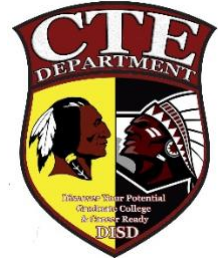




**DONNA**  
INDEPENDENT SCHOOL DISTRICT



# CTE Course Descriptions





## Agriculture, Food & Natural Resources

### Principles of Agriculture, Food, and Natural Resources

**TSDS PEIMS Code: 13000200 (PRINAFNR)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None.**

Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations.

### Livestock Production

**TSDS PEIMS Code: 13000300 (LIVEPROD)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry.

### Veterinary Medical Applications

**TSDS PEIMS Code: 13000600 (VETMEDAP)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Equine Science, Small Animal Management, or Livestock Production.**

Veterinary Medical Applications covers topics relating to veterinary practices, including practices for large and small animal species

## Advanced Animal Science

**TSDS PEIMS Code: 13000700 (ADVANSCI)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production.**

**Recommended Prerequisite: Veterinary Medical Applications.**

Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*

## Floral Design

**TSDS PEIMS Code: 13001800 (FLORAL)**

**Grade Placement: 9–12 Credit: 1**

**Prerequisite: None.**

Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations.

**Note:** *This course satisfies a fine arts credit requirement for students on the Foundation High School Program*

## Advanced Plant and Soil Science

**TSDS PEIMS Code: 13002100 (ADVPPSCI)**

**Grade Placement: 11–12**

**Credit: 1 Prerequisite: None.**

**Recommended Prerequisites: Biology, Integrated Physics and Chemistry, Chemistry, or Physics and a minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster.**

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.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*

## Agricultural Mechanics and Metal Technologies

**TSDS PEIMS Code: 13002200 (AGMECHMT)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Agriculture, Food, and Natural Resources.**

Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring, plumbing, carpentry, fencing, concrete, and metal working techniques. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

## Agricultural Structures Design and Fabrication

**TSDS PEIMS Code: 13002300 (AGSDF)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisites: Agricultural Mechanics and Metal Technologies.**

In Agricultural Structures Design and Fabrication, students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication.

## Practicum in Agriculture, Food, and Natural Resources

**TSDS PEIMS Code: 13002500 (First Time Taken) (PRACAFNR1)**

**13002510 (Second Time Taken) (PRACAFNR2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisite: A minimum of one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster.**

Practicum in Agriculture, Food, and Natural Resources 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 experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. 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 Career Cluster.



## Architecture & Construction

### Principles of Architecture

**TSDS PEIMS Code: 13004210 (PRINARC)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None.**

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.

### Architectural Design I

**TSDS PEIMS Code: 13004600 (ARCHDSN1)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisites: Algebra I and English I.**

**Recommended Prerequisites: Geometry, Principles of Architecture, and Principles of Construction.**

In Architectural Design I, students will gain knowledge and skills needed to enter a career in architecture or construction or prepare a foundation toward a post-secondary degree in architecture, construction science, drafting, interior design, or landscape architecture. Architectural Design I includes the knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes.

## Architectural Design II

**TSDS PEIMS Code: 13004700 (ARCHDSN2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisites: Architectural Design I or Advanced Interior Design and Geometry.**

**Recommended Prerequisites: Principles of Architecture and Principles of Construction.**

In Architectural Design II, students will gain advanced knowledge and skills needed to enter a career in architecture or construction or prepare a foundation toward a postsecondary degree in architecture, construction science, drafting, interior design, or landscape architecture.

Architectural Design II includes the advanced knowledge of the design, design history, techniques, and tools related to the production of drawings, renderings, and scaled models for nonresidential or residential architectural purposes

## Practicum in Architectural Design

**TSDS PEIMS Code: 13004800 (First Time Taken) (PRACADS1)**

**13004810 (Second Time Taken) (PRACADS2)**

**Grade Placement: 12 Credit: 2**

**Prerequisite: Architectural Design II.**

Practicum in Architectural Design is an occupationally specific course designed to provide technical instruction in architectural design. Safety and career opportunities are included in addition to work ethics and architectural design study.

## Principles of Construction

**TSDS PEIMS Code: 13004220 (PRINCON)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None.**

Principles of Construction is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment.

## Construction Technology I

**TSDS PEIMS Code: 13005100 (CONTECH1)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Construction or Principles of Architecture.**

In Construction Technology I, students will gain knowledge and skills needed to enter the workforce as carpenters or building maintenance supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, tool usage, building materials, codes, and framing. For safety and liability considerations, limiting course enrollment to 15 students is recommended.

## Construction Technology II

**TSDS PEIMS Code: 13005200 (CONTECH2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: Construction Technology I.**

In Construction Technology II, students will gain advanced knowledge and skills needed to enter the workforce as carpenters, building maintenance technicians, or supervisors or to prepare for a postsecondary degree in construction management, architecture, or engineering. Students will build on the knowledge base from Construction Technology I and are introduced to exterior and interior finish out skills. For safety and liability considerations, limiting course enrollment to 15 students is recommended.





## Arts, A/V Technology & Communications

### Principles of Arts, Audio/Video Technology & Communications

**TSDS PEIMS Code: 13008200 (PRINAAVTC)**

**Grade Placement: 9**

**Credits: 1**

**Prerequisite: None.**

The goal of this course is that the student understands arts, audio/video technology, and communications systems. 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.

### Audio/Video Production I

**TSDS PEIMS Code: 13008500 (AVPROD1)**

**Grade Placement: 9–12**

**Credits: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications. Recommended Corequisite: Audio/Video Production I Lab.**

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 postproduction audio and video products.

## Audio/Video Production II

**TSDS PEIMS Code: 13008600 (AVPROD2)**

**Grade Placement: 10–12**

**Credits: 1**

**Prerequisite: Audio/Video Production I.**

**Recommended Corequisite: Audio/Video Production II Lab.**

Building upon the concepts taught in Audio/Video Production, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post- production products. This course may be implemented in an audio format or a format with both audio and video.

## Commercial Photography I

**TSDS PEIMS Code: 13009100 (CPHOTO1)**

**Grade Placement: 9–12**

**Credits: 1**

**Prerequisite: None.**

**Recommended Corequisite: Commercial Photography I Lab.**

In addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.

## Commercial Photography II

**TSDS PEIMS Code: 13009200 (CPHOTO2)**

**Grade Placement: 10–12**

**Credits: 1**

**Prerequisite: None.**

**Recommended Prerequisites: Commercial Photography I and Commercial Photography I Lab.**

**Recommended Corequisite: Commercial Photography Lab II.**

In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.

## **Practicum in Commercial Photography**

**TSDS PEIMS Code: 13009250 (First Time Taken) (PRACCPH1)**

**13009260 (Second Time Taken) (PRACCPH2)**

**Grade Placement: 10–12**

**Credits: 2**

**Prerequisites: Commercial Photography I and Commercial Photography I Lab along with teacher recommendation.**

In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs

## **Professional Communications**

**TSDS PEIMS Code: 13009900 (PROFCOMM)**

**Grade Placement: 9–12**

**Credits: .5**

**Prerequisite: None.**

Professional Communications blends written, oral, and graphic communication in a careerbased environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct internet research.



## Business Marketing & Finance

### Principles of Business, Marketing, and Finance

**TSDS PEIMS Code: 13011200 (PRINBMF)**

**Grade Placement: 9–11**

**Credits: 1**

**Prerequisite: None.**

In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.

### Business Information Management I

**TSDS PEIMS Code: 13011400 (BUSIM1)**

**Grade Placement: 9–12**

**Credits: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Touch System Data Entry.**

**Recommended Corequisite: Business Lab.**

In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.

## **Business Information Management II**

**TSDS PEIMS Code: 13011500 (BUSIM2)**

**Grade Placement: 10–12**

**Credits: 1**

**Prerequisite: Business Information Management I.**

**Recommended Prerequisite: Touch System Data Entry.**

**Recommended Corequisite: Business Lab.**

In Business Information Management II, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software.

## **Business Management**

**TSDS PEIMS Code: 13012100 (BUSMGT)**

**Grade Placement: 10–12**

**Credits: 1**

**Prerequisite: None.**

Business Management is designed to familiarize students with the concepts related to business management as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills.

## **Practicum in Business Management**

**TSDS PEIMS Code: 13012200 (First Time Taken)**

**(PRACBM) 13012210 (Second Time Taken) (PRACBM2)**

**Grade Placement: 11–12**

**Credits: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Touch System Data Entry and Business Management or Business Information Management II.**

Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or

postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

## **Fundamentals of Real Estate**

**TSDS PEIMS Code: N1301120 (FUNDRE)**

**Grade Placement: 11–12**

**Credits: 2**

This course contains the curriculum necessary to complete the pre-licensure education requirements of the Texas Real Estate Commission (TREC) to obtain a real estate salesperson license. It includes the following TREC course materials: Principles of Real Estate I and II, Law of Contracts, Law of Agency, Real Estate Finance, and Promulgated Contract Forms.

## **Accounting I**

**TSDS PEIMS Code: 13016600 (ACCOUNT1)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisites: None.**

**Recommended Prerequisites: Principles of Business, Marketing, and Finance.**

In Accounting I, students will investigate the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in the process of recording, classifying, summarizing, analyzing, and communicating accounting information. Students will formulate and interpret financial information for use in management decision making. Accounting includes such activities as bookkeeping, systems design, analysis, and interpretation of accounting information.

## Accounting II

**TSDS PEIMS Code: 13016700 (ACCOUNT2)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Accounting I.**

In Accounting II, students will continue the investigation of the field of accounting, including how it is impacted by industry standards as well as economic, financial, technological, international, social, legal, and ethical factors. Students will reflect on this knowledge as they engage in various managerial, financial, and operational accounting activities. Students will formulate, interpret, and communicate financial information for use in management decision making. Students will use equations, graphical representations, accounting tools, spreadsheet software, and accounting systems in real-world situations to maintain, monitor, control, and plan the use of financial resources.

**Note:** *This course satisfies a math credit requirement for students on the Foundation High School Program.*

## Financial Mathematics

**TSDS PEIMS Code: 13018000 (FINMATH)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: Algebra I.**

Financial Mathematics is a course about personal money management. Students will apply critical thinking skills to analyze personal financial decisions based on current and projected economic factors.

**Note:** *This course satisfies a math credit requirement for students on the Foundation High School Program.*



## Education & Training

### Principles of Education and Training

**TSDS PEIMS Code: 13014200 (PRINEDTR)**

**Grade Placement: 9–10**

**Credit: 1**

**Prerequisite: None.**

Principles of Education and Training is designed to introduce learners to the various careers available within the Education and Training Career Cluster. Students use self- knowledge as well as educational and career information to analyze various careers within the Education and Training Career Cluster. Students will develop a graduation plan that leads to a specific career choice in the student's interest area.

### Human Growth and Development

**TSDS PEIMS Code: 13014300 (HUGRDEV)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Education and Training.**

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.



## Instructional Practices

**TSDS PEIMS Code: 13014400 (INPRAC)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Principles of Education and Training and Human Growth and Development.**

Instructional Practices is a field-based (practicum) internship that provides students with background knowledge of child and adolescent development as well as principles of effective teaching and training practices. Students work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators or trainers in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, develop materials for educational environments, assist with record keeping, and complete other responsibilities of teachers, trainers, paraprofessionals, or other educational personnel.

## Practicum in Education and Training

**TSDS PEIMS Code: 13014500 (First Time Taken) (PRACEDT1)**

**13014510 (Second Time Taken) (PRACEDT2)**

**Grade Placement: 12**

**Credit: 2**

**Prerequisite: Instructional Practices.**

**Recommended Prerequisites: Principles of Education and Training and Human Growth and Development.**

Practicum in Education and Training is a field-based internship that provides students background knowledge of child and adolescent development principles as well as principles of effective teaching and training practices. Students in the course work under the joint direction and supervision of both a teacher with knowledge of early childhood, middle childhood, and adolescence education and exemplary educators in direct instructional roles with elementary-, middle school-, and high school-aged students. Students learn to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of classroom teachers, trainers, paraprofessionals, or other educational personnel.



## Health Science

### Principles of Health Science

**TSDS PEIMS Code: 13020200 (PRINHLSC)**

**Grade Placement: 9–10**

**Credit: 1**

**Prerequisite: None.**

The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry.

### Medical Terminology

**TSDS PEIMS Code: 13020300 (MEDTERM)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None.**

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

### Anatomy and Physiology

**TSDS PEIMS Code: 13020600 (ANATPHYS)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: Biology and a second science credit.**

**Recommended Prerequisite: A course from the Health and Science Career Cluster.**

The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*

## Medical Microbiology

**TSDS PEIMS Code: 13020700 (MICRO)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisites: Biology and Chemistry.**

**Recommended Prerequisites: A course from the Health Science Career Cluster.**

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.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*

## Pathophysiology

**TSDS PEIMS Code: 13020800 (PATHO)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Biology and Chemistry.**

**Recommended Prerequisite: A course from the Health and Science Career Cluster.**

The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*

## Health Informatics

**TSDS PEIMS Code: 13020960 (HLTHINF)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Business Information Management I and Medical Terminology.**

The Health Informatics course is designed to provide knowledge of one of the fastest growing areas in both academic and professional fields. The large gap between state of the art computer technologies and the state of affairs in health care information technology has generated demand for information and health professionals who can effectively design, develop, and use technologies such as electronic medical records, patient monitoring systems, and digital libraries, while managing the vast amount of data generated by these systems.

## Mathematics for Medical Professionals

**TSDS PEIMS Code: 13020970 (MTHMEDPR)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Geometry and Algebra II.**

The Mathematics for Medical Professionals course is designed to serve as the driving force behind the Texas essential knowledge and skills for mathematics, guided by the college and career readiness standards. By embedding statistics, probability, and finance, while focusing on fluency and solid understanding in medical mathematics, students will extend and apply mathematical skills necessary for health science professions. Course content consists primarily of high school level mathematics concepts and their applications to health science professions.

**Note:** *This course satisfies a math credit requirement for students on the Foundation High School Program.*

## Pharmacology

**TSDS PEIMS Code: 13020950 (PHARMC)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Biology and Chemistry.**

**Recommended Prerequisites: A course from the Health and Science Career Cluster.**

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. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers.

## Health Science Theory

**TSDS PEIMS Code: 13020400 (HLTHSCI)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisites: Biology.**

**Recommended Corequisite: Health Science Clinical.**

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.

## Practicum in Health Science

**TSDS PEIMS Code: 13020500 (First Time Taken) (PRACHLS1)**

**13020510 (Second Time Taken) (PRACHLS2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisites: Health Science Theory and Biology.**

The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

## Practicum in Health Science/Extended Practicum in Health Science

**TSDS PEIMS Code: 13020505 (First Time Taken) (EXPRHLS1)**

**13020515 (Second Time Taken) (EXPRHLS2)**

**Grade Placement: 11–12**

**Credit: 3**

**Prerequisites: Health Science Theory and Biology.**

**Corequisite: Practicum in Health Science.**

The Extended Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.



## Hospitality & Tourism

### Culinary Arts

**TSDS PEIMS Code: 13022600 (CULARTS)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Principles of Hospitality and Tourism and Introduction to Culinary Arts.**

Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course.

### Advanced Culinary Arts

**TSDS PEIMS Code: 13022650 (ADCULART)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: Culinary Arts.**

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.

### Practicum in Culinary Arts

**TSDS PEIMS Code: 13022700 (First Time Taken) (PRACCUL1)**

**13022710 (Second Time Taken) (PRACCUL2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: Culinary Arts.**

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.



## Human Services

### Cosmetology I

**TSDS PEIMS Code: 13025200 (COSMET1)**

**Grade Placement: 10–11**

**Credit: 2**

**Recommended Prerequisite: Introduction to Cosmetology.**

**Recommended Corequisite: Cosmetology I Lab**

In Cosmetology I, students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional sequence course designed to provide job-specific training for employment in cosmetology careers. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the Texas Department of Licensing and Regulation (TDLR) requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included.

### Cosmetology I/Cosmetology I Lab

**TSDS PEIMS Code: 13025210 (COSLAB1)**

**Grade Placement: 10-11**

**Credits: 1**

**Recommended Prerequisite: Introduction to Cosmetology.**

This course must be taken concurrently with Cosmetology I and may not be taken as a standalone course. Districts are encouraged to offer this lab in a consecutive block with Cosmetology I to allow students sufficient time to master the content of both courses. Cosmetology I/Cosmetology I Lab provides students additional lab time to develop proficient and mastery level cosmetology skills and techniques as required by Texas Department of Licensing and Regulation licensing standards. Students will be expected to demonstrate mastery in conducting the skills and techniques learned in Cosmetology I with little to no guidance.



## Cosmetology II

**TSDS PEIMS Code: 13025300 (COSMET2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: Cosmetology I.**

**Recommended Corequisite: Cosmetology II Lab**

In Cosmetology II, students will demonstrate proficiency in academic, technical, and practical knowledge and skills. The content is designed to provide the occupational skills required for licensure. Instruction includes advanced training in professional standards/employability skills; Texas Department of Licensing and Regulation (TDLR) rules and regulations; use of tools, equipment, technologies, and materials; and practical skills.

## Cosmetology II/Cosmetology II Lab

**TSDS PEIMS Code: 13025310 (COSLAB2)**

**Grade Placement: 11-12**

**Credits: 1**

**Prerequisites: Cosmetology I/Cosmetology I Lab**

This course must be taken concurrently with Cosmetology II and may not be taken as a standalone course. Districts are encouraged to offer this lab in a consecutive block with Cosmetology II to allow students sufficient time to master the content of both courses. Cosmetology II /Cosmetology II Lab provides students additional lab time to develop proficient and mastery level cosmetology skills and techniques as required by Texas Department of Licensing and Regulation licensing standards. Students are expected to develop proficient and mastery level work samples and to expand their work experiences.

## Barbering I

**TSDS PEIMS Code: N1302534 (BARBER1)**

**Grade Placement: 10-12**

**Credit: 3**

**Prerequisite: None.**

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

**TSDS PEIMS Code: N1302535 (BARBER2)**

**Grade Placement: 10-12**

**Credit: 3**

**Prerequisite: Barbering I.**

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.



## Information Technology

### Principles of Information Technology

**TSDS PEIMS Code: 13027200 (PRINIT)**

**Grade Placement: 9–10**

**Credit: 1**

**Prerequisites: None**

In Principles of Information Technology, students will develop computer literacy skills to adapt to emerging technologies used in the global marketplace. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. Students will enhance reading, writing, computing, communication, and reasoning skills and apply them to the information technology environment.

### Networking

**TSDS PEIMS Code: 13027400 (NETWRK)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisites: Principles of Information Technology, Computer Maintenance, and Computer Maintenance Lab.**

**Recommended Corequisite: Networking Lab.**

In Networking, students will develop knowledge of the concepts and skills related to data networking technologies and practices to apply them to personal or career development. To prepare for success, students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

## Networking/Networking Lab

**TSDS PEIMS Code: 13027410 (NETWRLAB)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Principles of Information Technology, Computer Maintenance, and Computer Maintenance Lab.**

**Corequisite: Networking.**

In Networking Lab, students will develop knowledge of the concepts and skills related to telecommunications and data networking technologies and practices to apply them to personal or career development. To prepare for success, students must have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. This course must be taken concurrently with Networking and may not be taken as a stand-alone course. Districts are encouraged to offer this course in a consecutive block with Networking to allow students sufficient time to master the content of both courses.

## Computer Technician Practicum

**TSDS PEIMS Code: 13027500 (First Time Taken) (COMPT1)**

**13027510 (Second Time Taken) (COMPT2)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Principles of Information Technologies, Computer Maintenance, Computer Maintenance Lab, Networking, and Networking Lab.**

In the Computer Technician Practicum, students will gain knowledge and skills in computer technologies, including advanced knowledge of electrical and electronic theory, computer principles, and components related to the installation, diagnosis, service, and repair of computer based technology systems. Students will reinforce, apply, and transfer their knowledge and skills to a variety of settings and problems. 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 instructor, with an industry mentor, or both.



## Law and Public Service

### Principles of Law, Public Safety, Corrections, and Security

**TSDS PEIMS Code: 13029200 (PRINLPCS)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None.**

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.

### Correctional Services CC

**TSDS PEIMS Code: 13029700 (CORRSRVS)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Law, Public Safety, Corrections, and Security.**

In Correctional Services, students prepare for certification required for employment as a municipal, county, state, or federal correctional officer. Students will learn the role and responsibilities of a county or municipal correctional officer; discuss relevant rules, regulations, and laws of municipal, county, state, or federal facilities; and discuss defensive tactics, restraint techniques, and first aid procedures as used in the municipal, county, state, or federal correctional setting. Students will analyze rehabilitation and alternatives to institutionalization for inmates.

**Note:** *This course is a dual credit course with STC.*

## Law Enforcement I

**TSDS PEIMS Code: 13029300 (LAWENF1)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Law, Public Safety, Corrections, and Security.**

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

**TSDS PEIMS Code: 13029400 (LAWENF2)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Law Enforcement I.**

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.

## Criminal Investigation

**TSDS PEIMS Code: 13029550 (CRINVEST)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Law, Public Safety, Corrections, and Security.**

Criminal Investigation is a course that introduces students to the profession of criminal investigations. Students will understand basic functions of criminal investigations and procedures and will learn how to investigate or follow up during investigations. Students will learn terminology and investigative procedures related to criminal investigation, crime scene processing, evidence collection, fingerprinting, and courtroom presentation. Through case studies and simulated crime scenes, students will collect and analyze evidence such as fingerprint analysis, bodily fluids, hairs, fibers, shoe and tire impressions, bite marks, drugs, tool marks, firearms and ammunition, blood spatter, digital evidence, and other types of evidence.

## Forensic Science

**TSDS PEIMS Code: 13029500 (FORENSCI)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Biology and Chemistry.**

**Recommended Prerequisite or Corequisite: Any Law, Public Safety, Corrections, and Security Career Cluster course.**

Forensic Science is a course that introduces students to the application of science to connect a violation of law to a specific criminal, criminal act, or behavior and victim. Students will learn terminology and procedures related to the search and examination of physical evidence in criminal cases as they are performed in a typical crime laboratory. Using scientific methods, students will collect and analyze evidence such as fingerprints, bodily fluids, hairs, fibers, paint, glass, and cartridge cases. Students will also learn the history and the legal aspects as they relate to each discipline of forensic science and understand that scientific methods of investigation can be experimental, descriptive, or comparative.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*



## Manufacturing

### Principles of Manufacturing

**TSDS PEIMS Code: 13032200 (PRINMAN)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None**

**Recommended Prerequisites: Algebra I or Geometry.**

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.

### Precision Metal Manufacturing I

**TSDS PEIMS Code: 13032500 (PREMMAN1)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Principles of Manufacturing and completion of or concurrent enrollment in Algebra I or Geometry.**

Precision Metal Manufacturing I will provide the knowledge, skills, and technologies required for employment in precision machining. While the course is designed to provide necessary skills in machining, it also provides a real-world foundation for any engineering discipline. This course may address a variety of materials such as plastics, ceramics, and wood in addition to metal. Students will develop knowledge of the concepts and skills related to precision metal manufacturing 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. This course is designed to provide entry-level employment for the student or articulated credit integration into a community college and dual credit with a community college with completion of the advanced course.

## Precision Metal Manufacturing II

**TSDS PEIMS Code: 13032600 (PREMMAN2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: Precision Metal Manufacturing I.**

**Recommended Prerequisite: Precision Manufacturing II Lab.**

Precision Metal Manufacturing II will provide students the knowledge, skills, and technologies required for employment in precision machining. While this course is designed to provide necessary skills in machining, it also provides a real-world foundation for any engineering discipline. This course addresses a variety of materials such as plastics, ceramics, and wood in addition to metal. Students will 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. This course is designed to provide entry-level employment for the student or articulated credit integration into a community college and dual credit with a community college with completion of the advanced course.

## Introduction to Welding CC

**TSDS PEIMS Code: 13032250 (INTRWELD)**

**Grade Placement: 9–12**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite or Corequisite: Algebra I.**

Introduction to Welding will introduce welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding

career potentials, and introduction to welding codes and standards. Introduction to Welding will provide students with the knowledge, skills, and technologies required for employment in welding industries. This course supports integration of academic and technical knowledge and skills. Students will 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 will prepare students for future success.

**Note:** *This course is only offered as a dual credit course with STC.*

## Welding I CC

**TSDS PEIMS Code: 13032300 (WELD1)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Algebra I, Principles of Manufacturing, Introduction to Precision Metal Manufacturing, or Introduction to Welding.**

Welding I provide the knowledge, skills, and technologies required for employment in metal technology systems. Students will develop knowledge and skills related to this system and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will 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.

**Note:** *This course is only offered as a dual credit course with STC.*

## Welding II CC

**TSDS PEIMS Code: 13032400 (WELD2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisites: Welding I.**

**Recommended Prerequisites: Algebra I or Geometry. Recommended Corequisite: Welding II Lab.** Welding II builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development. Students will integrate 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.

## Welding II Lab CC

**TSDS PEIMS Code: 13032410 (WELDLAB2)**

**Grade Placement: 11–12**

**Credit: 3**

**Prerequisites: Welding I.**

**Corequisites: Welding II.**

Welding II Lab introduces welding technology with an emphasis on basic welding laboratory principles and operating procedures. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. This course provides knowledge, skills, and technologies required for employment in welding industries. Students will develop knowledge and skills related to this system and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will 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.

**Note:** *This course is only offered as a dual credit course with STC.*

## Practicum in Manufacturing CC

**TSDS PEIMS Code: 13033000 (First Time Taken) (PRACMAN1)**

**13033010 (Second Time Taken) (PRACMAN2)**

**Grade Placement: 12**

**Credit: 2**

**Prerequisite: None.**

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.

**Note:** *This course is only offered as a dual credit course with STC.*



## Science, Technology, Engineering & Mathematics

### Principles of Applied Engineering

**TSDS PEIMS Code: 13036200 (PRAPPENG)**

**Grade Placement: 9–10**

**Credit: 1**

**Prerequisite: None.**

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. Upon completing this course, students will understand the various fields of engineering and will be able to make informed career decisions. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.

### Fundamentals of Computer Science

**TSDS PEIMS Code: 03580140 (TAFCS)**

**Grade Placement: 9-12**

**Credit: 1**

**Prerequisite: None.**

Fundamentals of Computer Science is intended as a first course for those students just beginning the study of computer science. Students will learn about the computing tools that are used every day. Students will foster their creativity and innovation through opportunities to design, implement, and present solutions to real-world problems. Students will collaborate and use computer science concepts to access, analyze, and evaluate information needed to solve problems. Students will learn the problem-solving and reasoning skills that are the foundation of computer science. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for

the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations and concepts. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

## Computer Science I CC

**TSDS PEIMS Code: 03580200 (TACS1)**

**Grade Placement: 9-12**

**Credit: 1**

**Prerequisite: Algebra I.**

Computer Science I will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve the problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of the principles of computer science through the study of technology operations, systems, and concepts. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

**Note:** This course is offered as a dual credit course with STC.

## Computer Science II CC

**TSDS PEIMS Code: 03580300 (TACS2)**

**Grade Placement: 11-12**

**Credit: 1**

**Prerequisite: Algebra I and either Computer Science I or Fundamentals of Computer Science.**

Computer Science II will foster students' creativity and innovation by presenting opportunities to design, implement, and present meaningful programs through a variety of media. Students will collaborate with one another, their instructor, and various electronic communities to solve

the problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use computer science concepts to access, analyze, and evaluate information needed to solve problems. By using computer science knowledge and skills that support the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of computer science through the study of technology operations, systems, and concepts. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts.

## Digital Electronics

**TSDS PEIMS Code: 13037600 (DIGELC)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisites: Algebra I and Geometry.**

Digital Electronics is the study of electronic circuits that are used to process and control digital signals. In contrast to analog electronics, where information is represented by a continuously varying voltage, digital signals are represented by two discrete voltages or logic levels. This distinction allows for greater signal speed and storage capabilities and has revolutionized the world of electronics. Digital electronics is the foundation of modern electronic devices such as cellular phones, digital audio players, laptop computers, digital cameras, and high-definition televisions. The primary focus of Digital Electronics is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

**Note:** *This course satisfies a math credit requirement for students on the Foundation High School Program.*

## Robotics I

**TSDS PEIMS Code: 13037000 (ROBOTIC1)**

**Grade Placement: 9–10**

**Credit: 1**

**Prerequisite: None.**

**Recommended Prerequisite: Principles of Applied Engineering.**

In Robotics I, students will transfer academic skills to component designs in a project-based environment through implementation of the design process. Students will build prototypes or

use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.

## Robotics II

**TSDS PEIMS Code: 13037050 (ROBOTIC2)**

**Grade Placement: 10–12**

**Credit: 1**

**Prerequisite: Robotics I.**

In Robotics II, students will explore artificial intelligence and programming in the robotic and automation industry. Through implementation of the design process, students will transfer academic skills to component designs in a project-based environment. Students will build prototypes and use software to test their designs.

**Note:** *This course satisfies a math credit requirement for students on the Foundation High School Program.*

## Engineering Design and Problem Solving

**TSDS PEIMS Code: 13037300 (ENGDPRS)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Algebra I and Geometry.**

**Recommended Prerequisites: two Science, Technology, Engineering, and Mathematics Career Cluster credits.**

The Engineering Design and Problem-Solving course is the creative process of solving problems by identifying needs and then devising solutions. The solution may be a product, technique, structure, or process depending on the problem. Science aims to understand the natural world, while engineering seeks to shape this world to meet human needs and wants. Engineering design takes into consideration limiting factors or "design under constraint." Various engineering disciplines address a broad spectrum of design problems using specific concepts from the sciences and mathematics to derive a solution. The design process and problem solving are inherent to all engineering disciplines.

**Note:** *This course satisfies a science credit requirement for students on the Foundation High School Program.*

## Engineering Mathematics

**TSDS PEIMS Code: 13036700 (ENGMATH)**

**Grade Placement: 11–12**

**Credit: 1**

**Prerequisites: Algebra II.**

Engineering Mathematics is a course where students solve and model design problems. Students will use a variety of mathematical methods and models to represent and analyze problems that represent a range of real-world engineering applications such as robotics, data acquisition, spatial applications, electrical measurement, manufacturing processes, materials engineering, mechanical drives, pneumatics, process control systems, quality control, and computer programming.

**Note:** *This course satisfies a math credit requirement for students on the Foundation High School Program.*

## Practicum in Science, Technology, Engineering, and Mathematics

**TSDS PEIMS Code: 13037400 (First Time Taken) (PRCSTEM1)**

**13037410 (Second Time Taken) (PRCSTEM2)**

**Grade Placement: 12**

**Credit: 2**

**Prerequisites: Algebra I and Geometry.**

**Recommended Prerequisites: two Science, Technology, Engineering, and Mathematics (STEM) Career Cluster credits.**

Practicum in STEM is designed to give students supervised practical application of previously studied knowledge and skills.

## Texas Prefreshman Engineering Program I-IV

**TSDS PEIMS Code: N1303772 (EASCP)**

**Grade Placement: 9–12**

**Credit: 1 per course**

The Texas Prefreshman Engineering Program (TexPREP™) was established in 1979 at The University of Texas at San Antonio as the San Antonio Prefreshman Engineering Program (SAPREP). Beginning in 1986, SAPREP was replicated throughout Texas as TexPREP. TexPREP is offered as a formal out-of-school-time (OST) experience across four summers as students progress from TexPREP I through TexPREP IV. The mission of the program is to motivate and prepare middle and high school students for success in advanced studies leading to careers in science, technology, engineering or mathematics (STEM). Students receive 140+ contact hours



each summer. Over the four-year period students take a series of classes. Specific course content is enhanced by experiences designed to promote a clear understanding of how mathematical concepts are applied in STEM fields.

**Note:** *Program is offered through an IHE partner.*



## Transportation, Distribution & Logistics

### Introduction to Unmanned Aerial Vehicle (UAV) Flight

**TSDS PEIMS Code: N1304670 (PRINUAV)**

**Grade Placement: 10–12**

**Credit: 1**

**Recommended prerequisite: Principles of Transportation Systems**

The Introduction to Unmanned Aerial Vehicle (UAV) Flight course is designed to prepare students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations, and safety regulations. Students are also exposed to mission planning procedures, environmental factors, and human factors involved in the UAV industry.

### Collision Repair

**TSDS PEIMS Code: 13039800 (COLLISR)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Basic Collision Repair and Refinishing.**

Collision Repair includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive collision repair and refinishing.

## Paint and Refinishing

**TSDS PEIMS Code: 13039900 (PAINTREF)**

**Grade Placement: 10–12**

**Credit: 2**

**Prerequisite: None.**

**Recommended Prerequisites: Basic Collision Repair and Refinishing or Collision Repair.**

Paint and Refinishing includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive paint and refinishing.

## Practicum in Transportation Systems

**TSDS PEIMS Code: 13040450 (First Time Taken) (PRACTRS1)**

**13040460 (Second Time Taken) (PRACTRS2)**

**Grade Placement: 11–12**

**Credit: 2**

**Prerequisite: None.**

Practicum in Transportation Systems is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. The Practicum can be either school lab based or worked based.

## Practicum in Transportation Systems/Extended Practicum in Transportation Systems

**TSDS PEIMS Code: 13040455 (First Time Taken) (EXPRTRS1)**

**13040465 (Second Time Taken) (EXPRTRS2)**

**Grade Placement: 11–12**

**Credit: 3**

**Prerequisite: None.**

**Corequisite: Practicum in Transportation Systems.**

Extended Practicum in Transportation Systems is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience such as internships, mentorships, independent study, or laboratories. Extended Practicum in Transportation Systems can be either school lab based or worked based.

## Middle School CTE Course

### Investigating Careers

The goal of this course is to create a foundation for success in high school, future studies, and careers such as Science, Technology, Engineering, and Mathematics; Business and Industry; Public Service; Arts and Humanities; and Multidisciplinary Studies. The students research labor market information, learn job-seeking skills, and create documents required for employment. They complete a career assessment, and together with their parents, select an endorsement and develop their personal graduation plan for guidance into their high school years. Students can also participate in CTSOs and extended learning experiences. It is vital that students have a clear sense of direction for their career choice. Career planning is a critical step and essential to success.