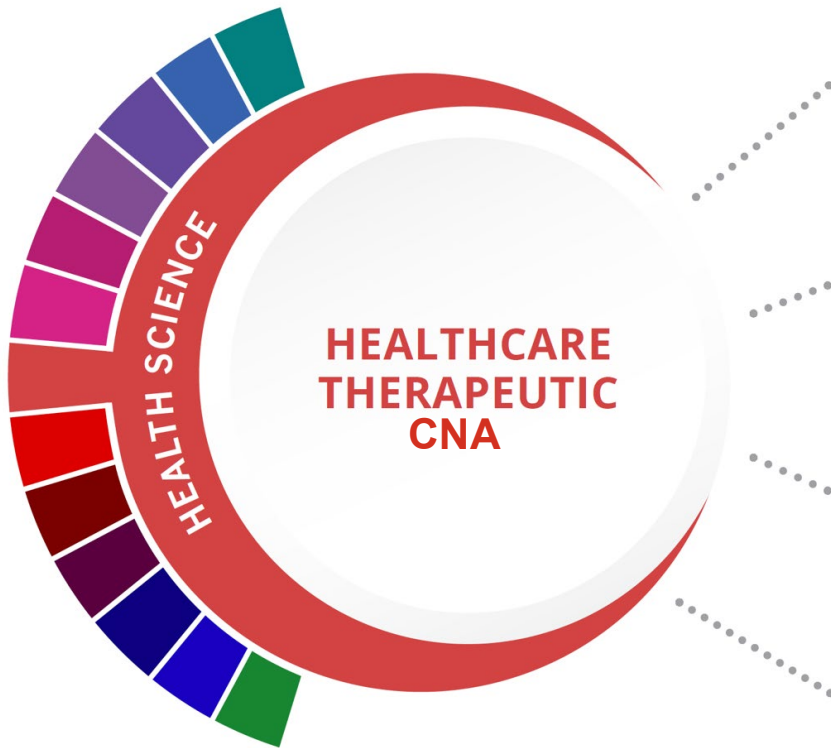
The primary objective of Instructional Practices in Education and Training (Ready, Set, Teach!) is to develop background knowledge of child and adolescent developmental principles as well as principles of effective teaching practices. Students will under the direction of a family and consumer science teacher and a mentoring teacher in direct instructional roles. Students will plan direct individualized instruction and group activities, prepare instructional materials and complete other responsibilities of classroom teachers. Students will engage in applications of principles/practices in the classroom. This course not only offers direct field experience, but is a fun hands-on way to explore the career field of education. Students will be screened and selected based on teacher approval.

7707 Practicum in Education and Training (Ready, Set, Teach II) (Grade 12; 2 credits)**PEIMS 13014500**

Practicum in Education and Training (Ready, Set, Teach! II) 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 Family and consumer Science teacher and 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. Students will be screened and selected based on teacher approval.



Health Science Cluster



Level 1 Medical Terminology

Level 2 Principles of Health Science

Level 3 Health Science Clinical
Anatomy and Physiology
(Recommended)

Level 4 Practicum in Health Science
(Required)
Medical Microbiology
(Recommended)

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental Hygienist	Dental Hygienist	Dentist
Certified Patient Care Technician	Surgical Technologist	Medical/ Clinical Assistant		Physician Assistant
Certified Nurse Aide/Assistant	Medical Assistant			Family and General Practitioners
Pharmacy Technician	Pharmacy Aides			Pharmacist

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%
Dental Assistants	\$34,840	4,422	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
SkillsUSA Health Occupation Students of America (HOSA)	Volunteer at a community wellness center, hospital, assisted living, or nursing home.

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.

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020



TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Medical Terminology	7745	13020300 (1 credit)	None	9
Principles of Health Science	7735	13020200 (1 credit)	PREQ: Biology or IPC, Medical Terminology	10
Health Science Clinical	7830	13020410 (2 credits)	PREQ: Principles of Health Science and 2 Science credits including Biology	11
Anatomy and Physiology	7742	13020600 (1 credit)	PREQ: Biology and a second science credit	11
Practicum in Health Science	7737	13020500 (2 credits)	PREQ: Health Science Theory and 3 Science credits including Biology	12
Medical Microbiology	7715	13020700 (1 credit)	PREQ: Biology and Chemistry	12

7745 Medical Terminology (Grades 9-10; 1 Credit)

PEIMS 13020300

This course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, combining forms, and singular and plural forms, plus medical abbreviations and acronyms. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology. Participation in HOSA is optional; however, students are encouraged to join. Membership dues are \$32.00 annually.

7735 Principles of Health Science (HST I) (Grades 10-11; 1 Credit)

PEIMS 13020200

This is the first of a sequence of courses offered in the Health Science Technology Career Tech Program, which prepares the student for a career as a health care professional. Students will learn leadership skills, safety skills in health care setting, health care systems, Anatomy and physiology, professionalism, overview of careers in the health care field, as well as Life stages. Students will be certified with health care provider CPR as well. Health Occupations Students of America [HOSA] is a student organization for HST, Anatomy & Physiology, Forensic Science, Medical Microbiology, Pathophysiology, Medical Terminology and Vet Tech students only. Participation is optional; however, students are encouraged to join. Membership dues are \$37.00 annually. This program is for students with a strong interest in the Health Care Profession. This course is a fast-paced intense course.

7830 Health Science Clinicals (Grades 11-12; 2 Credits)

PEIMS 13020410

This level three course is designed to allow students to explore a vast number of health careers & shadow health care professionals in the following clinical settings at Mainland Medical Center: nursing, physical and occupational therapy, radiology, pharmacy, occupational medicine, dietary, hyperbaric medicine, sterile processing, and medical laboratory and more. 3 hours each week are in classroom lecture, discussion, and skills training. Admission into HST II is very competitive. Selection is based on grades in HST I, Science grades, attendance, discipline as well as science teacher recommendation. Application is required with teacher/counselor approval. There are student fees that are required for the clinical rotations. A uniform fee of \$48 and a clinical lab fee of \$42.00. Participation in HOSA is optional; however, students are encouraged to join. Membership dues are \$37.00 annually. Weighted points will be awarded.

7742 Anatomy and Physiology (A&P) (Grade 12, 1 Credit)

PEIMS 13020600

Students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem-solving. Topics will be presented through the integration of biology, chemistry, and physics. Students will study the structures and functions of the human body and body systems. Students will investigate the body's responses to forces, maintenance of homeostasis, electrical interactions, transport systems, and energy systems. Outside research will be required. This course will satisfy the 3rd or 4th Science graduation requirement. **(Weighted points will be awarded.)**

7737 Practicum in Health Science (Certified Nurse Assistant) (Grade 12; 2 Credits)

PEIMS 13020500

This Level four course is an occupation specific course designed to provide knowledge and skills for post-secondary education in health careers. Students develop advanced clinical skills needed for employment in the health care industry. Six hours each week are in clinical experience in a health care community setting and three hours each week are in the classroom. The classroom phase will include medical terminology where students will learn the "language of medicine." Students acquire word building skills by relating terms to body systems. Student Selection is based on grades in HST I & HST II, Science grades, attendance, & discipline. ****Students must have own transportation for this course. **Application is required with teacher/counselor approval. Uniforms are required and are worn during clinical rotations and field trips. Participation in HOSA is optional; however, students are encouraged to join. Membership dues are \$37.00 annually. There is a student clinical fee of \$ 42.00 that is required to participate in the Practicum of Health Science III class. An additional fee will be required for second semester for the certified nurse assistant course (CNA). The student's portion is \$200.00 for the CNA class. The class begins after the students return from winter break. Students who complete the CNA course and pass the state exam will receive a CNA certification. Weighted points will be awarded.**

7715 Medical Microbiology (Grade 10-12; 1 Credit)

PEIMS 13020700

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. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement.



Level 1 Medical Terminology

Level 2 Principles of Health Science

Level 3 Health Science Theory (Required)
Pharmacology (Required)
Anatomy and Physiology (Recommended)

Level 4 Practicum in Health Science (Required)
Medical Microbiology (Recommended)

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental Hygienist	Dental Hygienist	Dentist
Certified Patient Care Technician	Surgical Technologist	Medical/ Clinical Assistant		Physician Assistant
Certified Nurse Aide/Assistant	Medical Assistant			Family and General Practitioners
Pharmacy Technician	Pharmacy Aides			Pharmacist

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%
Dental Assistants	\$34,840	4,422	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
SkillsUSA Health Occupation Students of America (HOSA)	Volunteer at a community wellness center, hospital, assisted living, or nursing home.

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.

TCHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Medical Terminology	7745	13020300 (1 credit)	None	9
Principles of Health Science	7735	13020200 (1 credit)	PREQ: Biology or IPC, Medical Terminology	10
Health Science Theory	7829	13020400 (1 credit)	PREQ: Principles of Health Science, Biology and Chemistry	11
Pharmacology	7827	13020950 (1 credit)	PREQ: Principles of Health Science, Biology and Chemistry	11
Anatomy and Physiology	7742	13020600 (1 credit)	PREQ: Biology and a second science credit	11
Practicum in Health Science	7833	13020500 (2 credits)	PREQ: Health Science Theory and 3 credits in Science including Biology	12
Medical Microbiology	7715	13020700 (1 credit)	PREQ: Biology and Chemistry	12

7745 Medical Terminology (Grades 9-10; 1 Credit)

PEIMS 13020300

This course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, combining forms, and singular and plural forms, plus medical abbreviations and acronyms. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology. Participation in HOSA is optional; however, students are encouraged to join. Membership dues are \$32.00 annually.

7735 Principles of Health Science (HST I) (Grades 10-11; 1 Credit)

PEIMS 13020200

This is the first of a sequence of courses offered in the Health Science Technology Career Tech Program, which prepares the student for a career as a health care professional. Students will learn leadership skills, safety skills in health care setting, health care systems, Anatomy and physiology, professionalism, overview of careers in the health care field, as well as Life stages. Students will be certified with health care provider CPR as well. Health Occupations Students of America [HOSA] is a student organization for HST, Anatomy & Physiology, Forensic Science, Medical Microbiology, Pathophysiology, Medical Terminology and Vet Tech students only. Participation is optional; however, students are encouraged to join. Membership dues are \$37.00 annually.

7829 Health Science Theory (Grades 11-12; 1 Credit 1st Semester)

Co requisite: 7827 Pharmacology

PEIMS 13020400

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.

7827 Pharmacology (Grade 11-12; 1 Credit 2nd Semester)

Co requisite: 7829 Health Science Theory

PEIMS 13020950

The Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. Students will also obtain knowledge of medication safety, laws, terminology, pharmacy mathematics and duties. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers.

7742 Anatomy and Physiology (A&P) (Grade 12, 1 Credit)

PEIMS 13020600

Students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem-solving. Topics will be presented through the integration of biology, chemistry, and physics. Students will study the structures and functions of the human body and body systems. Students will investigate the body's responses to forces, maintenance of homeostasis, electrical interactions, transport systems, and energy systems. Outside research will be required. This course will satisfy the 3rd or 4th Science graduation requirement. **(Weighted points will be awarded.)**

7833 Practicum in Health Science (Pharmacy Technician) (Grade 12; 2 Credits)

PEIMS 13020500

This Level three course is an occupation specific course designed to provide knowledge and skills for postsecondary education in health careers. Students develop advanced clinical skills needed for employment in the health care industry. Six hours each week are in a pharmacy clinical experience in a health care community setting and three hours each week are in the classroom. The classroom phase will include learning medications, federal law requirements, patient safety and quality assurance, and order entry processing. Student Selection is based on grades in HST I & HST II, Science grades, attendance, & discipline **Students must have own transportation for this course. **Application is required with teacher/counselor approval. Uniforms are required and are worn during clinical rotations and field trips. There will be fees associated with this program. Participation in HOSA is optional; however, students are encouraged to join. Membership dues are \$37.00 annual

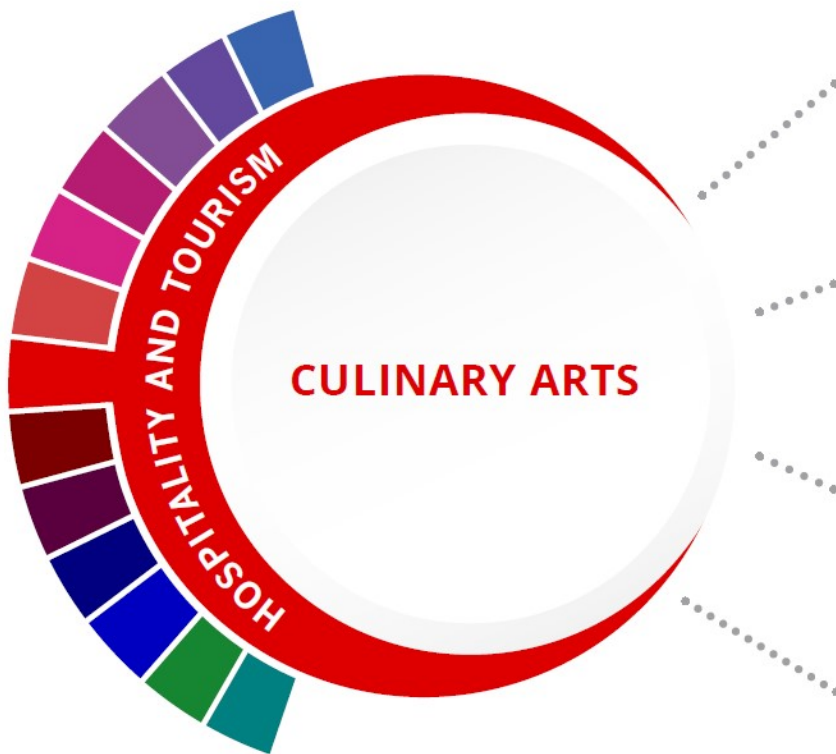
7715 Medical Microbiology (Grade 10-12; 1 Credit)

PEIMS 13020700

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. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement.



Hospitality and Tourism Cluster



Level 1 Business Information Management I

Level 2 Culinary Arts

Level 3 Advanced Culinary Arts

Level 4 Practicum in Culinary Arts

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Fundamentals Cook	Certified Chef	Hotel and Restaurant Management	Hotel and Restaurant Management	Hotel and Restaurant Management
Certified Fundamentals Pastry Cook	Foodservice Management Professional	Restaurant Culinary and Catering Management	Food Service Systems Administration/Management	Food Service Systems Administration/Management
ServSafe Manager	Comprehensive Food Safety	Hospitality Administration/Management, General	Hospitality Administration/Management, General	Hospitality Administration/Management, General
ManageFirst Professional	Certified Food and Beverage Executive	Culinary Arts/ Chef Training	Culinary Science and Food Service Management	Business Administration Management, General

Occupations	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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Family, Career, and Community Leaders of America (FCCLA), SkillsUSA, American Culinary Federation, Texas Restaurant Association	Plan a catering event or work for a catering company; participate in a cooking course; work in a restaurant; cook at home

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Culinary Arts program of study introduces CTE learners 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.



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.

Successful completion of the Culinary Arts program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020



TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 Credit)	None	9
Culinary Arts	7713	13022600 (2 credits)	None	10
Advanced Culinary Arts	7717	13022650 (2 credits)	PREQ: Culinary Arts	11
Practicum in Culinary Arts	7810	13022700 (2 credits)	PREQ: Advanced Culinary Arts	12

7767 Business Information Management I (Grades 9-12; 1 Credit)

PEIMS 13011400

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. **(This will be a required course for graduation starting with the freshman class of 2022.)**

7713 Culinary Arts (Grades 10-12; 2 Credits)

PEIMS 13022600

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, a Texas culinary specialist certification, or any other appropriate industry certification. This course may be offered as a laboratory-based or internship course. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

7717 Advanced Culinary Arts (Grades 11-12; 2 Credits)

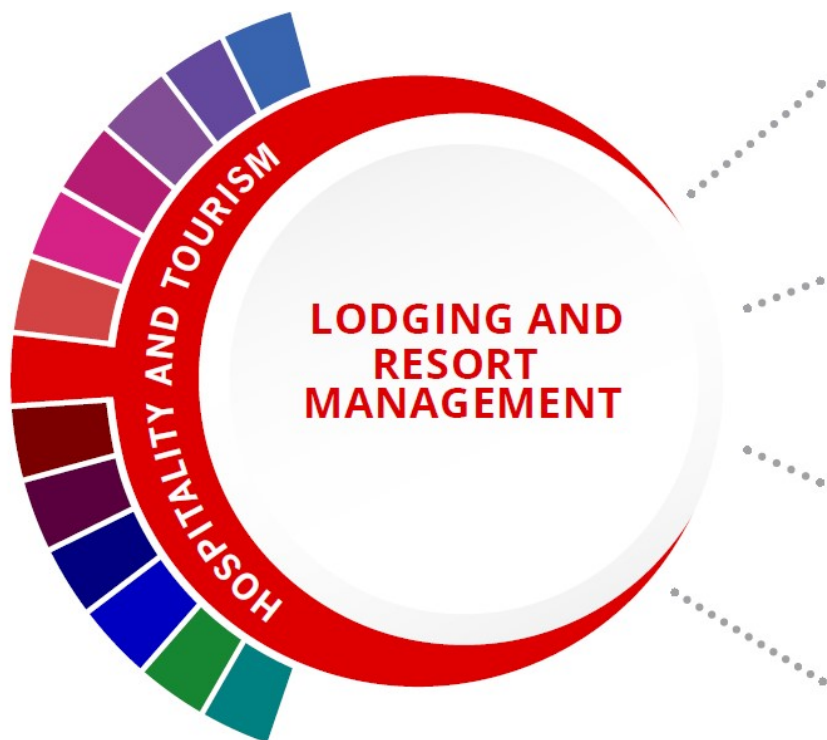
PEIMS 13022650

Advanced Culinary Arts will extend content and enhance skills introduced in Culinary Arts by in-depth instruction of industry-driven standards to prepare students for success in higher education, certifications, and/or immediate employment.

7810 Practicum in Culinary Arts (Grade 12; 2 Credits)

PEIMS 13022700

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 culinary art-based workplace.



Level 1 Principles of Hospitality and Tourism

Level 2 Hotel Management

Level 3 Hospitality Services

Level 4 Career Preparation I

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Certified Hospitality & Tourism Management Professional	Certified Hospitality Supervisor	Hotel/Motel Administration/Management	Hospitality Administration/Management, General	Hospitality Administration/Management, General
Certified Associate in Project Management	Certified Hotel Administrator	Business Administration and Management, General	Business Administration and Management, General	Business Administration and Management, General
Entrepreneurship and Small Business	Certification in Hotel Industry Analytics	Tourism and Travel Services Management	Hotel and Restaurant Management	Hospitality Administration
	Certified Guest Service Professional	Business Administration and Management	Marketing/Management, General	Marketing/Management, General

Occupations	Median Wage	Annual Openings	% Growth
General and Operations Managers	\$107,640	18,679	20%
Lodging Managers	\$48,381	396	19%
Administrative Services Managers	\$96,138	2,277	21%
Meeting, Convention, and Event Planners	\$47,446	1,083	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Family, Career, and Community Leaders of America (FCCLA), American Hotel and Lodging Association	Intern at a resort or lodging property; work at a hotel, summer camp or theme park;

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Lodging and Resort Management program of study introduces CTE learners to occupations and educational opportunities related to the logistical and operational management of lodging and resorts. This program of study also explores opportunities related to human resources, financial analysis, and marketing.



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.

Successful completion of the Lodging and Resort Management program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

TCHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Hospitality and Tourism	7800	13022200 (1 credit)	None	9
Hotel Management	7811	13022300 (1 credit)	PREQ: Principles of Hospitality and Tourism	10
Hospitality Services	7701	13022800 (2 credits)	PREQ: Hotel Management	11
Career Preparation I	7729	12701305 (2 credits)	PREQ: Hospitality Services	12

7800 Principles of Hospitality and Tourism (Grades 9-12: 1 Credit)

PEIMS 13022200

The hospitality and tourism industry encompasses lodging; travel and tourism; recreation, amusements, attractions, and resorts; and restaurants and food beverage service. The hospitality and tourism industry maintains the largest national employment base in the private sector. Students use knowledge and skills that meet industry standards to function effectively in various positions within this multifaceted industry. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

7811 Hotel Management (Grades 10-12; 1 Credit)

PEIMS 13022300

Hotel Management focuses on the knowledge and skills needed to pursue staff and management positions available in the hotel industry. This in-depth study of the lodging industry includes departments within a hotel such as front desk, food and beverage, housekeeping, maintenance, human resources, and accounting. This course will focus on, but not be limited to, professional communication, leadership, management, human resources, technology, and accounting.

7701 Hospitality Services (Grades 10-12; 2 Credits)

PEIMS 13022800

The hospitality and tourism industry encompasses lodging; travel and tourism; recreation, amusements, attractions, and resorts; restaurants and food/beverage services. The hospitality and tourism industry maintains the largest national employment base in the private sector. Students use knowledge and skills that meet industry standards to function effectively in various positions within this multifaceted industry. Hospitality Services provides students with preparation to pursue high-demand and high-skill careers in hospitality related industries.

7729 Career Preparation I (Grade 12; 2 Credits)

PEIMS 12701305

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 and Public Service Cluster



Level 1 Principles of Law, Public Safety, Corrections, and Security

Level 2 Law Enforcement I

Level 3 Law Enforcement II

Level 4 Practicum in Law, Public Safety Corrections, and Security (Required)

Forensic Science (Recommended)

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

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Texas Public Service Association; criminal justice clubs	Attend court hearings and other legal procedures

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Law Enforcement program of study teaches CTE learners about the development of, adherence to, and protection of various branches of law. Students will 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, 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.

TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Law, Public Safety, Corrections, and Security	7834	13029200 (1 credit)	None	9
Law Enforcement I	7835	13029300 (1 credit)	PREQ: Principles of Law, Public Safety, Corrections, and Security	10
Law Enforcement II	NEW for the 2023-2024 School Year	13029400 (1 credit)	PREQ: Law Enforcement I	11
Practicum in Law, Public Safety, Corrections, and Security	NEW for the 2024-2025 School Year	13030100 (2 credits)	PREQ: Law Enforcement II	12
Forensic Science	7828	13029500 (1 credit)	PREQ: Biology and Chemistry	12

7834 Principles of Law, Public Safety, Corrections, & Security (Grades 9-10; 1 Credit)

PEIMS 13029200

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.

7835 Law Enforcement I (Grades 10-12; 1 Credit)

PEIMS 13029300

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.

Law Enforcement II (Grades 11-12; 1 Credit) NEW for the 2023-2024 school year!

PEIMS 13029400

Law Enforcement II provides the knowledge and skills necessary to prepare for a career in law enforcement. Students will understand ethical and legal responsibilities, patrol procedures, first responder roles, telecommunications, emergency equipment operations, and courtroom testimony.

Practicum in Law, Public Safety, Corrections, and Security (Grades 11-12; 2 Credits) NEW for the 2024-2025 school year! PEIMS 13030100

The practicum course is designed to give students supervised practical application of previously studied knowledge and skills in law, public safety, corrections, and security. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

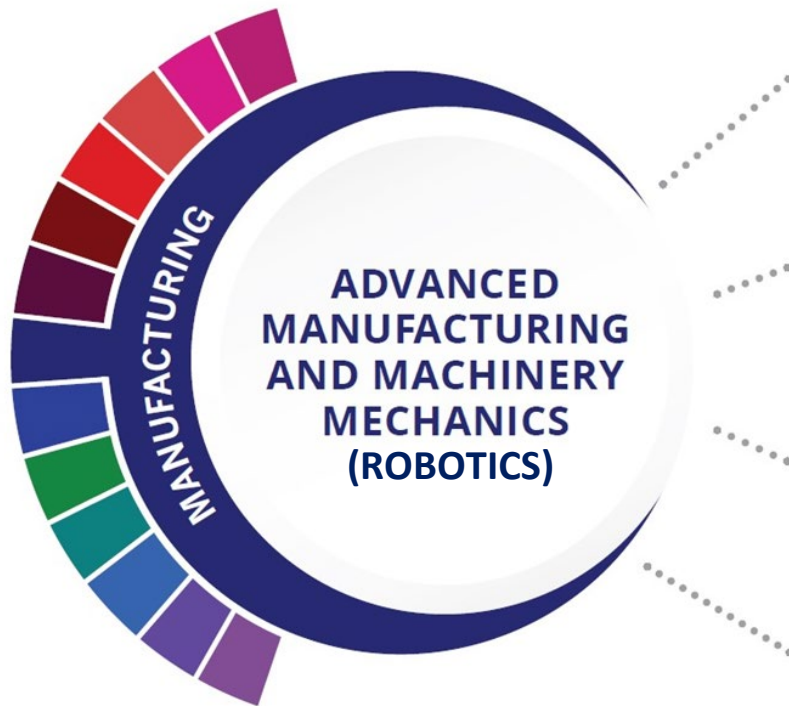
7828 Forensic Science (Grades 11-12; 1 Credit)

PEIMS 13029500

This course uses a structured and scientific approach to the investigation of crimes and the psychology of criminal behavior. Students will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection, and scientific procedures used to solve crimes. Using scientific methods, students will collect and analyze evidence through case studies and simulated crime scenes. Students will learn the history, legal aspects, and career options for forensic science. Outside research will be required. Students will be required to maintain a bound composition notebook. This course satisfies a Science credit requirement for the Foundation High School Program.



Manufacturing Cluster



Level 1 Principles of Applied Engineering

Level 2 Engineering Design and Presentation I

Level 3 Robotics I
Robotics II

Level 4 Practicum in Manufacturing

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FANUC Robot Operator 1	Engineer, Professional	Electro-mechanical Engineering/Technology	Electrical Engineering	Electrical Engineering
Mastercam Associate Level Certification	Certified Quality Technician	Certified Quality Technician	Industrial Engineering	Industrial Engineering
NCCER Industrial Maintenance Mechanic	Plant Maintenance Technologist	Industrial Mechanics and Maintenance Technology	Mechanical Engineering	Mechanical Engineering
NIMS Industrial Technology Maintenance - Maintenance Operations				

Occupations	Median Wage	Annual Openings	% Growth
Electro-Mechanical Assemblers	\$30,160	951	9%
Electro-Mechanical Technicians	\$56,555	127	9%
Industrial Machinery Mechanics	\$49,816	3,788	27%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Participate in SkillsUSA and local STEM events	Apprenticeship at a local business or industry American Welding Society

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Advanced Manufacturing and Machinery Mechanics program of study focuses on the assembly, operation, maintenance, and repair of electromechanical equipment or devices. CTE learners may work in a variety of mechanical fields, gaining knowledge and experience in robotics, refinery and pipeline systems, deep ocean exploration, or hazardous waste removal. CTE concentrators may work in a variety of fields of engineering.



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

Successful completion of the Advanced Manufacturing and Machinery program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - July 2020

TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Applied Engineering	7823	13036200 (1 credit)	None	9
Engineering Design and Presentation I	7824	13036500 (1 credit)	PREQ: Algebra I	10
Robotics I	7820	13037000 (1 credit)	PREQ: Occupational Safety and Environmental Technology I	11
Robotics II	7821	13037050 (1 credit)	PREQ: Robotics I	11
Practicum in Manufacturing	7818	13033000 (2 credits)	PREQ: Robotics II	12

7823 Principles of Applied Engineering (Grade 9-10; 1 Credit)

PEIMS 13036200

Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and **mathematics** and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects.

7824 Engineering Design and Presentation I (Grades 10-12; 1 Credit)

PEIMS 13036500

Engineering Design and Presentation I is a continuation of knowledge and skills learned in Principles of Applied Engineering. Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects. Through implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting and what is required to gain and maintain employment in these areas.

7820 Robotics I (Grades 11-12; 1 Credit 1st Semester) Co requisite: 7821 Robotics II

PEIMS 13037000

7821 Robotics II (Grades 11-12; 1 Credit 2nd Semester) Co requisite: 7820 Robotics I

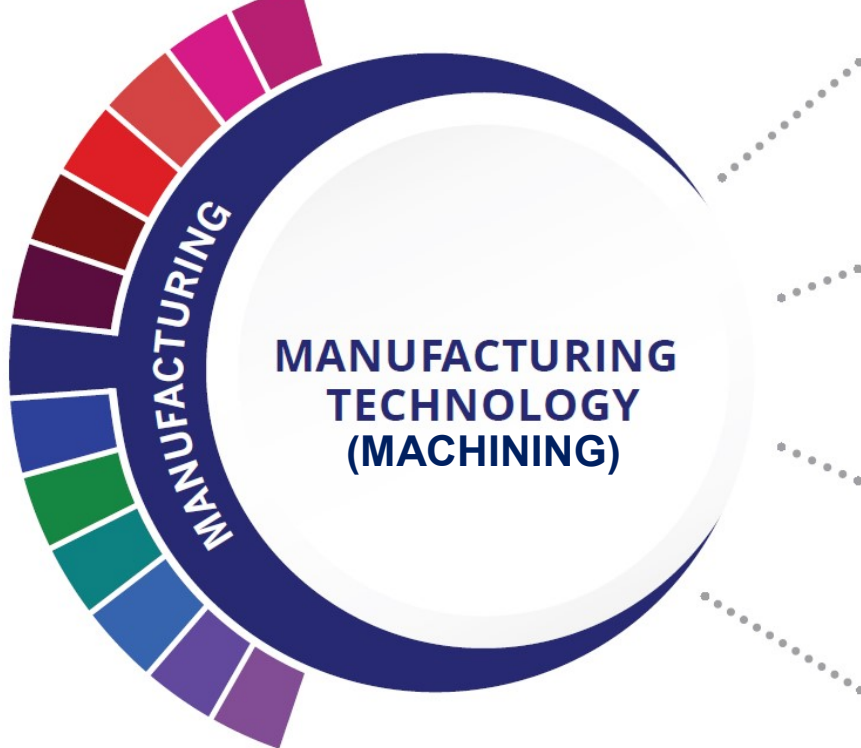
PEIMS 13037050

Robotics I and II uses a competition format to teach scientific method and engineering design. In the fall and early spring, students enrolled in this course prepare for SkillsUSA and VEX robotics competitions by designing, building, and programming a robot that can complete specified tasks. Students use a variety of tools to build the robot and must document their work with an array of computer skills including, but not limited to, Word, PowerPoint, and RobotC. Tasks change from year to year and students may take this course more than once. Students taking this course should expect to attend 3-5 Saturday competition dates, and 2-3 after school shop periods per week during the competition season. **Weighted points will be awarded.**

7818 Practicum in Manufacturing (Grades 11-12; 2 Credits)

PEIMS 13033000

Practicum in Manufacturing uses a competition format to teach scientific method and engineering design. In the fall and early spring, students enrolled in this course prepare for SkillsUSA and VEX robotics competitions by designing, building, and programming a robot that can complete specified tasks. Students use a variety of tools to build the robot and must document their work with an array of computer skills including, but not limited to, Word, PowerPoint, and RobotC. Tasks change from year to year and students may take this course more than once. Students taking this course should expect to attend 3-5 Saturday competition dates, and 2-3 after school shop periods per week during the competition season. **Weighted points will be awarded.**



Level 2 Precision Metal Manufacturing I
Diversified Manufacturing I

Level 3 Precision in Metal Manufacturing II

Level 4 Practicum in Manufacturing

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
MSSC Certified Production Technician	Certified Welder or Welder Inspector	Welding Technology/ Welder	Welding Engineering Technology/ Technician	Welding Engineering Technology/ Technician
ISCET Associate- Level Certified Electronics Technician	Machining Level 1 - CNC Milling: Programming Setup & Operations	Machine Shop Technology/ Assistant	Biomedical Technology/ Technician	Occupational Health and Industrial Hygiene
Mastercam Professional Level Certification	Certified Welding Engineering	Operations Management and Supervision	Operations Management and Supervision	Operations Management and Supervision
NIMS Industrial Technology Maintenance - Basic Mechanical System	Certified Environmental, Safety, and Health Trainer	Occupational Safety and Health Technology/ Technician	Environmental Health	Environmental Health

Occupations	Median Wage	Annual Openings	% Growth
Mechanical Engineering Technicians	\$57,117	453	9%
CNC Machine Operators	\$39,250	1,319	12%
Aerospace Engineering and Operations Technicians	\$60,757	114	9%
Electrical and Electronics Engineering Technicians	\$60,382	1,439	9%
Industrial Engineering Technicians	\$61,672	326	9%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Participate and compete in SkillsUSA Job shadow a machinist	Apprenticeship at a local business or industry American Welding Society

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Manufacturing Technology program of study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to set up and operate a variety of machine tools to produce precision parts and instruments. Students will also learn how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.



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

Successful completion of the Manufacturing Technology program of study will fulfill requirements of the Business and Industry and STEM Endorsement if math and science requirements are met. Revised - July 2020



ITC

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Manufacturing	7774	13032200 (1 credit)	None	9
Diversified Manufacturing I	7775B	13032650 (1 credit)	PREQ: Principles of Manufacturing	10
Precision Metal Manufacturing I	7775A NEW for 2023-2024 School Year!	13032500 (1 credit)	PREQ: Principles of Manufacturing	10
Precision Metal Manufacturing II	7871 NEW for 2024-2025 School Year!	13032600 (2 credits)	PREQ: Precision Metal Manufacturing I	11
Practicum in Manufacturing	7875 NEW for 2025-202 School Year!	13033000 (2 credits)	PREQ: Precision Metal Manufacturing II	12

7774 Principles of Manufacturing (Machinist ITC Building) (Grades 9-12; 1 Credit)

PEIMS 13032200

In Principles of Manufacturing, students are introduced to knowledge and skills used in the proper application of principles of manufacturing. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students will gain an understanding of what employers require to gain and maintain employment in manufacturing careers. **Drug testing is mandatory for this course.**

7775B Diversified Manufacturing I (Machinist ITC Building) (Grades 10-12; 1 Credit)

Co Requisite: 7775

PEIMS

13032650
In Diversified Manufacturing I, students gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. The study of manufacturing systems allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing setting. Diversified Manufacturing I allows students the opportunity to understand the process of mass production by using a wide variety of materials and manufacturing techniques. Knowledge about career opportunities, requirements, and expectations and the development of skills prepare students for workplace success. **Drug testing is mandatory for this course.**

7775A Precision Metal Manufacturing (Machinist ITC Building) (Grades 10-12; 1 Credit) Co Requisite: 7824

PEIMS 13032500

Rapid advances in technology have created new career opportunities and demands in many industries. Precision Metal Manufacturing provides the knowledge, skills, and technologies required for employment in metal technology systems. This course may also address a variety of materials in addition to metal such as plastics, ceramics, and wood. Students develop knowledge of the concepts and skills related to these systems to apply them to personal and career development. This course supports integration of academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. Students will be required to purchase boots. **Drug testing is mandatory for this course.**

7871 Precision Metal Manufacturing II (Machinist ITC Building) (Grades 11-12; 2 Credits)

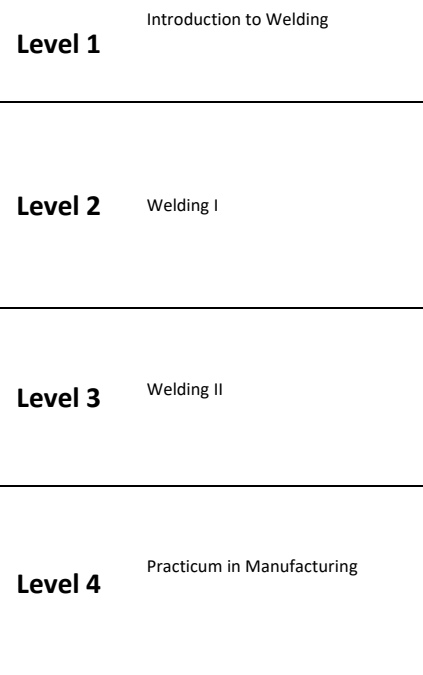
PEIMS 13032600

This course is designed to enhance the technical knowledge and skills learned in Precision Metal Manufacturing by allowing students the opportunity to explore career preparation that has resulted from the rapid advances in technology and career demands in high-skill, high-wage opportunities. Advanced Precision Metal Manufacturing provides the knowledge, skills, and technologies required for employment in a globally competitive manufacturing environment. This course may also address a variety of materials in addition to metal such as plastics, ceramics, and wood. Students need to develop concepts and skills related to this system in order to apply them to personal and professional development. Career and technical education support the integration of academic and career and technical knowledge and skills. Students must have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for future success. Students will be required to purchase boots. **Drug testing is mandatory for this course.**

7875 Practicum in Manufacturing (Machinist - ITC Building) (Grade 12; 2 Credits)

PEIMS 13033000

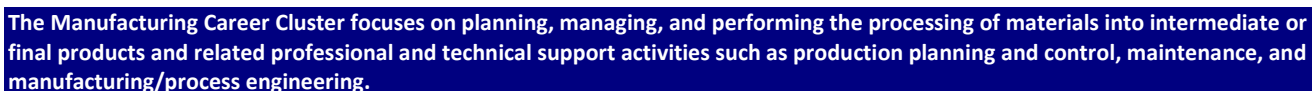
The Practicum in Manufacturing course is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Students will be required to purchase boots. **Drug testing is mandatory for this course.**



Occupations	Median Wage	Annual Openings	% Growth
Welders, Cutters, Solderers, and Braziers	\$41,350	6,171	9%
Welding Soldering and Brazing Machine Setters, Operators and Tenders	\$40,040	280	9%

Exploration Activities:	Work Based Learning Activities:
Participate and compete in SkillsUSA Job shadow a machinist	Apprenticeship at a local business or industry American Welding Society

The Welding program of study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.



ITC

Class of 2026 and Beyond

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Introduction to Welding	7813	13032250 (1 credit)	None	9
Welding I	7785	13032300 (2 credits)	PREQ: Intro. To Welding	10
Welding II	7799	13032400 (2 credits)	PREQ: Welding I	11
Practicum in Manufacturing	NEW for the 2025-2026 school year	13033000 (2 credits)	PREQ: Welding II	12

Class of 2023 - 2025

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 Credit)	None	9
Introduction to Welding	7813	13032250 (1 credit)	None	10
Welding I	7785	13032300 (2 credits)	PREQ: Intro. To Welding	11
Welding II	7799	13032400 (2 credits)	PREQ: Welding I	12

7713 Intro to Welding (Grades 9-10; 1 Credit)**PEIMS 13032250**

This course provides the student with job skills in the following areas: electric arc welding, oxy/acetylene welding and brazing, basic layout and fabrication, and the development of good work habits. It prepares students to pass the entry level welding exams required for employment. Students must furnish appropriate work clothes to be left in the lab. Students will be required to purchase boots. **(Drug testing required for this course.)**

7785 Welding I (ITC Building) (Grades 10-11; 2 Credits)**PEIMS 13032300**

This course provides the student with job skills in the following areas: electric arc welding, oxy/acetylene welding and brazing, basic layout and fabrication, and the development of good work habits. It prepares students to pass the entry level welding exams required for employment. Students must furnish appropriate work clothes to be left in the lab. Students will be required to purchase boots. **(Drug testing required for this course.)**

7799 Welding II (ITC Building) (Grade 11-12; 2 Credits)**PEIMS 13032400**

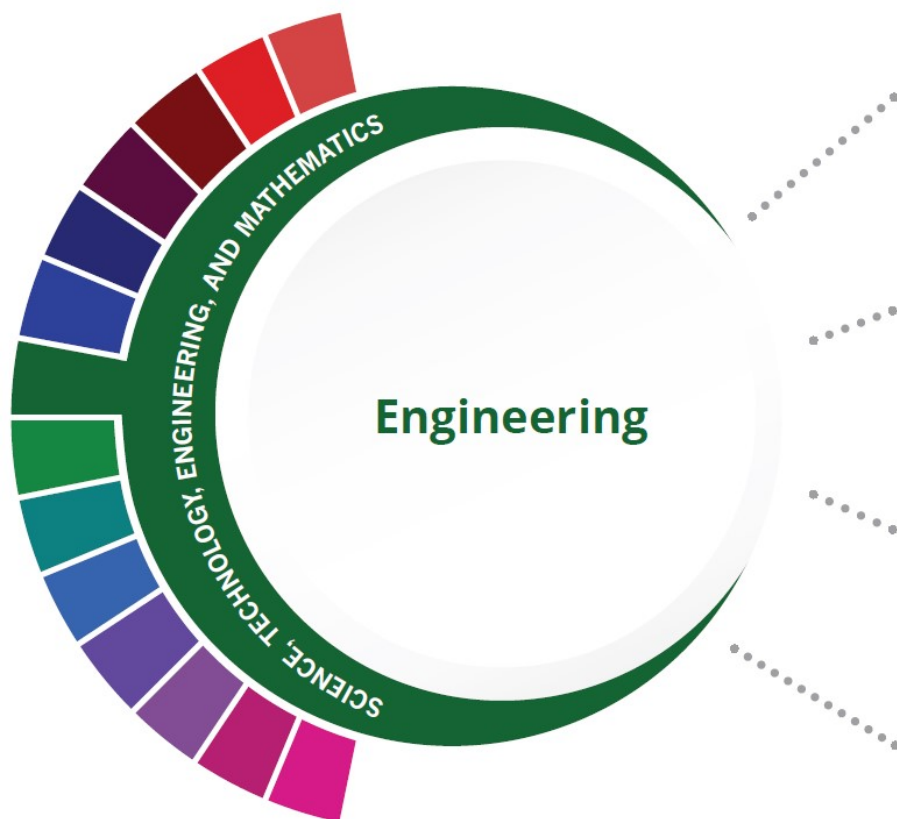
This course provides the student with job skills in the following areas: advanced electric arc welding; SMAW, GTAW, and GMAW welding of plate and pipe; advanced layout and fabrication; and development of self motivated work skills and habits. Students will be required to purchase boots. **(Drug testing required for this course.)**

Practicum in Manufacturing (Welding- ITC Building) (Grade 12; 2 Credits) NEW for the 2025-2026 school year!**PEIMS 13033000**

In the Practicum in Information Technology, 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. **(Drug testing required for this course.)**



Science, Technology, Engineering, and Mathematics Cluster



Level 1 Introduction to Engineering Design (PLTW)

Level 2 Principles of Engineering

Level 3 Engineering and Design and Development (PLTW)

Level 4 Practicum in STEM

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU)-Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/ Technician, General	CAD/CADD Drafting and/or Design Technology/ Technician	Mechanical Engineering
Certified Engineering Technician-Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/Analyst		Construction Engineering Technology/ Technician	

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

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Participate in competitions like Skills USA	Engineering internship Job shadow a machinist

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

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



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.

Successful completion of the Engineering program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met. Revised - July 2020

TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Introduction to Engineering Design (PLTW)	7790	N1303742 (1 credit)	None	9
Principles of Engineering (PLTW)	7791	13037500 (1 credit)	PREQ: Algebra I and Biology Chemistry, Integrated Physics, and Chemistry (IPC), or Physics, Intro to Engineering Design	10
Engineering Design and Development (PTLW)	7793	N1303749 (1 credit)	PREQ: Principles of Engineering	11
Practicum in Science, Technology, Engineering, and Mathematics	7822	13037400 (2 credits)	PREQ: Algebra I and Geometry, Engineering Design and Development	12

7790 Introduction to Engineering Design (IED) (Grades 9-10; 1 Credit)

PEIMS N1303742

Introduction to Engineering is the first course in the Project Lead the Way – Pathway to Engineering sequence. The major focus of this course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards and technical documentation. Students dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. They work both individually and in teams to design solutions to a variety of problems using 3D modeling software and use an engineering notebook to document their work. **(Weighted points will be awarded. This course qualifies for Dual Credit through UT Tyler, see Teacher)**

7791 Principles of Engineering (POE) (Grades 10-11; 1 Credit)

PEIMS 13037500

Students employ engineering and scientific concepts in the solution of engineering design problems. 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. This course satisfies a 3rd or 4th Science credit for graduation. **(Weighted points will be awarded. This course qualifies for Dual Credit through UT Tyler, see Teacher).**

7793 Engineering Design and Development (EDD) (Grade 11; 1 Credit)

PEIMS N1303749

The knowledge and skills students acquire throughout PLTW Engineering come together in EDD as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards, completing EDD ready to take on any post-secondary program or career. This is an engineering research course in which students will work in teams to research, design, test, and construct a solution to an open-ended engineering problem. This course satisfies a 3rd or 4th Science credit for graduation. **(Weighted points will be awarded.)**

7822 Practicum in STEM (Grade 12; 2 Credits)

PEIMS 13037400

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.



Regional Career and Technical Programs of Study



Level 1	Business Information Management I
Level 2	Introduction to Cosmetology
Level 3	Cosmetology I/ Lab
Level 4	Cosmetology II/ Lab

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Cosmetology Operator License	Certified Aesthetic Laser Operator	Cosmetology/ Cosmetologist, General		
Cosmetology Esthetician Specialty License	Cosmetologist	Aesthetician/ Esthetician and Skin Care Specialist		
Cosmetology Manicurist Specialty License	Certified Spa Supervisor	Salon/Beauty Salon Management/ Manager		
Barber Operating License	Nail Technician/ Specialist and Manicurist	Cosmetology, Barber/Styling and Nail Instructor		

Occupations	Median Wage	Annual Openings	% Growth
First-Line Supervisors of Personal Service Workers	\$36,941	1,634	24%
Barbers	\$28,267	348	14%
Hairdressers, Hairstylists, and Cosmetologists	\$21,507	3,489	22%
Manicurists and Pedicurists	\$21,715	418	45%
Shampooers	\$18,720	139	24%
Skincare Specialists	\$26,437	637	22%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES	
Exploration Activities:	Work Based Learning Activities:
Participation in a Career and Technical Student Organization such as TIVA, or SKILLS USA	Job shadow a cosmetologist Work part-time at a beauty salon, spa, or barbershop

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Cosmetology and Personal Care Services program of study introduces CTE learners to knowledge and skills related to providing beauty and personal care services. CTE concentrators may learn about or practice managing personal care facilities and coordinating or supervising personal service workers.



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.



TCHS and LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 Credit)	None	9
Introduction to Cosmetology	7780	13025100 (1 Credit)	None	10
Cosmetology I/Lab	7781	13025210 (3 credits)	PREQ: Intro to Cosmetology	11
Cosmetology II/Lab	7782	13025310 (3 credits)	PREQ: Cosmetology I	12

7767 Business Information Management I (Grades 9-12; 1 Credit)

PEIMS 13011400

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. **(This will be a required course for graduation starting with the freshman class of 2022.)**

7780 Introduction to Cosmetology (Grades 10; 1 Credit)

PEIMS 13025100

In Introduction to Cosmetology, students explore careers in the cosmetology industry. To prepare for success, students must have academic and technical knowledge and skills relative to the industry. Students may begin to earn hours toward state licensing requirements. Students will be required to purchase the TDLR permit and a small fee for supplies.

7781 Cosmetology I/Lab (Grade 11; 3 Credits)

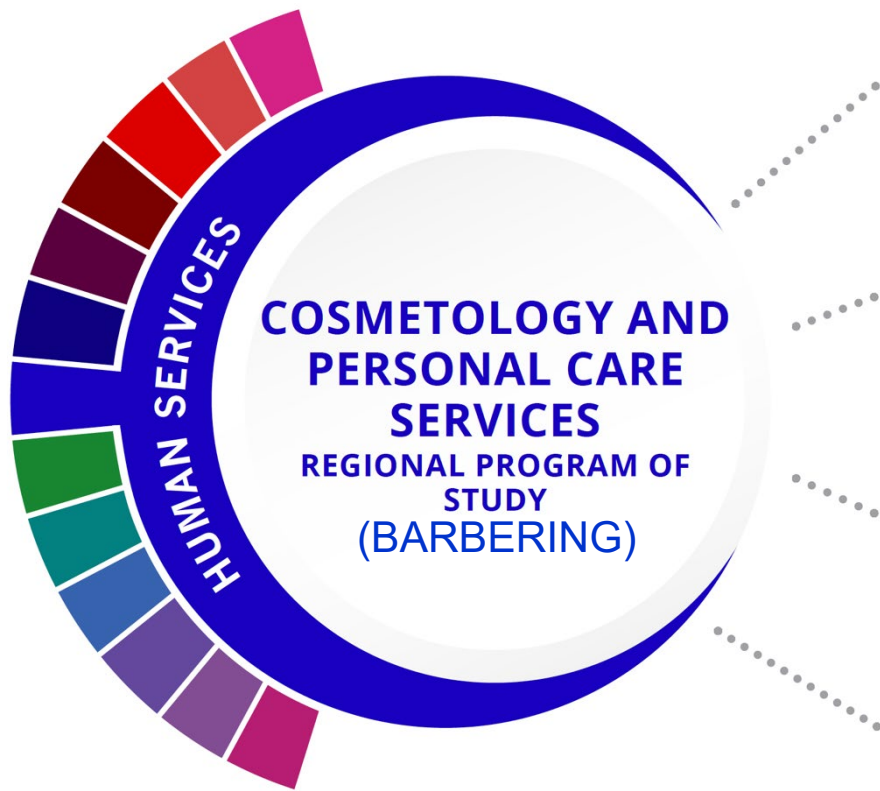
PEIMS 13025210

Cosmetology I is the first phase of a two-year program. Students are trained in all phases of Cosmetology. This class prepares students to take a state exam so they can earn a Cosmetology license. Students are required to sign up and be approved for the class and attend a parent meeting. There is a fee for this class and it is recommended to let your counselor know in the 9th grade if you plan to enroll in this class. **(Must attend parent meeting scheduled by teacher.)**

7782 Cosmetology II/Lab (Grade 12; 3 Credits)

PEIMS 13025310

Cosmetology II is a continuation of Cosmetology I. Students are taught employability skills and work on clients in a real salon setting. Upon completion of the program requirements and meeting the required hours, students will be given the opportunity to take the state board licensure examination. The school will pay for the students to take their exam. A \$60.00 deposit is required from the student and will be returned when the student takes the exam. Licensed students can go directly in a salon for employability. Advanced technical classes are offered to students to better prepare them for employability. Students are required to pay for the following: Advanced class-price of products for class.



Level 1 Business Information Management I

Level 2 Introduction to Barbering

Level 3 Barbering I

Level 4 Barbering II

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Cosmetology Operator License	Certified Aesthetic Laser Operator	Cosmetology/Cosmetologist, General		
Cosmetology Esthetician Specialty License	Cosmetologist	Aesthetician/Esthetician and Skin Care Specialist		
Cosmetology Manicurist Specialty License	Certified Spa Supervisor	Salon/Beauty Salon Management/Manager		
Barber Operating License	Nail Technician/Specialist and Manicurist	Cosmetology, Barber/Styling and Nail Instructor		

Occupations	Median Wage	Annual Openings	% Growth
First-Line Supervisors of Personal Service Workers	\$36,941	1,634	24%
Barbers	\$28,267	348	14%
Hairdressers, Hairstylists, and Cosmetologists	\$21,507	3,489	22%
Manicurists and Pedicurists	\$21,715	418	45%
Shampooers	\$18,720	139	24%
Skincare Specialists	\$26,437	637	22%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Participation in a Career and Technical Student Organization such as TIVA, or SKILLS USA	Job shadow a cosmetologist Work part-time at a beauty salon, spa, or barbershop

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Cosmetology and Personal Care Services program of study introduces CTE learners to knowledge and skills related to providing beauty and personal care services. CTE concentrators may learn about or practice managing personal care facilities and coordinating or supervising personal service workers.



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.

Successful completion of the Cosmetology and Personal Care Services regional program of study will fulfill requirements of the Public Service Endorsement. See the regions approved to offer this program of study at <https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/regional-programs-of-study>. Revised - July 2020.



LMHS

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 Credit)	None	9
Introduction to Barbering	7886	13025100 (1 Credit)	None	10
Barbering I	NEW for the 2023-2024 school year!	N1302534 (3 Credits)	PREQ: Introduction to Cosmetology	10-12
Barbering II	NEW for the 2024-2025 school year!	N1302535 (3 Credits)	PREQ: Barbering I	10-12

7767 Business Information Management I (Grades 9-12; 1 Credit)

PEIMS 13011400

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. **(This will be a required course for graduation starting with the freshman class of 2022.)**

7886 Introduction to Barbering (Grades 10; 1 Credit)

PEIMS 13025100

In Introduction to Cosmetology, students explore careers in the cosmetology industry. To prepare for success, students must have academic and technical knowledge and skills relative to the industry. Students may begin to earn hours toward state licensing requirements. Students will be required to purchase the TDLR permit and a small fee for supplies. **(This course will begin for Barbering students in 2022-2023)**

Barbering I (Grades 10-12; 3 Credits) NEW for the 2023-2024 school year!

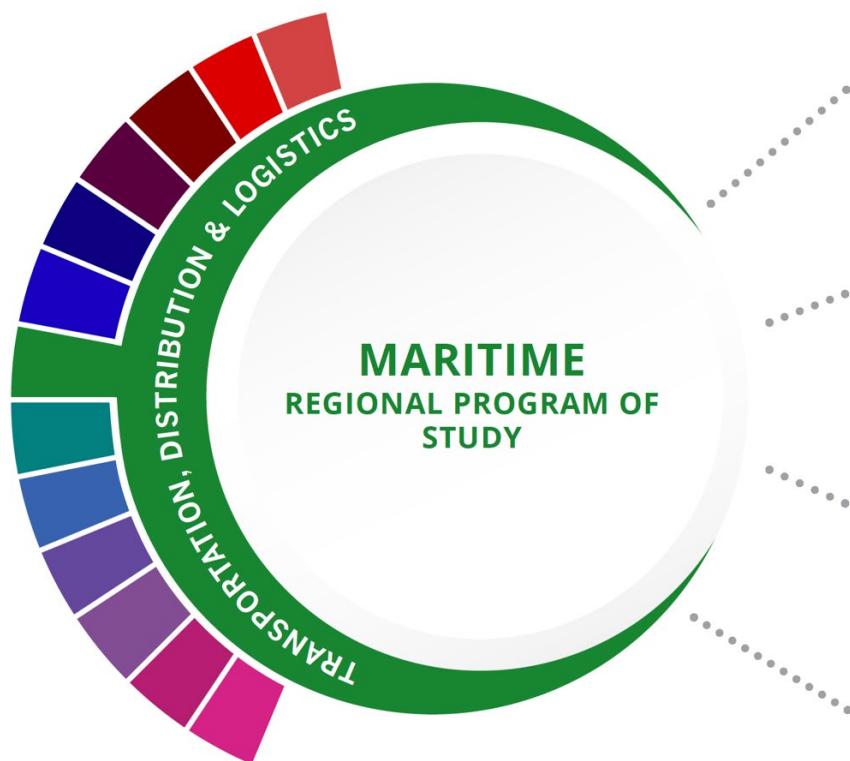
PEIMS N1302534

Barbering is an extended course of study that enables students to become licensed barbers through Texas Department of Licensing and Regulation (TDLR). Barbering is one program of study that allows students to earn an industry certificate that launches them into a professional career immediately, yet also specifies rigorous core curricula that prepares the student to be successful in a post-secondary learning environment.

Barbering II (Grades 10-12; 3 Credits) NEW for the 2024-2025 school year!

PEIMS N1302535

Barbering is an extended course of study that enables students to become licensed barbers through Texas Department of Licensing and Regulation (TDLR). Barbering is one program of study that allows students to earn an industry certificate that launches them into a professional career immediately, yet also specifies rigorous core curricula that prepares the student to be successful in a post-secondary learning environment.



Level 1 Principles of Maritime Science

Level 2 Maritime Science I
Introduction to Shipboard Engineering

Level 3 Maritime Science II
Advanced Shipboard Engineering

Level 4 Practicum in Distribution and Logistics

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	Motorboat Operators	Captains, Mates, and Pilots	Marine Transportation	Maritime Resources Management
	Sailors and Marine Oilers		Marine Transportation	Maritime Administration and Logistics
			Transportation, Storage, and Distribution Managers	

Occupations	Median Wage	Annual Openings	% Growth
Sailors and Marine Oilers	\$41,018	387	9%
Captains, Mates, and Pilots of Water Vessels	\$117,686	413	16%
Motorboat Operators	\$44,970	22	16%
Ship Engineers	\$76,752	87	15%

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Participate in SkillsUSA	Apprenticeships Internships Part-time or summer employment

The Maritime regional program of study introduces CTE learners to the occupations and education opportunities related to operating water vessels, maintenance procedures, maritime navigational aids, maritime traffic controls, and communications equipment to ensure conformance with federal safety regulations.



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.

ITC

Class of 2026 or Beyond

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Principles of Maritime Science	7783	N1304661 (1 credit)	None	9
Maritime Science I	7784	N1304662 (1 credit)	PREQ: Principles or Maritime Science	10
Introduction to Shipboard Engineering	7861	N1304666 (1 credit)	PREQ: Principles of Maritime Science	10
Maritime Science II	7884	N1304663 (1 credit)	PREQ: Maritime Science I and Introduction to Shipboard Engineering	11
Advanced Shipboard Engineering	7862	N1304667 (1 credit)	PREQ: Introduction to Shipboard Engineering	11
Practicum in Distribution and Logistics	7885	13040470 (2 credits)	PREQ: Maritime Science I and II	12

Class of 2023 - 2025

COURSE NAME	LOCAL ID	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	Grade
Business Information Management I	7767	13011400 (1 Credit)	None	Carpentry 9
Maritime Science I	7784	N1304662 (1 credit)	PREQ: None	10
Introduction to Shipboard Engineering	7861	N1304666 (1 credit)	PREQ: None	10
Maritime Science II	7884	N1304663 (1 credit)	PREQ: Principles of Maritime/Introduction to Distribution and Logistics	11
Advanced Shipboard Engineering	7862	N1304667 (1 credit)	PREQ: Principles of Maritime/Introduction to Distribution and Logistics	11
Practicum in Distribution and Logistics	7885	13040470 (2 credits)	PREQ: Maritime Science I and II	12

7783 Principles of Maritime Science (ITC Building) (Grades 10-12; 1 Credit)**PEIMS N1304661**

This course is designed to instruct students in the principles of maritime science as outlined by the Code of Federal Regulations (CFR) directly related to the National Maritime Center and the Merchant Mariner Credentialing Program. **Drug testing is mandatory for this course.**

7784 Maritime Science I (ITC Building)**PEIMS N1304662****(Grades 11-12; 1 Credit) Co Requisite: 7861 Introduction to Shipboard Engineering**

This course provides training for entry-level employment and a basis for continuing education in deck and piloting careers and merchant mariner credentialing. This course instructs students in progressing aspects of vessel piloting and navigation, safety of life at sea, voyage planning, shipboard damage control, and marine pollution. **Drug testing is mandatory for this course.**

7861 Introduction to Shipboard Engineering (ITC Building)**PEIMS N1304666****(Grades 10-12; 1 Credit) Co Requisite: 7784 Maritime Science I**

Introduction to Shipboard Engineering is designed to provide training for entry-level employment and/or a basis for continuing education in shipboard engineering and merchant mariner credentialing. This course will build on the foundational knowledge previously acquired in the Principles of Maritime Science course. Shipboard engineering includes knowledge of the functions, troubleshooting, maintenance and repair of the systems and components of maritime engines such as centrifuge engines, outboards, and portable dewatering pumps. In addition, students will receive instruction in safety, emergency procedures, and shipboard auxiliary systems. **Drug testing is mandatory for this course.**

7884 Maritime Science II (ITC Building)**PEIMS N1304663****(Grades 11-12; 1 Credit) Co Requisite: 7862 Advanced Shipboard Engineering**

Students will develop new skills such as advanced navigation coordination, collision avoidance, briefing the command, electronic navigation theory, basic, routine and emergency ship handling procedures, and external communications. **Drug testing is mandatory for this course.**

7862 Advanced Shipboard Engineering (ITC Building)**PEIMS N1304667****(Grades 11-12; 1 Credit) Co Requisite: 7884 Maritime Science II**

The Advanced Shipboard Engineering course includes advanced knowledge of the function, design, and relationships of the systems and components of propulsion and habitability systems. This course will build on knowledge and skills established in the Principles of Maritime Science and Introduction to Shipboard Engineering courses. This course is designed to provide advanced training for employment, licensures, or post-secondary degree programs in the shipboard engineering industry. Instruction includes functions and components of cooling, fuel, lubricating, electrical, air conditioning and refrigeration, propulsion, and mechanical systems of maritime diesel engines. In addition, the students will receive instruction in safety, engine instruments, and environmental compliance. **Drug testing is mandatory for this course.**

7885 Practicum in Distribution and Logistics (ITC Building) (Grade 12; 2 Credits)**PEIMS 13040470**

Practicum in Distribution and Logistics 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 work based. **Drug testing is mandatory for this course.**



TCISD Industrial Trades Center (ITC)

MANDATORY DRUG-TESTING PROGRAM

Because certain student activities offered are “safety sensitive,” and because the use of illegal drugs or alcohol may well pose a significant threat to the health and safety of all students who participate in these activities, the District has determined the need to implement a mandatory random drug-testing program.

The purposes of the drug-testing program are to prevent injury, ill-ness, and harm resulting from the use of illegal and performance-enhancing drugs or alcohol; help enforce a drug-free educational environment; deter student use of illegal and performance-enhancing drugs or alcohol; and educate students regarding the harm caused by the use of illegal and performance-enhancing drugs or alcohol.

The District requires drug testing of any student in grades 9–12 who choose to participate in the District industrial trades center programs.

The District shall provide each parent and student a copy of the drug-testing policy and consent form prior to the student's participation in the covered courses or activities.

The District shall conduct meetings with parents and interested student participants prior to the beginning of the fall semester.

District employees shall explain the drug-testing program, review the policy and consent form, and provide an educational presentation on the harmful effects of drug and alcohol abuse. Student attendance at the orientation meeting is mandatory; how-ever, parent attendance is not required.

Before a student shall be eligible to participate in the specified activities, the student shall be required annually to sign a consent form agreeing to be subject to the rules and procedures of the drug-testing program. If the student is under the age of 18, the student's parent or guardian shall also sign a consent form. If appropriate consent is not given, the student shall not be allowed to participate in the covered activities.

Drug test results shall be used only to determine eligibility and participation in the specified activities. Positive drug test results shall not be used to impose disciplinary sanctions.

Drug test results shall be confidential and shall be disclosed only to the student, the student's parent, and designated District officials who need the information in order to administer the drug-testing program. Drug test results shall not be maintained with a student's academic record. Results shall not be otherwise disclosed except as required by law.

The District shall contract for drug-screening services through an independent laboratory that has met all standards for certification as established by the Substance Abuse and Mental Health Services Administration (SAMHSA), and all testing shall be conducted by qualified laboratory personnel in accordance with accepted practices and procedures established by the contracted laboratory. **See FNF Local**

TCISD Public Notification in Career and Technology Education Programs

Texas City Independent School District offers career and technology education programs in Agriculture-Food and Natural Resources, Architecture and Construction, Arts-A/V Technology and Communication, Business Marketing & Finance, Hospitality and Tourism, Human Services, Manufacturing, Maritime, Cosmetology, Education & Training, Health Science, Law & Public Service, and STEM. Admission to these programs is based on interest and aptitude, age appropriateness, class space, and satisfying Pre-requisites and co requisites.

It is the policy of Texas City 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. Texas City 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 grievances procedures, contact the Title IX coordinator, Mr. Marcus Higgs, Director of Human Resources, at the TCISD Administration Building, 1700 Ninth Avenue North, Texas City, TX 77590, (409) 916-0107, and/ or the section 504 Coordinator, Donna Peterson, at the TCISD Administration Building, 1700 Ninth Avenue North, Texas City, TX 77590, (409) 916-0106.

TCISD El Publico Notification en la Carrera y la Educacion de Programas de Tecnologias

Texas City Independent School District ofrece programas vocacionales en Agricultura y Recursos Naturales, Arquitectura y Construcción, Tecnología de Artes A/V y Comunicación, la Gerencia y Gerencia Comercial, y Capacitación, Ciencia de Salud, Hotelería y Turismo, la Manufactura y Servicios Humanos, y Ciencia Tecnología Ingeniero y Matemáticas. La admisión a estos programas se basa en el interés y la aptitud, la propiedad de edad, el espacio de clase, y satisfaciendo prerrequisitos y co requistes.

Es norma de Texas City Independent School District no discriminar por motivos de raza, color, origen nacional, sexo o impedimento, en sus programas, servicios o actividades vocacionales, tal como lo requieren el Título VI de la Ley de Deprechos Civiles de 1964, según enmienda; el Título IX de las Emmiendas en la Educación, de 1972, y de 1972, y la Sección 504 de la Ley de Rehabilitación de 1973, según enmienda. Texas City Independent School District Tomará las medidas necesarias para asegurar que la falta de habilidad en el uso de la lengua inglés no sea un obstaculo para la admisión y participación en todos los programas educativos y vocacionales.

Para información sobre sus derechos o procedimientos para quejas, comuníquese con el Coordinador del Título IX, Mr. Marcus Higgs, Director de Recursos Humanos, en TCISD Administration Building, 1700 Ninth Avenue North, Texas City, TX 77590, (409) 916-0107, y/o el Coordinador de la Sección 504, Donna Peterson, en TCISD Administration Building, 1700 Ninth Avenue North, Texas City, TX 77590, (409) 916-0106.