



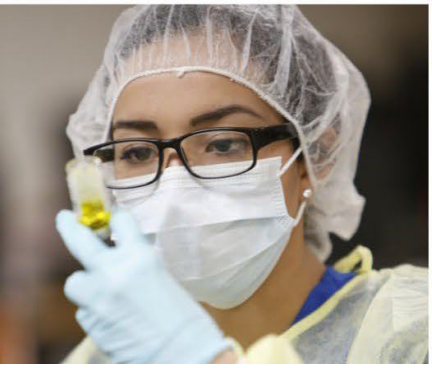


2023-2024 CTE Course Catalog

Career and Technical Education

With Texas Student Data System PEIMS Codes and Descriptions

08/01/2023

College, Career and Military Preparation Division

Texas Education Agency

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CTE COURSE LIST

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Career Development

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Middle School

Career and College Exploration

TSDS PEIMS Code:
12700110 (First Time Taken)
12700120 (Second Time Taken)
Grade Placement: 7–8
Credit: 1
Prerequisite: None.

The goal of Career and College Exploration is to help students build career awareness and engage in deep exploration and study of the Texas CTE career clusters to create a foundation for success in high school, possible postsecondary studies, and careers. The career development process is unique to every person and evolves throughout one's life. In Career and College Exploration, students use decision-making and problem-solving skills for individual career and academic planning. Students explore valid, reliable educational and career information to learn more about themselves and their interests and abilities. Students integrate skills from academic subjects, information technology, and interpersonal communication to make informed decisions. This course is designed to guide students through the process of investigating and developing a college and career readiness plan. Students use aptitude and interest inventory assessments, labor market information, software, or other tools available to explore a variety of career paths, especially those in demand. Students will begin mapping their anticipated secondary coursework and potential postsecondary experiences that are in alignment with their goals.

High School

Project-Based Research

TSDS PEIMS Code:
12701500 (First Time Taken) (PROBS1)
12701510 (Second Time Taken) (PROBS2)
12701520 (Third Time Taken) (PROBS3)
Grade Placement: 11–12
Credit: 1
Prerequisite: None.

Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

Applied Mathematics for Technical Professionals

TSDS PEIMS Code: 12701410 (APMATHTP)
Grade Placement: 11–12
Credit: 1 Prerequisite: None.
Recommended Prerequisites: Algebra 1 and Geometry.

The process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each grade and course is intentional. The process standards weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. The process standards are integrated at every grade level and course. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, paper and pencil, and technology and techniques such as mental math, estimation, and number sense to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

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

Student to Industry Connection

TSDS PEIMS Code: N1270154 (ST2INDCN)

Grade Placement: 11–12

Credit: 1

Recommended prerequisite: successful completion of two career and technical education courses.

The Student to Industry Connection course provides students with the opportunity to develop professional relationships with experienced individuals within the student's chosen program of study and to demonstrate necessary skills for an online virtual workplace. Students will learn acceptable virtual etiquette and professionalism for a teleworking environment. The central focus of this course is to prepare students to be 21st century career ready through interaction with a seasoned workplace mentor. The course may include a work-based learning component. Instruction will support students with marketable skills attainment. The course is recommended for students 16 years of age or older.

General Employability Skills

TSDS PEIMS Code: N1270153 (GEMPLS)

Grade Placement: 9-12

Credit: 1

Prerequisites: None.

This course provides students with knowledge of the prerequisite skills for general employment as well as the means of obtaining those skills. Employability skills include fundamentals of maintenance of personal appearance and grooming. The course also includes the knowledge, skills, and attitudes that allow employees to get along with their co-workers, make important work-related decisions, and become strong members of the work team. Discovering job possibilities that link skills, abilities, interests, values, needs, and work environment preferences is a part of the process of obtaining employability skills and abilities and is experiential learning that takes place over time.

Career Preparation I

TSDS PEIMS Code: 12701300 (CAREERP1)

Grade Placement: 11–12

Credit: 2

Prerequisite: None.

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.

Career Preparation l/Extended Career Preparation

TSDS PEIMS Code: 12701305 (EXCAREE1)

Grade Placement: 12

Credit: 3

Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Corequisites: Career Preparation I.

Extended Career Preparation 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.

Career Preparation ll

TSDS PEIMS Code: 12701400 (CAREERP2)

Grade Placement: 12

Credit: 2

Prerequisite: Career Preparation l.

Career Preparation II develops essential knowledge and skills through advanced classroom instruction with business and industry employment experiences. Career Preparation II maintains relevance and rigor, supports student attainment of academic standards, and effectively prepares students for college and career success.

Career Preparation ll/Extended Career Preparation

TSDS PEIMS Code: 12701405 (EXCAREE2)

Grade Placement: 12

Credit: 3

Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Corequisites: Career Preparation II.

Extended Career Preparation 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.

TAC Chapter 130. Career and Technical Education

Agriculture, Food & Natural Resources

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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.

Professional Standards in Agribusiness

TSDS PEIMS Code: 13000800 (PROSAFNR)
Grade Placement: 10–12
Credit: .5 Prerequisite: None.

Professional Standards in Agribusiness primarily focuses on leadership, communication, employer-employee relations, and problem solving as they relate to agribusiness.

Agricultural Leadership, Research, and Communications

TSDS PEIMS Code: N1300266 (AGLRC)
Grade Placement: 10–12
Credit: 1
Prerequisite: one credit from courses in the Agriculture, Food, and Natural Resources Career Cluster.

Agricultural Leadership, Research and Communications will focus on challenging Agriculture, Food, and Natural Resources (AFNR) students to use higher level thinking skills, develop leadership abilities, employ standard research principles, and communicate agricultural positions effectively with all stakeholders.

Agribusiness Management and Marketing

TSDS PEIMS Code: 13000900, 13000910 (LAB) (AGRBUSMM, AGRBUSLAB)
Grade Placement: 10–12
Credit: 1, 2
Prerequisite: None.

Agribusiness Management and Marketing is designed to provide a foundation to agribusiness management and the free enterprise system. Instruction includes the use of economic principles such as supply and demand, budgeting, record keeping, finance, risk management, business law, marketing, and careers in agribusiness.

Mathematical Applications in Agriculture, Food, and Natural Resources

TSDS PEIMS Code: 13001000 (MATHAFNR)
Grade Placement: 10–12
Credit: 1
Prerequisite: Algebra I.
Recommended Prerequisites: One credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster.

In Mathematical Applications in Agriculture, Food, and Natural Resources, students will apply knowledge and skills related to mathematics, including algebra, geometry, and data analysis in the context of agriculture, food, and natural resources.

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

Equine Science

TSDS PEIMS Code: 13000500 (EQUINSCI)
Grade Placement: 10–12
Credit: .5
Prerequisite: None.

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.

Livestock Production

TSDS PEIMS Code: 13000300, 13000310 (LAB) (LIVEPROD, LIVEPROLAB)
Grade Placement: 10–12
Credit: 1, 2
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.

Small Animal Management

TSDS PEIMS Code: 13000400 (SMANIMGT)
Grade Placement: 10–12
Credit: .5
Prerequisite: None.
In Small Animal Management, students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds.

Veterinary Medical Applications

TSDS PEIMS Code: 13000600. 13000610 (LAB) (VETMEDAP, VETMEDLAB)
Grade Placement: 11–12
Credit: 1, 2
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.

Energy and Natural Resources Technology

TSDS PEIMS Code: 13001100, 13001110 (LAB) (ENGNRT, ENGNRTLAB)

Grade Placement: 10–12

Credit: 1,2

Prerequisite: None

Recommended Prerequisites: Minimum one credit from the courses in Agriculture, Food, and Natural Resources Career Cluster.

Energy and Natural Resource Technology examines the interrelatedness of environmental issues and production agriculture. Students will evaluate the environmental benefits provided by sustainable resources and green technologies. Instruction is designed to allow for the application of science and technology to measure environmental impacts resulting from production agriculture through field and laboratory experiences.

Advanced Energy and Natural Resource Technology

TSDS PEIMS Code: 13001200, 13001110 (LAB) (ADENRT, ADENRTLAB)

Grade Placement: 11–12

Credit: 1,2

Prerequisite: None.

Recommended Prerequisites: A minimum of one credit from the courses in Agriculture, Food, and Natural Resource Career Cluster and Energy and Natural Resource Technology.

Advanced Energy and Natural Resource Technology is designed to explore the interdependency of the public and natural resource systems related to energy production. In addition, renewable, sustainable, and environmentally friendly practices will be explored.

Food Technology and Safety

TSDS PEIMS Code: 13001300, 13001310 (LAB) (FOODTS, FOODTLAB)

Grade Placement: 10–12

Credit: 1,2

Prerequisite: None.

Food Technology and Safety examines the food technology industry as it relates to food production, handling, and safety. To prepare for careers in value-added and food processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to value-added and food processing and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Food Processing

TSDS PEIMS Code: 13001400, 13001410 (LAB) (FOODPRO, FOODPRLAB)
Grade Placement: 10–12
Credit: 1,2
Prerequisite: None.
Recommended Prerequisite Wildlife, Fisheries and Ecology Management
Prerequisite: Food Technology and Safety.
Food Processing focuses on the food processing industry with special emphasis on the handling, processing, and marketing of food products. To prepare for careers in food products and processing systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to natural resources 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 their knowledge and skills in a variety of settings.

Viticulture

TSDS PEIMS Code: N1300265 (VITICUL)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Agriculture, Food and Natural Resources.
This course is designed to introduce students to the concepts and practices of grape production and the aspects of environmental science that relate to successful management of grapevines.

Wildlife, Fisheries, and Ecology Management

TSDS PEIMS Code: 13001500, 13001510 (LAB) (WFECGT, WFECGTLAB)
Grade Placement: 9–12
Credit: 1
Prerequisite: None.
Wildlife, Fisheries, and Ecology Management examines the management of game and non-game wildlife species, fish, and aqua crops and their ecological needs as related to current agricultural practices. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

Forestry and Woodland Ecosystems

TSDS PEIMS Code: 13001700. 13001710 (LAB) (FWECO, FWECOLAB)
Grade Placement: 10–12
Credit: 1,2
Prerequisite: None.

Forestry and Woodland Ecosystems examines current management practices for forestry and woodlands. Special emphasis is given to management as it relates to ecological requirements and how these practices impact the environment.

Range Ecology and Management

TSDS PEIMS Code: 13001600, 13001610 (LAB) (RECOMGLA, RECOMGLAB)
Grade Placement: 10–12
Credit: 1,2
Prerequisite: None.

Range Ecology and Management is designed to develop students' understanding of rangeland ecosystems and sustainable forage production. To prepare for careers in environmental and natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to environmental and natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Floral Design

TSDS PEIMS Code: 13001800, 13001810 (LAB) (FLORAL, FLORALAB)
Grade Placement: 9–12
Credit: 1,2
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 Floral Design

TSDS PEIMS Code: N1300270 (ADVFLDS)
Grade Placement: 11–12
Credit: 1
Prerequisite: Floral Design.

In this course, students build on the knowledge from the Floral Design course and are introduced to more advanced floral design concepts, with an emphasis on specialty designs and specific occasion planning. This course focuses on building skills in advanced floral design and providing students with a thorough understanding of the design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of a specific occasion or event. Through the analysis and evaluation of various occasion and event types, students explore the design needs and expectations of clients and propose and evaluate appropriate creations. From conception to evaluation, students are challenged to create and design appropriate specialty floral designs that meet the needs of the client. Furthermore, an emphasis on budgetary adherence and entrepreneurship equips students with many of the necessary skills needed for success in floral enterprises.

Landscape Design and Management

TSDS PEIMS Code: 13001900 (LNDMGT)
Grade Placement: 10–12
Credit: .5
Prerequisite: None.

Landscape Design and Management is designed to develop an understanding of landscape design and management techniques and practices. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Turf Grass Management

TSDS PEIMS Code: 13001950 (TGMGT)
Grade Placement: 10–12
Credit: .5
Prerequisite: None.

Turf Grass Management is designed to develop an understanding of turf grass management techniques and practices. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Horticulture Science

TSDS PEIMS Code: 13002000, 13002010 (LAB) (HORTISCI, HORSCILAB)
Grade Placement: 10–12
Credit: 1,2
Prerequisite: None.
Horticultural Science is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Greenhouse Operation and Production

TSDS PEIMS Code: 13002050, 13002060 (LAB) (GREOP, GREOPLAB)
Grade Placement: 10–12
Credit:1,2
Prerequisite: None.
Greenhouse Operation and Production is designed to develop an understanding of greenhouse production techniques and practices. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Advanced Plant and Soil Science

TSDS PEIMS Code: 13002100 (ADVPSSCI)
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, 13002210 (LAB) (AGMECHMT, AGMECMTLAB)
Grade Placement: 10–12
Credit: 1,2
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.

Agricultural Equipment Design and Fabrication

TSDS PEIMS Code: 13002350, 13002360 (LAB) (AGEQDF, AGEQDFLAB)
Grade Placement: 11–12
Credit: 1,2
Prerequisite: None.
Recommended Prerequisites: Agricultural Mechanics and Metal Technologies.
In Agricultural Equipment Design and Fabrication, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment.

Agricultural Power Systems

TSDS PEIMS Code: 13002400, 13002410 (LAB) (AGPOWSYS, AGPOWSYSLAB)
Grade Placement: 10–12
Credit: 2
Prerequisite: None.
Recommended Prerequisite: Principles of Agriculture, Food, and Natural Resources.
Agricultural Power Systems is designed to develop an understanding of power and control systems as related to energy sources, small and large power systems, and agricultural machinery. 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 workplace; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations.

Agricultural Laboratory and Field Experience

TSDS PEIMS Code: see table below
Grade Placement: 11–12
Credit: 1
Corequisite: any course in the Agriculture, Food, and Natural Resources Career Cluster, excluding Principles of Agriculture, Food, and Natural Resources.
Agricultural Laboratory and Field Experience is designed to provide students a laboratory and/or field experience opportunity. To prepare for careers in agriculture, food, and natural resources, students must acquire knowledge and skills that meet entry requirements and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer academic knowledge and technical skills in a variety of settings.
Note: Agricultural Laboratory and Field Experience may be paired with the courses from the Agriculture, Food, and Natural Resources Career Cluster. The TSDS PEIMS information in this table is to be used when the course shown is paired with the Agricultural Laboratory and Field Experience.

Energy and Natural Resource Technology/Agricultural Laboratory and Field Experience
13001110
ENGNRTLAB

Advanced Energy and Natural Resource Technology/Agricultural Laboratory and Field Experience
13001210
ADENRTLAB

Food Technology and Safety/Agricultural Laboratory and Field Experience
13001310
FOODTLAB

Food Processing/Agricultural Laboratory and Field Experience
13001410
FOODPRLAB

Wildlife, Fisheries and Ecology Management/ Agricultural Laboratory and Field Experience
13001510
WFECGTLAB

Range Ecology and Management/Agricultural Laboratory and Field Experience
13001610
RECOMGLAB

Forestry and Woodland Ecosystems/Agricultural Laboratory and Field Experience
13001710
FWECOLAB

Floral Design/Agricultural Laboratory and Field Experience
13001810
FLORALAB

Horticultural Science/Agricultural Laboratory and Field Experience
13002010
HORSCILAB

Greenhouse Operation and Production/Agricultural Laboratory and Field Experience
13002060
GREOPLAB
Agricultural Mechanics and Metal Technologies/Agricultural Laboratory and Field Experience
13002210
AGMECMTLAB

Agricultural Structures Design and Fabrication /Agricultural Laboratory and Field Experience
13002310
AGSDFLAB

Agricultural Equipment Design and Fabrication/Agricultural Laboratory and Field Experience
13002360
AGEQDFLAB

Agricultural Power Systems/Agricultural Laboratory and Field Experience
13002410
GPOWSLAB

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.

Practicum in Agriculture, Food, and Natural Resources/Extended Practicum in Agriculture, Food, and Natural Resources

TSDS PEIMS Code:

13002505 (First Time Taken) (EXPRAFNR1)
13002515 (Second Time Taken) (EXPRAFNR2)

Grade Placement: 11–12

Credit: 3

Prerequisite: None.

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

Corequisites: Practicum in Agriculture, Food, and Natural Resources.

Extended 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.

Geographic Information Systems for Agriculture

TSDS PEIMS Code: N1300280 (GIS4AG)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisites: Principles of Agriculture, Food, and Natural Resources.
Geographic Information systems (GIS) for Agriculture is a comprehensive overview of technology available for implementation in precision agriculture. Students will be introduced to basic terminology and concepts of GIS and Remote Sensing (RS) software programs and participate in applying those concepts and programs as they pertain to the agricultural industry. Students will learn Global Positioning Systems (GPS), remote sensors, satellite data, soil sampling, Unmanned Aerial Support (UAS) and yield monitoring for crop planning, chemical applications, and harvesting. Students will also use GIS/RS software to help mitigate challenges in economics/supply chains, natural resource management, and wildlife conservation using spatial analysis.

Beekeeping and Honey Processing

TSDS PEIMS Code: N1300273 (BEEKHP)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisites: None.
The course is designed to introduce students to the concepts and practices of beekeeping, honey production, and the learning experiences of on-campus and community apiary with actively managed hives. Beekeeping and Honey Processing examines the management of apiaries, honeybees, and their ecological needs related to current agricultural practices. The student outcomes outlined in this course are for students to gain an understanding of honey processing and entrepreneurship. Students will understand the knowledge and skills needed to become an entrepreneur through the product and services of honey processing. Students in Beekeeping and Honey Processing develop an understanding of honey production techniques and practices while emphasizing environmental science related to production decisions. The students will learn about personal protective equipment and how to avoid common hazards associated with beekeeping. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

Architecture & Construction

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Practicum in Architectural Design/Extended Practicum in Architectural Design
Practicum in Interior Design/Extended Practicum in Interior Design

Architecture & Construction

Principles of Architecture

TSDS PEIMS Code: 13004210 (PRINARC)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

Principles of Construction 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.

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.

Topographical Drafting

TSDS PEIMS Code: N1300421 (TOPDR)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Architectural Design, Algebra I, and Geometry.

Topographical Drafting focuses on knowledge and skills essential to map drafting. Emphasis is given to plotting of surveyors' field notes, plotting elevations, contour drawings, plan and profiles, and laying out traverses.

Building Maintenance Technology I

TSDS PEIMS Code: 13005400 (BUILDMA1)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Recommended Prerequisite: Principles of Architecture or Principles of Construction.

In Building Maintenance Technology, I, students will gain knowledge and skills needed to enter the field of building maintenance as a building maintenance technician or supervisor or secure a foundation for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in plumbing; electrical; and heating, ventilation, and air conditioning (HVAC) systems. Additionally, students will learn methods for repair and installation of drywall, roof, and insulation systems.

Building Maintenance Technology II

TSDS PEIMS Code: 13005500 (BUILDMA2)

Grade Placement: 11–12

Credit: 2

Prerequisites: Building Maintenance Technology I.

In Building Maintenance Technology II, students will continue to gain advanced knowledge and skills needed to enter the workforce as a building maintenance technician or supervisor and construction project manager or secure a foundation for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in safety, Occupational Safety, and Health Administration (OSHA) standards, and safety devices in electrical circuits; maintenance of electrical and heating, ventilation, and air conditioning (HVAC) systems; and concepts of historic preservation.

Construction Management I

TSDS PEIMS Code: 13004900 (CONSMGT1)

Grade Placement: 10–12

Credit: 2

Prerequisites: None

Recommended Prerequisites: Algebra I, Geometry, and Principles of Construction.

In Construction Management I, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management I includes the knowledge of design techniques and tools related to the management of architectural and engineering projects.

Construction Management II

TSDS PEIMS Code: 13005000 (CONSMGT2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Construction Management I.

In Construction Management II, students will gain knowledge and skills needed to enter the workforce as apprentice carpenters or building maintenance supervisors' assistants or to build a foundation toward a postsecondary degree in architecture, construction science, drafting, or engineering. Construction Management II includes knowledge of the design, techniques, and tools related to the management of architectural and engineering projects.

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 ll

TSDS PEIMS Code: 13005200 (CONTECH2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Construction Technology l.

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.

Mill and Cabinetmaking Technology

TSDS PEIMS Code: 13005300 (MACTECH)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Recommended Prerequisites: Principles of Architecture and Principles of Construction.

In Mill and Cabinetmaking Technology, students will gain knowledge and skills needed to enter the workforce in mill work and cabinet manufacturing and installation. Students may also apply these skills to professions in carpentry or building maintenance supervision or use the skills as a foundation for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in cabinet design, tool usage, jointing methods, finishes, and industry-level practices such as numerical and computer-control production methods.

Masonry Technology l

TSDS PEIMS Code: 13006300 (MASTECH1)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Recommended Prerequisite: Principles of Construction.

Masonry Technology I provides information and techniques related to basic masonry and safety precautions.

Masonry Technology ll

TSDS PEIMS Code: 13006400 (MASTECH2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Masonry Technology I.

Masonry Technology II is designed to further enhance the skills and knowledge of the beginning masonry student.

Sheet Metal Technology

TSDS PEIMS Code: N1300430 (SHTMTL)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Algebra I, Geometry, Introduction to Manufacturing, Principles of Construction, or Construction Technology I.

The purpose of the proposed Sheet Metal Technology course is to prepare students in grades 11-12 for entry into the HVAC/Mechanical sheet metal installation industry. Students will learn the types of work performed, safety requirements, math skills needed and career path options within the sheet metal trades. Additionally, students will learn and apply the knowledge and skills needed to select the proper material, tools and joining methods for various types of HVAC and exhaust systems. Basic code requirements and Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) design principles will be introduced.

Architectural Design l

TSDS PEIMS Code: 13004600 (ARCHDSN1)

Grade Placement: 10–12

Credit: 1

Prerequisites: Algebra l and English l.

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.

Computer Aided Drafting for Architecture

TSDS PEIMS Code: N1300429 (CAD4ARCH)

Grade Placement: 10–12

Credit: 1

Recommended Prerequisite: Architectural Design.

Computer Aided Drafting for Architecture introduces students to the specific architectural computer aided design and drafting (CADD) software and equipment required to produce architectural working drawings and construction documents.

Interior Design I

TSDS PEIMS Code: 13004300 (INTERDS1)

Grade Placement: 10–12

Credit: 1

Prerequisites: Algebra I and English I.

Recommended Prerequisites: Principles of Architecture and Principles of Construction or Architectural Design I.

Interior Design I is a technical course that addresses psychological, physiological, and sociological needs of individuals by enhancing the environments in which they live and work. Students will use knowledge and skills related to interior and exterior environments, construction, and furnishings to make wise consumer decisions, increase productivity, promote sustainability, and compete in industry.

Interior Design II

TSDS PEIMS Code: 13004400 (INTERDS2)

Grade Placement: 11–12

Credit: 2

Prerequisites: English II, Geometry, and Interior Design I.

Interior Design II is a technical laboratory course that includes the application of the employability characteristics, principles, processes, technologies, communication, tools, equipment, and materials related to interior design to meet industry standards.

Electrical Technology I

TSDS PEIMS Code: 13005600 (ELECTEC1)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisites: Principles of Architecture or Principles of Construction.

In Electrical Technology I, students will gain knowledge and skills needed to enter the workforce as an electrician or building maintenance supervisor, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, and the reading of electrical drawings, schematics, and specifications.

Electrical Technology II

TSDS PEIMS Code: 13005700 (ELECTEC2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Electrical Technology I.

Recommended Prerequisites: Principles of Architecture or Principles of Construction.

In Electrical Technology II, students will gain advanced knowledge and skills needed to enter the workforce as an electrician, a building maintenance technician, or a supervisor; prepare for a postsecondary degree in a specified field of construction or construction management; or pursue an approved apprenticeship program. Students will 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.

Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I

TSDS PEIMS Code: 13005800 (HVACREF1)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles or Architecture, Principles of Construction, or Construction Technology I.

In Heating, Ventilation, and Air Conditioning and Refrigeration Technology I, students will gain knowledge and skills needed to enter the industry as technicians in the HVAC and refrigeration industry or building maintenance industry, prepare for a postsecondary degree in a specified field of construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, principles of HVAC theory, use of tools, codes, and installation of HVAC and refrigeration equipment.

Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II

TSDS PEIMS Code: 13005900 (HVACREF2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I.

Recommended Prerequisites: Principles of Architecture or Principles of Construction.

In Masonry Technology I Masonry Technology I (HVAC) and Refrigeration Technology II, students will gain advanced knowledge and skills needed to enter the industry as HVAC and refrigeration technicians or building maintenance technicians or supervisors, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, use of tools, codes, installation of commercial HVAC equipment, heat pumps, troubleshooting techniques, various duct systems, and maintenance practices.

Plumbing Technology I

TSDS PEIMS Code: 13006000 (PLTECH1)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisites: Principles of Architecture Principles of Construction, or Construction Technology I.

In Plumbing Technology, I, students will gain knowledge and skills needed to enter the industry as a plumbing apprentice, building maintenance technician, or supervisor or prepare for a postsecondary degree in construction management, architecture, or engineering. Students will acquire knowledge and skills in industry workplace basics and employer/customer expectations, including how to use a plumbing code book; how to identify and use power and hand tools; how to be safe on the jobsite and when using hand and power tools; how to apply basic plumbing mathematics and plumbing drawing; and how to identify, fit, and use plastic, copper, cast iron, carbon steel, and corrugated stainless steel pipe. In addition, students will be introduced to gas, drainage, and water supply systems and continue their knowledge of workplace basics and green technologies.

Plumbing Technology II

TSDS PEIMS Code: 13006100 (PLTECH2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Plumbing Technology I.

In Plumbing Technology II, students will gain the advanced knowledge and skills needed to enter the industry as a plumber, building maintenance technician, or supervisor or prepare for a postsecondary degree in mechanical engineering. Students will acquire knowledge and skills in plumbing codes, industry workplace basics, and employer/customer expectations, including tool and jobsite safety, advanced plumbing mathematics, commercial drawings, basic electricity, hanger installation, supports and structural penetrations, roof drains, fixture installation, valves and faucets, and oxy-fuel safety. Students will also learn about setup, cutting, brazing, and welding water system sizing; gas, drain, waste and vent installation and testing; and water heater installation.

Pipefitting Technology I

TSDS PEIMS Code: N1300425 (PIPETEC1)

Grade Placement: 11–12

Credit:1

Prerequisites: Algebra I and geometry.

Recommended Prerequisites: National Center for Construction Education and Research (NCCER) Core, Introduction to Manufacturing, Principles of Construction, or Construction Technology I.

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. This class may lead to the National Center for Construction Education and Research (NCCER) certification.

Pipefitting Technology I Lab

TSDS PEIMS Code: N1300427 (PIPETECL1)

Grade Placement: 11–12

Credit: 1

Prerequisites: Algebra I and geometry.

Recommended prerequisites: National Center for Construction Education and Research (NCCER) Core, Introduction to Manufacturing, Principles of Construction, or Construction Technology I.

Students will learn the types of work performed, responsibilities, 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. This class may lead to the National Center for Construction Education and Research (NCCER) certification.

Pipefitting Technology II

TSDS PEIMS Code: N1300426 (PIPETEC2)
Grade Placement: 11–12
Credit: 1
Required Prerequisite: Pipefitting Technology I.

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. The course may lead to National Center for Construction Education and Research (NCCER) certification.

Pipefitting Technology II Lab

TSDS PEIMS Code: N1300428 (PIPETECL2)
Grade Placement: 11–12
Credit: 1
Required Prerequisite: Pipefitting Technology I.

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. The course may lead to National Center for Construction Education and Research (NCCER) certification.

Practicum in Construction Management

TSDS PEIMS Code:
13006200 (First Time Taken) (PRACCM1)
13006210 (Second Time Taken) (PRACCM2)
Grade Placement: 12
Credit: 2
Prerequisites: Construction Management ll.

Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom.

Practicum in Construction Technology

TSDS PEIMS Code:
13005250 (First Time Taken) (PRACCT1)
13005260 (Second Time Taken) (PRACCT2)
Grade Placement: 12
Credit: 2
Prerequisites: Construction Technology ll; Building Maintenance Technology II; Electrical Technology II; Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II; Plumbing Technology I; or Mill and Cabinetmaking Technology.
In Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class.

Practicum in Masonry Technology

TSDS PEIMS Code:
13006450 (First Time Taken) (PRACMAS1)
13006460 (Second Time Taken) (PRACMAS2)
Grade Placement: 12
Credit: 2
Prerequisite: Masonry Technology ll.
Practicum in Masonry Technology is an occupationally specific course designed to provide classroom technical instruction or work-based learning experiences. Instruction may be delivered through laboratory training or through career preparation delivery arrangements. Safety and career opportunities are included, in addition to work ethics and job-related study in the classroom. Trade and industrial education provides the knowledge, skills, and technologies required for employment in masonry construction. Students will develop knowledge of the concepts and skills related to this trade to apply them to personal/career development. Trade and industrial education depends on and supports integration of academic, career, and technical knowledge and skills. To prepare for success, students must have opportunities to reinforce, apply, and transfer their 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.

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.

Practicum in Interior Design

TSDS PEIMS Code:
13004500 (First Time Taken) (PRACIDS1)
13004510 (Second Time Taken) (PRACIDS2)
Grade Placement: 12
Credit: 2
Prerequisite: Interior Design II.
Practicum in Interior Design is an occupationally specific course designed to provide job- specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services.

Practicum in Construction Management/Extended Practicum in Construction Management

TSDS PEIMS Code:
13006205 (First Time Taken) (EXPRCM1)
13006215 (Second Time Taken) (EXPRCM2)
Grade Placement: 12
Credit: 3
Prerequisite: Construction Management II. Requisite: Practicum in Construction Management.
In Extended Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class.

Practicum in Construction Technology/Extended Practicum in Construction Technology

TSDS PEIMS Code:

13005255 (First Time Taken) (EXPRCT1)
13005265 (Second Time Taken) (EXPRCT2)

Grade Placement: 12
Credit: 3
Prerequisite: Construction Technology ll, Building Maintenance Technology II; Electrical Technology II; Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II; Plumbing Technology I; or Mill and Cabinetmaking Technology.
Corequisite: Practicum in Construction Technology.

In Extended Practicum in Construction Technology, students will be challenged with the application of knowledge and skills gained in previous construction-related coursework. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class.

Practicum in Masonry Technology/Extended Practicum in Masonry Technology

TSDS PEIMS Code:

13006455 (First Time Taken) (EXPRMAS1)
13006465 (Second Time Taken) (EXPRMAS2)

Grade Placement: 12
Credit: 3
Prerequisite: Masonry Technology ll.
Corequisite: Practicum in Masonry Technology.

Extended Practicum in Masonry Technology is an occupationally specific course designed to provide classroom technical instruction or work-based learning experiences. Instruction may be delivered through laboratory training or through career preparation delivery arrangements. Safety and career opportunities are included, in addition to work ethics and job-related study in the classroom. Trade and industrial education provides the knowledge, skills, and technologies required for employment in masonry construction. Students will develop knowledge of the concepts and skills related to this trade to apply them to personal/career development. Trade and industrial education depends on and supports integration of academic, career, and technical knowledge and skills. To prepare for success, students must have opportunities to reinforce, apply, and transfer their 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. For safety and liability considerations, including power tools usage during training, limiting course enrollment to 15 students is recommended.

Practicum in Architectural Design/Extended Practicum in Architectural Design

TSDS PEIMS Code:
13004805 (First Time Taken) (EXPRADS1)
13004815 (Second Time Taken) (EXPRADS2)
Grade Placement: 12
Credit: 3
Prerequisite: Architectural Design II.
Corequisite: Practicum in Architectural Design.
Extended 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.

Practicum in Interior Design/Extended Practicum in Interior Design

TSDS PEIMS Code:
13004505 (First Time Taken) (EXPRIDS1)
13004515 (Second Time Taken) (EXPRIDS2)
Grade Placement: 12
Credit: 3
Prerequisite: Interior Design II.
Corequisite: Practicum in Interior Design.
Extended Practicum in Interior Design is an occupationally specific course designed to provide job-specific skills through laboratory training, job shadowing, or work situations in areas compatible with identified career goals in interior design. In addition, students will be expected to develop knowledge and skills related to housing, furnishings, and equipment construction or equipment management and services.

Arts, A/V Technology & Communications

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Arts, A/V Technology & Communications

Principles of Arts, Audio/Video Technology, and 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.

Digital Communications in the 21st Century

TSDS PEIMS Code: 03580610 (TADGC)

Grade Placement: 9–12

Credit: 1

Digital Communications in the 21st Century will prepare students for the societal demands of increased civic literacy, independent working environments, global awareness, and the mastery of a base set of analysis and communication skills. Students will be expected to design and present an effective product based on well-researched issues in order to thoughtfully propose suggested solutions to authoritative stakeholders. The outcome of the process and product approach is to provide students an authentic platform to demonstrate effective application of multimedia tools within the contexts of global communication and collaborative communities and appropriately share their voices to affect change that concerns their future. 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

Animation I

TSDS PEIMS Code: 13008300 (ANIMAT1)

Grade Placement: 10–12

Credits: 1

Prerequisite: None.

Recommended Prerequisite: Art I or Principles of Art, Audio/Video Technology, and Communications.

Recommended Corequisite: Animation 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 history and techniques of the animation industry.

Animation I/Animation I Lab

TSDS PEIMS Code: 13008310 (ANILAB1)

Grade Placement: 10–12

Credits: 2

Prerequisite: None.

Recommended Prerequisite: Art I and Principles of Art, Audio/Video Technology, and Communications.

Corequisite: Animation I.

Districts are encouraged to offer this lab in a consecutive block with Animation I to allow students sufficient time to master the content of both courses. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.

Animation II

TSDS PEIMS Code: 13008400 (ANIMAT2)

Grade Placement: 11–12

Credits: 1

Prerequisite: Animation I.

Recommended Corequisite: Animation II Lab.

In addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.

Animation ll/Animation ll Lab

TSDS PEIMS Code: 13008410 (ANILAB2)
Grade Placement: 11–12
Credits: 2
Prerequisite: Animation l.
Corequisite: Animation ll.
In addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry. Districts are encouraged to offer this lab in a consecutive block with Animation II to allow students sufficient time to master the content of both courses.

Audio/Video Production l

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 l 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 post-production audio and video products.

Audio/Video Production l/Audio/Video Production l Lab

TSDS PEIMS Code: 13008510 (AVPLAB1)
Grade Placement: 9–12
Credits: 2
Prerequisite: None.
Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications or Digital and Interactive Media.
Corequisite: Audio/Video Production l.
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 products. Requiring a lab requisite for the course affords necessary time devoted specifically to the production and post-production process.
Districts are encouraged to offer this lab in a consecutive block with Audio/Video Production I to allow students sufficient time to master the content of both courses.

Audio/Video Production ll

TSDS PEIMS Code: 13008600 (AVPROD2)
Grade Placement: 10–12
Credits: 1
Prerequisite: Audio/Video Production l.
Recommended Corequisite: Audio/Video Production ll 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.

Audio/Video Production ll/Audio/Video Production ll Lab

TSDS PEIMS Code: 13008610 (AVPLAB2)
Grade Placement: 10–12
Credits: 2
Prerequisite: Audio/Video Production l.
Corequisite: Audio/Video Production ll.

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. Through diverse forms of storytelling and production, students will exercise and develop creativity, intellectual curiosity, and critical-thinking, problem-solving, and collaborative skills. This course may be implemented in an audio format or a format with both audio and video. Requiring a lab requisite for the course affords necessary time devoted specifically to the production and post-production process.

Digital Design and Media Production

TSDS PEIMS CODE: 03580400 (TADGMP)
Grade Placement: 9–12
Credit: 1

Digital Design and Media Production will allow students to demonstrate creative thinking, develop innovative strategies, and use communication tools in order to work effectively with others as well as independently. Students will gather information electronically, which will allow for problem solving and making informed decisions regarding media projects. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will demonstrate a thorough understanding of digital design principles that is transferable to other disciplines. 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 Art and Animation

TSDS PEIMS CODE: 03580500 (TADGAA)

Grade Placement: 9–12

Credit: 1

Recommended prerequisite: Art, Level I.

Digital Art and Animation consists of computer images and animations created with digital imaging software. Digital Art and Animation has applications in many careers, including graphic design, advertising, web design, animation, corporate communications, illustration, character development, script writing, storyboarding, directing, producing, inking, project management, editing, and the magazine, television, film, and game industries. Students in this course will produce various real-world projects and animations. 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.

3-D Modeling and Animation

TSDS PEIMS Code: 03580510 (TA3DMA)

Grade Placement: 9–12

Credit: 1

Recommended prerequisite: Art, Level I.

3-D Modeling and Animation consists of computer images created in a virtual three-dimensional (3-D) environment. 3-D Modeling and Animation has applications in many careers, including criminal justice, crime scene, and legal applications; construction and architecture; engineering and design; and the movie and game industries. Students in this course will produce various 3-D models of real-world objects. 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 Audio Technology I

TSDS PEIMS Code: 13009950 (DATECH1)

Grade Placement: 9–12

Credits: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications or Digital and Interactive Media (DIM) or both Audio/Video Production I and Audio/Video Production I Lab.

Digital Audio Technology I was designed to provide students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, music production and live sound, and additional opportunities and skill sets. Digital Audio Technology I does not replace Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital and Interactive Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.

Digital Audio Technology II

TSDS PEIMS Code: 13009960 (DATECH2)

Grade Placement: 10–12

Credits: 1

Prerequisite: Digital Audio Technology I.

Digital Audio Technology II was designed to provide additional opportunities and skill sets for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, and music production and live sound. Digital Audio Technology II does not replace Audio Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital and Interactive Media (DIM). Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.

Video Game Design

TSDS PEIMS Code: 13009970 (VIDGD)
Grade Placement: 9–12
Credits: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Art, Audio/Video Technology, and Communications.
Video Game Design will allow students to explore one of the largest industries in the global marketplace and the new emerging careers it provides in the field of technology. Students will learn gaming, computerized gaming, evolution of gaming, artistic aspects of perspective, design, animation, technical concepts of collision theory, and programming logic. Students will participate in a simulation of a real video game design team while developing technical proficiency in constructing an original game design.

Web Game Development

TSDS PEIMS Code: 03580830 (TAWEBGD)
Grade Placement: 11–12
Credit: 1
Recommended Prerequisite: Web Design.
Web Game Development will allow students to demonstrate creative thinking, develop innovative strategies, and use digital and communication tools necessary to develop fully functional online games. Web Game Development has career applications for many aspects of the game industry, including programming, art principles, graphics, web design, storyboarding and scripting, and business and marketing. 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.

Video Game Programming

TSDS PEIMS Code: N1300994 (VIDEOGD2)
Grade Placement: 10–12
Credits: 1
Recommended prerequisite: Video Game Design.
Video Game Programming expands on the foundation created in Video Game Design through programming languages such as: C# programming, XNA game studio, Java, and Android App. In this course, students will investigate the inner workings of a fully functional role-playing game (RPG) by customizing playable characters, items, maps, and chests and eventually applying customizations by altering and enhancing the core game code.

Advanced Video Game Programming

TSDS PEIMS Code: N1300995 (VIDEOGD3)

Grade Placement: 10–12

Credits: 1

Recommended Prerequisites: Video Game Design and Video Game Programming

Advanced Video Game Programming students will be introduced to mobile application design and programming using Java and Eclipse for Android devices. Time will be spent learning basic Java programming and working with Android Studio to develop real working apps. Using Unity as an introduction to 3D game development, students will have exposure to and an understanding of: object-oriented programming concepts; game development skill with programs such as Unity; 3D modeling with programs such as Blender; image manipulation with programs such as GIMP; concepts related to the design process; and the ability to communicate and collaborate on group-based projects.

Printing and Imaging Technology I

TSDS PEIMS Code: 13009600 (PRIMTEC1)

Grade Placement: 9–12

Credits: 1

Prerequisite: None.

Recommended Corequisite: Printing and Imaging Technology I Lab.

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. 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 printing industry with a focus on digital prepress and digital publishing.

Printing and Imaging Technology I/Printing and Imaging Technology I Lab

TSDS PEIMS Code: 13009610 (PRILAB1)

Grade Placement: 9–12

Credits: 2

Prerequisite: None.

Corequisite: Printing and Imaging Technology I.

Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. 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 demonstrate an understanding of the printing industry with a focus on digital prepress and digital publishing. Districts are encouraged to offer this lab in a consecutive block with Printing and Imaging Technology I to allow students sufficient time to master the content of both courses.

Printing and Imaging Technology II

TSDS PEIMS Code: 13009700 (PRIMTEC2)
Grade Placement: 10–12
Credits: 1
Prerequisite: None.
Recommended Prerequisites: Printing and Imaging Technology I and Printing and Imaging Technology I Lab.
Recommended Corequisite: Printing and Imaging Technology II Lab.
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 printing industry with a focus on digital prepress and desktop digital publishing.

Printing and Imaging Technology II/Printing and Imaging Technology II Lab

TSDS PEIMS Code: 13009710 (PRILAB2)
Grade Placement: 10–12
Credits: 2
Prerequisite: None.
Corequisite: Printing and Imaging Technology II.
Careers in printing span all aspects of the industry, including prepress, press, and finishing and bindery operations. 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 printing industry with a focus on digital prepress and desktop digital publishing. Districts are encouraged to offer this lab in a consecutive block with Printing and Imaging Technology II to allow students sufficient time to master the content of both courses.

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 I/Commercial Photography I Lab

TSDS PEIMS Code: 13009110 (CPHLAB1)
Grade Placement: 9–12
Credits: 2
Prerequisite: None.
Corequisite: Commercial Photography I.
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. Districts are encouraged to offer this lab in a consecutive block with Commercial Photography I to allow students sufficient time to master the content of both courses.

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.

Commercial Photography II/Commercial Photography II Lab

TSDS PEIMS Code: 13009210 (CPHLAB2)
Grade Placement: 10–12
Credits: 2
Prerequisite: None.
Recommended Prerequisites: Commercial Photography I and Commercial Photography I Lab.
Corequisite: Commercial Photography 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. Districts are encouraged to offer this lab in a consecutive block with Commercial Photography II to allow students sufficient time to master the content of both courses.

Fashion Design I

TSDS PEIMS Code: 13009300 (FASHDSN1)
Grade Placement: 10–12
Credits: 1
Prerequisites: None.
Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications.
Recommended Corequisite: Fashion Design I Lab.
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 fashion industry with an emphasis on design and construction.

Fashion Design I/Fashion Design I Lab

TSDS PEIMS Code: 13009310 (FASLAB1)
Grade Placement: 10–12
Credits: 2
Prerequisite: None.
Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications.
Corequisite: Fashion Design I.
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 fashion industry with an emphasis on design and construction. Districts are encouraged to offer this lab in a consecutive block with Fashion Design I to allow students sufficient time to master the content of both courses.

Fashion Design II

TSDS PEIMS Code: 13009400 (FASHDSN2)
Grade Placement: 11–12
Credits: 1
Prerequisite: Fashion Design I.
Recommended Corequisite: Fashion Design II Lab.
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 fashion industry with an emphasis on design and construction.

Fashion Design II/Fashion Design II Lab

TSDS PEIMS Code: 13009410 (FASLAB2)
Grade Placement: 11–12
Credits: 2
Prerequisite: Fashion Design I.
Corequisite: Fashion Design II.
Careers in fashion span all aspects of the textile and apparel industries. 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 fashion industry with an emphasis on design and construction.

Graphic Design and Illustration I

TSDS PEIMS Code: 13008800 (GRAPHDI1)
Grade Placement: 10–12
Credits: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications.
Recommended Corequisite: Graphic Design and Illustration I Lab.
Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design.

Graphic Design and Illustration I/Graphic Design and Illustration I Lab

TSDS PEIMS Code: 13008810 (GRDLAB1)
Grade Placement: 10–12
Credits: 2
Prerequisite: None.
Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications.
Corequisite: Graphic Design and Illustration I.
Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design.

Graphic Design and Illustration II

TSDS PEIMS Code: 13008900 (GRAPHDI2)

Grade Placement: 10–12

Credits: 1

Prerequisite: Graphic Design and Illustration I.

Recommended Corequisite: Graphic Design and Illustration II Lab.

Within this context, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills.

Graphic Design and Illustration II/Graphic Design and Illustration II Lab

TSDS PEIMS Code: 13008910 (GRDLAB2)

Grade Placement: 10–12

Credits: 2

Prerequisite: Graphic Design and Illustration I.

Corequisites: Graphic Design and Illustration II.

Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills. Districts are encouraged to offer this lab in a consecutive block with Graphic Design and Illustration II to allow students sufficient time to master the content of both courses.

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

Practicum in Animation

TSDS PEIMS Code:

13008450 (First Time Taken) (PRACANI1)

13008460 (Second Time Taken) (PRACANI2)

Grade Placement: 11–12

Credits: 2

Prerequisites: Animation ll and Animation ll Lab.

Building upon the concepts taught in Animation II and its corequisite Animation II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Audio/Video Production

TSDS PEIMS Code:

13008700 (First Time Taken) (PRACAVP1)

13008710 (Second Time Taken) (PRACAVP2)

Grade Placement: 11–12

Credits: 2

Prerequisites: Audio/Video Production ll and Audio/Video Production ll Lab.

Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Printing and Imaging Technology

TSDS PEIMS Code:
13009800 (First Time Taken) (PRACPRI1)
13009810 (Second Time Taken) (PRACPRI2)
Grade Placement: 10–12
Credits: 2
Prerequisites: Printing and Imaging Technology II and Printing and Imaging Technology II Lab.
In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the printing industry with a focus on finishing and bindery operations and customer-based projects. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

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.

Practicum in Fashion Design

TSDS PEIMS Code:
13009500 (First Time Taken) (PRACFAS1)
13009510 (Second Time Taken) (PRACFAS2)
Grade Placement: 11–12
Credits: 2
Prerequisite: Fashion Design II and Fashion Design II Lab.
In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the business aspects of fashion, with emphasis on promotion and retailing. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Graphic Design and Illustration

TSDS PEIMS Code:

13009000 (First Time Taken) (PRACGRD1)
13009010 (Second Time Taken) (PRACGRD2)

Grade Placement: 10–12

Credits: 2

Prerequisites: Graphic Design and Illustration ll and Graphic Design and Illustration ll 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 a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Animation/Extended Practicum in Animation

TSDS PEIMS Code:

13008455 (First Time Taken) (EXPRANI1)
13008465 (Second Time Taken) (EXPRANI2)

Grade Placement: 11–12

Credits: 3

Prerequisites: Animation ll and Animation ll Lab. Corequisite: Practicum in Animation.

Building upon the concepts taught in Animation II and Animation II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Audio/Video Production/Extended Practicum in Audio/Video Production

TSDS PEIMS Code:

13008705 (First Time Taken) (EXPRAVP1)

13008715 (Second Time Taken) (EXPRAVP2)

Grade Placement: 11–12

Credits: 3

Prerequisites: Audio/Video Production ll and Audio/Video Production ll Lab.

Corequisite: Practicum in Audio/Video Production.

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

Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Printing and Imaging Technology/Extended Practicum in Printing and Imaging Technology

TSDS PEIMS Code:

13009805 (First Time Taken) (EXPRPRI)

13009815 (Second Time Taken) (EXPRPRI2)

Grade Placement: 10–12

Credits: 3

Prerequisites: Printing and Imaging Technology ll and Printing and Imaging Technology ll Lab.

Corequisite: Practicum in Printing and Imaging Technology.

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 printing industry with a focus on finishing and bindery operations and customer-based projects. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Commercial Photography/Extended Practicum in Commercial Photography

TSDS PEIMS Code:

13009255 (First Time Taken) (EXPRCPH1)
13009265 (Second Time Taken) (EXPRCPH2)

Grade Placement: 10–12
Credits: 3
Prerequisites: Commercial Photography I and Commercial Photography I Lab.
Corequisite: Practicum in Commercial Photography.

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 Fashion Design/Extended Practicum in Fashion Design

TSDS PEIMS Code:

13009505 (First Time Taken) (EXPRFAS1)
13009515 (Second Time Taken) (EXPRFAS2)

Grade Placement: 11–12
Credits: 3
Prerequisites: Fashion Design II and Fashion Design II Lab.
Corequisite: Practicum in Fashion Design.

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 business aspects of fashion, with emphasis on promotion and retailing. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Graphic Design and Illustration/Extended

Practicum in Graphic Design and Illustration

TSDS PEIMS Code:

13009005 (First Time Taken) (EXPRGRD1)

13009015 (Second Time Taken) (EXPRGRD2)

Grade Placement: 10–12

Credits: 3

Prerequisites: Graphic Design and Illustration ll and Graphic Design and Illustration ll Lab.

Corequisite: Practicum in Graphic Design and Illustration.

In addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop a technical understanding of the industry with a focus on skill proficiency. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.

Practicum in Digital Audio Technology

TSDS PEIMS Code: N1300996 (PRACDAT)

Grade Placement: 11–12

Credits: 2

Prerequisites: Students must have successfully completed Digital Audio Technology I and Digital Audio Technology II.

The Practicum of Digital Audio Course will prepare students for entry into the digital audio or entertainment industry, military, or postsecondary education by partnering with industry and local employers to provide students hands-on, real-world experiences and expectations. Building upon the concepts taught in Digital Audio Technology I and II and its co-requisite Digital Audio Production, students will be expected to develop an increasing understanding of the Audio industry with a focus on industry pathways such as live sounds, broadcast, streaming, podcasting, studio recording and audio for film, video, and games. This course will give students the ability to build their resume and demo reel as well as obtain industry certifications such as Apple Logic Pro X.

Business Management & Administration

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Business Management & Administration

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.

Touch System Data Entry

TSDS PEIMS Code: 13011300 (TSDATAE)
Grade Placement: 9–10
Credits: .5
Prerequisite: None.

In Touch System Data Entry, students apply technical skills to address business applications of emerging technologies. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment.
Students will need to apply touch system data entry skills for production of business documents.

Business Law

TSDS PEIMS Code: 13011700 (BUSLAW)
Grade Placement: 11–12
Credits: 1
Prerequisite: None.

Global Business is designed for students to analyze various aspects of the legal environment, including ethics, the judicial system, contracts, personal property, sales, negotiable instruments, agency and employment, business organization, risk management, and real property.

Business English

TSDS PEIMS Code: 13011600 (BUSENGL)

Grade Placement: 12

Credits: 1

Prerequisite: English lll.

Recommended Prerequisite: Touch System Data Entry.

In Business English, students enhance communication and research skills by applying them to the business environment, in addition to exchanging information and producing properly formatted business documents using emerging technology.

Note: This course satisfies an English credit requirement for students on the Foundation High School Program.

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 I/Business Lab

TSDS PEIMS Code: 13011410 (BUSMLAB1)
Grade Placement: 9–12
Credits: 2
Prerequisite: None.
Corequisite: Business Information Management I.

Business Lab is designed to provide students an opportunity to further enhance previously studied knowledge and skills and may be used as an extension of Business Information Management I or Business Information Management II; it is a recommended corequisite course, and may not be offered as a stand-alone course. 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 enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Business 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 Information Management ll/Business Lab

TSDS PEIMS Code: 13011510 (BUSMLAB2)
Grade Placement: 10–12
Credits: 2
Prerequisite: None.
Corequisite: Business Information Management II.

Business Lab is designed to provide students an opportunity to further enhance previously studied knowledge and skills and may be used as an extension of Business Information Management I or Business Information Management II; it is a recommended corequisite course, and may not be offered as a stand-alone course. 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 enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.

Business 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.

Global Business

TSDS PEIMS Code: 13011800 (GLOBBUS)
Grade Placement: 10–12
Credits: .5
Prerequisite: None.

Global Business is designed for students to analyze global trade theories, international monetary systems, trade policies, politics, and laws relating to global business as well as cultural issues, logistics, and international human resource management.

Virtual Business

TSDS PEIMS Code: 13012000 (VIRTBUS)

Grade Placement: 10–12

Credits: .5

Prerequisite: None.

Recommended Prerequisites: Touch System Data Entry.

Virtual Business is designed for students to start a virtual business by creating a web presence, conducting online and off-line marketing, examining contracts appropriate for an online business, and demonstrating project-management skills. Students will also demonstrate bookkeeping skills for a virtual business, maintain business records, and understand legal issues associated with a virtual business.

Human Resources Management

TSDS PEIMS Code: 13011900 (HRMGT)

Grade Placement: 11–12

Credits: .5

Prerequisite: None.

Human Resources Management is designed to familiarize students with the concepts related to human resource management, including legal requirements, recruitment, employee selection methods, and employee development and evaluation. Students will also become familiar with compensation and benefits programs as well as workplace safety, employee-management relations, and the impact of global events on human resources management.

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.

Practicum in Business Management/Extended Practicum in Business Management

TSDS PEIMS Code:

13012205 (First Time Taken) (EXPRBM)

13012215 (Second Time Taken) (EXPRBM2)

Grade Placement: 11–12

Credits: 3

Prerequisite: None.

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

Corequisite: Practicum in Business Management

Extended 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 decision.

Education & Training

Table of Contents

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.

Child Development Associate (CDA) Foundations

TSDA PEIMS Code: N1300500 (CDAFOUND)

Grade Placement: 10–12

Credit: 1

Recommended Prerequisites: Principles of Education and Training or Principles of Human Services.

The Child Development Associate (CDA) Foundations course is a laboratory course addressing the knowledge and skills related to applying Child Development Associate (CDA) Competency Standards in early childhood environments and understanding how these competencies help young children move with success from one developmental stage to the next. Students will be prepared and informed on the requirements that must be met to apply for the nationally recognized CDA credential.

Instructional Practices

TSDS PEIMS Code: 13014400 (INPRAC)

Grade Placement: 11–12

Credit: 2

Prerequisite: One credit from Education and Training Career Cluster

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.

Communication and Technology in Education

TSDS PEIMS Code: N1300510 (CMTCHED)

Grade Placement: 10–12

Credit: 1

Recommended Prerequisite: Principles of Education and Training

Communication and Technology in Education is an extended course of study designed to provide students with the fundamentals of planning, managing and training services needed to provide learning support services in K-12 classrooms. Students will develop knowledge and skills regarding the professional, ethical, and legal responsibilities in teaching related to educational technology; as well as, understand laws and pedagogical justifications regarding classroom technology use. This course provides an opportunity for students to participate in training related to Google for Education, Microsoft Office Fundamentals, Common Sense Media and Digital Citizenship as they relate to standards set by the International Society for Technology in Education (ISTE).

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.

Practicum in Education and Training/Extended Practicum in Education and Training

TSDS PEIMS Code:

13014505 (First Time Taken) (EXPREDT1)
13014515 (Second Time Taken) (EXPREDT2)

Grade Placement: 12
Credit: 3
Prerequisite: Instructional Practices.
Recommended Prerequisites: Principles of Education and Training, Human Growth, and Development.
Corequisite: Practicum in Education and Training.

Extended 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.

Practicum in Early Learning

TSDS PEIMS Code:

13014520 (First Time Taken) (PRACEL1)
13014530 (Second Time Taken) (PRACEL2)

Grade Placement: 12
Credit: 2
Prerequisite: Child Guidance
Recommended Prerequisites: Child Development or Child Development Associate Foundations.

Practicum in Early Learning is a field-based course that provides students background knowledge of early childhood 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 facilitator and an exemplary industry professional. 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 early learning teachers, trainers, paraprofessionals, or other educational personnel.

Practicum in Early Learning/Extended Practicum Early Learning

TSDS PEIMS Code:

13014525 (First Time Taken) (EXPREL1)
13014535 (Second Time Taken) (EXPREL2)

Grade Placement: 12
Credit: 3
Prerequisite: Child Guidance.
Recommended Prerequisites: Child Development or Child Development Associate Foundations.
Corequisite: Practicum in Early Learning

Extended Practicum in Early Learning is a field-based internship that provides students background knowledge of early childhood 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 facilitator and an exemplary industry professional. 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 early learning teachers, trainers, paraprofessionals, or other educational personnel.

Energy

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Energy

Foundations of Energy

TSDS PEIMS Code: N1300263 (FOUNDEN)

Grade Placement: 9-12

Credit: 1

Foundations of Energy provides students with the fundamentals of Texas energy resources from conventional, unconventional, and renewable sources. Students develop knowledge and skills regarding career and educational opportunities in the production, transmission, and use of energy in Texas, including import and export markets for energy.

Introduction to Process Technology

TSDS PEIMS Code: N1300262 (INTRPT)

Grade Placement: 11-12

Credit: 1

Introduction to Process Technology will introduce students to process technology professions, including the different career opportunities available, and required certification/postsecondary education requirements for each. Introduction to Process Technology is the first of two courses that provide a pathway for the student to learn core competencies, as identified by industries using process technology and postsecondary institutions. This course will provide instruction which can lead to degree programs that support employment in energy, oil and gas process and refining, and chemical manufacturing industries.

Petrochemical Safety, Health, and Environment

TSDS PEIMS Code: N1300264 (PSHAE)

Grade Placement: 11-12

Credit: 1

The Petrochemical Safety, Health, and Environment course is important to learn about environmentally sound work habits within the various process industries, including but not limited to, petrochemical plants, refineries, oil and gas production, and power generation. Emphasis will be placed on safety, health, and environmental considerations in the performance of all job tasks and regulatory compliance matters. Topics include components of industrial plant safety and environmental programs, and the role of a process technician in relation to safety, health, and environmental equipment uses.

Oil and Gas Production I

TSDS PEIMS Code: 13001250 (OILGP1)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

In Oil and Gas Production I, students will identify specific career opportunities and skills, abilities, tools, certification, and safety measures associated with each career. Students will also understand components, systems, equipment, and production and safety regulations associated with oil and gas wells.

Oil and Gas Production I/Agricultural Laboratory and Field Experience

TSDS PEIMS Code: 13001255 (OILGPLAB1)

Grade Placement: 11–12

Credit: 2

Corequisite: any course in the Energy Career Cluster.

Agricultural Laboratory and Field Experience is designed to provide students a laboratory and/or field experience opportunity. To prepare for careers in energy, students must acquire knowledge and skills that meet entry requirements and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer academic knowledge and technical skills in a variety of settings.

Note: Agricultural Laboratory and Field Experience may be paired with the courses from the Energy Career Cluster. The TSDS PEIMS information in this table is to be used when the course shown is paired with the Agricultural Laboratory and Field Experience.

Oil and Gas Production II

TSDS PEIMS Code: 13001260 (OILGP2)

Grade Placement: 10–12

Credit: 1

Prerequisites: Oil and Gas Production I.

In Oil and Gas Production II, students will gain knowledge of the specific requirements for entry into post-secondary education and employment in the petroleum industry; research and discuss petroleum economics; research and discuss the modes of transportation in the petroleum industry; research and discuss environmental, health, and safety concerns; research and discuss different energy sources; and prepare for industry certification.

Oil and Gas Production II/Agricultural Laboratory and Field Experience

TSDS PEIMS Code: 13001265 (OILGPLAB2)

Grade Placement: 11–12

Credit: 2

Corequisite: any course in the Energy Career Cluster.

Agricultural Laboratory and Field Experience is designed to provide students a laboratory and/or field experience opportunity. To prepare for careers in energy, students must acquire knowledge and skills that meet entry requirements and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer academic knowledge and technical skills in a variety of settings.

Note: Agricultural Laboratory and Field Experience may be paired with the courses from the Energy Career Cluster. The TSDS PEIMS information in this table is to be used when the course shown is paired with the Agricultural Laboratory and Field Experience.

Oil and Gas Production IV

TSDS PEIMS Code: N1300257 (PRODSYS4)

Grade Placement: 11-12

Credit: 1

Prerequisites: Oil and Gas III.

A study of the petroleum industry will be conducted from the data management perspective. Current knowledge and technical aspects of the oil and gas industry will be reviewed with regard to the various operational functionalities of well completions under various wellbore conditions. This course prepares students to assess the effects of drilling through the production formation and choose tools and procedures for completing a drilled wellbore. This course may be taught with related courses in petroleum engineering technology.

Introduction to Instrumentation and Electrical

TSDS PEIMS Code: N1303900 (INSTELEC)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Integrated Chemistry and Physics (IPC) or Chemistry.

Introduction to Instrumentation and Electrical will introduce students to instrumentation professions, including the different career opportunities available and required certification/postsecondary education requirements for each. Introduction to Instrumentation is the first of two courses that provide a pathway for the student to learn core competencies, as identified by industries using process instrumentation and postsecondary institutions such as simple control loops, an introduction to pressure, temperature, level, flow transmitters and the various transducers used in the detection of changes in process variables.

Advanced Instrumentation and Electrical

TSDS PEIMS Code: N1303901 (ADVINELEC)

Grade Placement: 11–12

Credit: 1

Recommended prerequisite: Algebra I and Introduction to Instrumentation and Electrical.

In the Advanced Instrument and Electrical course students will gain advanced knowledge and skills specifically needed to enter the workforce in the refining and chemical processes industry. This course builds on the skills learned in the Introduction to Instrumentation and Electrical course. Students in the Advanced Instrumentation and Electrical course will be introduced to the safety regulations in the industry and the agencies that oversee these regulations. Students will learn the electrical theories and calculations needed to troubleshoot electrical circuits and the tools and instruments used to fix or replace the electrical components including switches, relays, capacitors, resistors, and motors. Students will also learn how to identify, fabricate, and replace tubing and piping used in refining and chemical processes.

Practicum in Energy

TSDS PEIMS Code: NN1303910 (PRACENRG)

Grade Placement: 12

Credit: 2

Recommended prerequisite: At least one of the following courses, Oil and Gas Production II/Lab, OSET I, Oil and Gas Production III, OSET II, Career Preparation, Oil and Gas Production IV, Introduction to Process Technology, Introduction to Instrumentation and Electrical, Petrochemical Safety, Health, and Environment, Advanced Instrumentation and Electrical, AC/DC Electronics, Introduction to Renewable Energy, Energy and Natural Resources Technology/Lab, Environmental Sustainability (PLTW), Solid State Electronics, Scientific Research and Design or Digital Electronics

The Practicum in Energy course gives students the opportunity to apply what they have learned in the classroom in a real-world setting designed to prepare students for occupation in the oil and gas, refinery, and renewable natural resources industries. In this course, students will learn how to communicate in the field and work safely in a variety of situations and environments common in the energy occupations. Students will also learn about the energy balance, the distribution of power, the technology used in the field and the regulations and environmental impact of the industry.

Finance

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Finance

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.

Money Matters

TSDS PEIMS Code: 13016200 (MONEYM)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

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

In Money Matters, students will investigate money management from a personal financial perceptive. Students will apply critical-thinking skills to analyze financial options based on current and projected economic factors. Students will gain knowledge and skills necessary to establish short-term and long-term financial goals. Students will examine various methods of achieving short-term and long-term financial goals through various methods such as investing, tax planning, asset allocating, risk management, retirement planning, and estate planning.

Securities and Investments

TSDS PEIMS Code: 13016400 (SECINV)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance.
In Securities and Investments, students will understand the laws and regulations to manage business operations and transactions in the securities industry.

Insurance Operations

TSDS PEIMS Code: 13016500 (INSOPS)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance.
In Insurance Operations, students will understand the laws and regulations to manage business operations and transactions in the insurance industry.

Banking and Financial Services

TSDS PEIMS Code: 13016300 (BANKFIN)
Grade Placement: 10–12
Credit: .5
Prerequisites: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance.
In Banking and Financial Services, students will develop knowledge and skills in the economic, financial, technological, international, social, and ethical aspects of banking to become competent employees and entrepreneurs. Students will incorporate a broad base of knowledge that includes the operations, sales, and management of banking institutions to gain a complete understanding of how banks function within society.

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 Analysis

TSDS PEIMS Code: 13016800 (FINANAL)

Grade Placement: 11–12

Credit: 1

Prerequisite: Accounting I.

In Financial Analysis, students will apply knowledge and technical skills in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students will develop analytical skills by actively evaluating financial results of multiple businesses, interpreting results for stakeholders, and presenting strategic recommendations for performance improvement.

Statistics and Business Decision Making

TSDS PEIMS Code: 13016900 (STATBDM)

Grade Placement: 11–12

Credit: 1

Prerequisite: Algebra ll.

Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid.

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

Government & Public Administration

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Government & Public Administration

Principles of Government and Public Administration

TSDS PEIMS Code: 13018200 (PRINGPA)
Grade Placement: 9–11
Credit: 1
Prerequisite: None.

Principles of Government and Public Administration introduces students to foundations of governmental functions and career opportunities within the United States and abroad. Students will examine governmental documents such as the U.S. Constitution, current U.S. Supreme Court and federal court decisions, and the Bill of Rights.

Political Science I

TSDS PEIMS Code: 13018300 (POLISCI1)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisites: Principles of Government and Public Administration.

Political Science I introduces students to political theory through the study of governments, public policies, political processes, systems, and behavior.

Political Science II

TSDS PEIMS Code: 13018400 (POLISCI2)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisites: Principles of Government and Public Administration or Political Science I.

Political Science II uses a variety of learning methods and approaches to examine the processes, systems, and political dynamics of the United States and other nations. The dynamic component of this course includes current U.S. and world events.

Foreign Service and Diplomacy

TSDS PEIMS Code: 13018900 (FORSRVD)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Government and Public Administration or Principles of Law, Public Safety, Corrections, and Security.

Foreign Service and Diplomacy provides the opportunity for students to investigate the knowledge and skills necessary for careers in foreign service. The course includes law, history, media communication, and international relations associated with the diplomatic environment.

Dimensions of Diplomacy

TSDS PEIMS Code: N1301820 (DIDIPL)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Principles of Government and Public Administration, Political Science I, and/or Foreign Service and Diplomacy; two levels of languages other than English (LOTE).

Recommended corequisite: Statistics and/or Psychology.

Dimensions of Diplomacy is designed to allow students to master the Thirteen Dimensions that candidates interested in careers with the United States Department of State must demonstrate during the selection process for internships, scholarships, fellowships, and career opportunities. Students will develop global competencies, problem-solving, decision-making, professional communication and negotiation skills applicable to all clusters and professions but particularly relevant to international diplomacy and careers with multinational firms.

Planning and Governance

TSDS PEIMS Code: 13018700 (PLANGOV)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisites: Principles of Government and Public Administration.

Planning and Governance is a course offering students an opportunity to formulate plans and policies to meet social, economic, and physical needs of communities.

National Security

TSDS PEIMS Code: 13018800 (NATLSEC)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisites: Principles of Government and Public Administration and Public Management and Administration or Principles of Law, Public Safety, Corrections, and Security or Junior Reserve Officer Training Corps (JROTC) coursework.

National Security introduces the students to the aspects of disaster management. The course includes engaging simulation exercises related to natural disasters, man-made disasters, and terroristic events using homeland security programs and National Incident Management System (NIMS) programs.

Public Management and Administration

TSDS PEIMS Code: 13018600 (PUBMANAD)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Government and Public Administration or Business Management or Business Law.

Public Management and Administration reviews actions and activities that governments and nonprofit administrations commonly use and that resemble private-sector management. Students will be introduced to management tools that maximize the effectiveness of different types and styles of administrators and affect the quality of life of citizens in the community.

Revenue, Taxation, and Regulation

TSDS PEIMS Code: 13018500 (REVTAXRE)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Government and Public Administration or Accounting I and II.

Revenue, Taxation, and Regulation provides an overview of law and investigative principles and follows agency procedures to examine evidence and ensure revenue compliance. In addition, students will learn to facilitate clear and positive communication with taxpayers and become familiar with data analysis systems and revenue-related financial problems. Students will prepare projects and class activities to simulate the skills needed to enforce legal compliance and regulatory standards.

Practicum in Local, State, and Federal Government

TSDS PEIMS Code:
13019000 (First Time Taken) (PRACLSF1)
13019010 (Second Time Taken) (PRACLSF2)
Grade Placement: 11–12
Credit: 2
Prerequisite: None.
Students in the Practicum in Local, State, and Federal Government will concurrently learn advanced concepts of political science and government workings in the classroom setting and in the workplace. In addition, students will apply technical skills pertaining to government and public administration in a direct mentorship by individuals in professional settings such as government, public management and administration, national security, municipal planning, foreign service, revenue, taxation, and regulation.

Practicum in Local, State, and Federal Government/Extended

Practicum in Local, State, and Federal Government

TSDS PEIMS Code:
13019005 (First Time Taken) (EXPRLSF1)
13019015 (Second Time Taken) (EXPRLSF2)
Grade Placement: 11–12
Credit: 3
Prerequisite: None.
Corequisite: Practicum in Local, State, and Federal Government.
Students in the Extended Practicum in Local, State, and Federal Government will concurrently learn advanced concepts of political science and government workings in the classroom setting and in the workplace. In addition, students will apply technical skills pertaining to government and public administration in a direct mentorship by individuals in professional settings such as government, public management and administration, national security, municipal planning, foreign service, revenue, taxation, and regulation.

Health Science

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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.

Principles of Allied Health

TSDS PEIMS Code: N1302105 (ALLHLTH)

Grade Placement: 9–10

Credit: 1

Prerequisites: None.

Principles of Allied Health is designed to provide the basic concepts, knowledge and skills necessary for a health career in an allied health field. This course will focus on concepts associated with the healthcare industry standards, respiratory therapy, physical and occupational therapy, radiological imaging, and pharmaceuticals. This is the foundation course for the medical therapy pathway in the health science cluster. This course is designed for students that are interested in pursuing careers in the allied health fields.

Principles of Diagnostic Healthcare

TSDS PEIMS Code: N1302106 (DIGHLTH)

Grade Placement: 9–10

Credit: 1

Prerequisites: None.

The Principles of Diagnostic Healthcare course is designed to provide students with an overview of the education and career opportunities in this rapidly growing and significant sector of health care. Students will be provided with experiential learning activities in clinical diagnostic applications while building the knowledge and skills needed to investigate and analyze disease processes. This course is designed to foster student interest and allow for exploration of diagnostic healthcare professions and industry-based certifications. The goal is to prepare

students for 21st-century careers and with an emphasis on the development of knowledge, understanding, and application of science, biology, technology, and mathematical skills. Clinical diagnostic careers require students to generate intellectual inquiry, entice critical thinking, and use problem-solving and analytical skills that will lead to data-driven decisions. Areas of concentration will include laboratory sciences, digital radiography, nuclear medicine, electrocardiograms (EKGs) and ophthalmic technologies.

Principles of Exercise Science and Wellness

TSDS PEIMS Code: N1302107 (EXSCIWL)

Grade Placement: 9–10

Credit: 1

Prerequisites: None.

The Principles of Exercise Science and Wellness course is designed to provide for the development of knowledge and skills in fields that assist patients with maintaining physical, mental, and emotional health. Students in this course will understand diet and exercise, as well as techniques to help patients recover from injury, illness, and disease. They will also learn about introductory health science topics such as employability skills, lifespan development, and ethical and legal standards. Students who take this course are ideally interested in such careers as physical therapy, athletic training, nutrition, personal training, and recreational therapy. The central focus of this course is to provide students with a solid foundation in the topics of health and wellness and increase their interest in the various careers available in these fields.

Principles of Health Informatics

TSDS PEIMS Code: N1302108 (HLTHINF)

Grade Placement: 9–12

Credit: 1

Prerequisites: None.

The Principles of Health Informatics course introduces students to of one of the fastest growing areas in academia and industry professions. A large gap exists between state-of-the art computer technologies and the state of affairs in health care information technology. The result is an increased 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.

Principles of Nursing Science

TSDS PEIMS Code: N1302109 (NURSSCI)

Grade Placement: 9–10

Credit: 1

Prerequisites: None.

The Principles of Nursing Science course introduces students to basic principles of the profession of nursing. The goals/student outcomes for the course include knowledge of the history of nursing, an introduction to nursing theory, professionalism (teamwork, communication, conflict

resolution), legal/ethical issues in nursing, infection control, safety, and customer (patient) satisfaction. Skills learned include vital signs and how to document on a graphic record, patient positioning/transferring, bed-making, feeding, and personal protective equipment (PPE).

Principles of Therapeutic Healthcare

PEIMS Code: N1302110 (THERHLTH)
Grade Placement: 9–10
Credit: 1
Recommended Corequisite: Biology.
The Principles of Therapeutic Healthcare course is an introductory class for students who are interested in pursuing careers within the therapeutic pathway of the healthcare industry. Principles of Therapeutic Healthcare will provide students an overview of the knowledge, skills and abilities associated with careers within the therapeutic pathway of the healthcare industry. These careers include direct patient care jobs, rehabilitation and jobs caring for individuals with physical and developmental delays.

Introduction to Dental Science

TSDS PEIMS Code: N1302101 (DNTSCI)
Grade Placement: 9–11
Credit: 1
Prerequisites: None.
Introduction to Dental Science is a introductory health science course designed to initiate secondary students to the field of dentistry and related topics. At the end of the course, students will be able to discuss the history of dentistry; identify dental related career pathways; explain dental legal and ethical responsibilities; recognize professional healthcare behavior and demeanor; and perform basic routine dental office procedures. The purpose of this course is to establish a foundation for future coursework in dental science and prepare secondary students for a future career in dentistry.

Introduction to Imaging Technology

TSDS PEIMS Code: N1302102 (IMGTECH)
Grade Placement: 9–10
Credit: 1
Prerequisites: None.
The Introduction to Imaging Technology course provides students an introduction to the basic principles, guidelines, and knowledge needed for members of the medical imaging field. This course will provide the student with an overview of radiography and its role within the health care system, including basic radiologic terminology, equipment, basic image production, patient positioning, and radiation safety. The student will study human anatomic structures and organs, as well as the standard positioning associated with the chest, abdomen, upper and lower extremities. This course is recommended for students grades 9-10 interested in the medical imaging field.

Biomedical Innovation

TSDS PEIMS Code: N1302095 (BIOINN)

Grade Placement: 11-12

Credit: 1

In the PLTW Biomedical Innovation (BI) course, students will be asked to apply what they have learned in the previous three courses to solve unique problems in science, medicine, and healthcare. Students will work systematically through required problems before completing optional directed problems or independent work.

Principles of Biomedical Science (PLTW)

TSDS PEIMS Code: N1302092 (PRBIOSCI)

Grade Placement: 11-12

Credit: 1

The Principles of Biomedical Science (PBS)- PLTW course provides an introduction to biomedical science through hands-on projects and problems. Students investigate concepts of biology and medicine as they explore health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. They will determine the factors that led to the death of a fictional woman as they sequentially piece together evidence found in her medical history and her autopsy report. Students will investigate lifestyle choices and medical treatments that might have prolonged the woman's life and demonstrate how the development of disease is related to changes in human body systems.

Medical Interventions

TSDS PEIMS Code: N1302094 (MEDINT)

Grade Placement: 10-12

Credit: 1

In the Medical Interventions (MI)-PLTW course students investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease as they follow the lives of a fictitious family. Through these scenarios students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Each family case scenario will introduce multiple types of interventions; reinforce concepts learned in the previous two courses, and present new content. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. These interventions will be showcased across the generations of the family and will provide a look at the past, present, and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important role that scientific thinking and engineering design play in the development of interventions of the future.

Human Body Systems

TSDS PEIMS Code: N1302093 (HUMBODSY)

Grade Placement: 10-12

Credit: 1

In the Project Lead The Way [PLTW] Human Body Systems (HBS) course, students examine the interactions of body systems as they explore deeply biological identity, communication, power, movement, protection, and homeostasis. Through individual and team activities, projects, and problems, students design experiments, investigate the structures and function of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiration.

Introduction to Pharmacy Science

PEIMS Code: N1302103 (PHARSCI)

Grade Placement: 9–10

Credit: 1

Prerequisites: None.

The Introduction to Pharmacy Science course is designed to provide an overview of the history of the pharmacy profession, legal and ethical aspects of pharmacy, skills necessary to work in the field of pharmacy (including professionalism, certifications/registration, communication and medical terminology, and rules and regulations pertaining to the field), medical math, anatomy and physiology/pathophysiology, pharmacology, and wellness as they pertain to pharmacy sciences. It is the first course in a pathway leading to certification as a pharmacy technician.

Introduction to Dental Science

TSDS PEIMS Code: N1302100 (INTSPA)

Grade Placement:10–12

Credit: 1

Recommended prerequisites: Anatomy and Physiology and Principles of Health Science.

The Introduction to Speech-Language Pathology and Audiology course is designed to provide for the development of advanced knowledge and skills related to the professions that specialize in communication disorders: speech-language pathology, audiology, hearing, and speech and language science. Topics are related to defining the professional practice areas of speech-language pathology, audiology and hearing, and speech and language science; the scope of practice as determined by the American Speech-Language-Hearing Association for these professions; multicultural service delivery for individuals with communication disorders; certification; code of ethics; practice settings; employment opportunities; and the use of technology in management and treatment of communication disorders.

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.

World Health Research

TSDS PEIMS Code: 13020900 (WORLDHR)

Grade Placement: 11–12

Credit: 1

Prerequisites: Biology and Chemistry.

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

The World Health Research course is designed to examine major world health problems and emerging technologies as solutions to these medical concerns. It is designed to improve students' understanding of the cultural, infrastructural, political, educational, and technological constraints and inspire ideas for appropriate technological solutions to global medical care issues.

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.

Kinesiology I

TSDS PEIMS Code: N1302104 (KINES1)

Grade Placement: 9–10

Credit: 1

Prerequisites: None.

This course is designed to introduce students to the basic concepts of kinesiology. Students will gain an understanding of body mechanics, physiological functions of muscles and movements, the history of kinesiology, and the psychological impact of sports and athletic performance. Students will also explore careers within the kinesiology field and be able to explain the societal demand for kinesiology-related jobs. Students will develop a foundation in Kinesiology I that will prepare them for upper-level courses that will dive deeper into the anatomical and physiological functions of the body and provide opportunities for an industry-certified exam such as a certified personal trainer.

Health Informatics

TSDS PEIMS Code: 13020960 (HLTHINF)

Grade Placement: 11–12

Credit: 1

Prerequisites: 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 ll.

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.

Speech and Language Development

TSDS PEIMS Code: N1302098 (SLDEV)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Principles of Health Science, Principles of Health Science, Anatomy and Physiology, and Introduction to Speech Pathology and Audiology.

The Speech and Language Development course provides for the development of advanced knowledge and skills related to the speech and language acquisition and growth of developing children. A clear understanding of healthy speech development as well as the speech, language, and communication developmental milestones is a prerequisite for studying communication disorders. To pursue a career in communication sciences and disorders, students should learn the biological, neurological, psychological, developmental, and cultural bases of human communication and the building blocks for learning to listen, speak, read, and write using language to understand and express meaning.

Speech and Communication Disorders

TSDS PEIMS Code: N1302099 (SCDIS)

Grade Placement: 11–12

Credit: 1

Recommended Prerequisites: Principles of Health Science, Anatomy and Physiology, Introduction to Speech-Language Pathology and Audiology, Speech and Language Development, and Human Growth and Development.

The Communication Disorders course is designed to provide for the development of advanced knowledge and skills related to an overview of communication disorders that occur in children and adults in the areas of speech sound production, stuttering, voice disorders, and the language areas of semantics, syntax, pragmatics, phonology, and metalinguistics. An overview of treatment for hearing loss and deafness will also be provided. To pursue a career as a speech-language pathologist or audiologist, students should learn to think critically, make decisions, solve problems, and communicate effectively.

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.

Health Science Theory/Health Science Clinical

TSDS PEIMS Code: 13020410 (HLSCLIN)

Grade Placement: 10–12

Credit: 2

Prerequisites: Biology.

Corequisite: Health Science Theory.

The Health Science Clinical 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. Districts are encouraged to offer this course in a consecutive block with Health Science Theory to allow students sufficient time to master the content of both courses.

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.

Practicum in Nursing

TSDS PEIMS Code:
13021230 (First Time Taken) (PRACNRS)

Grade Placement: 11–12

Credit: 2

Prerequisites: one credit in biology, one credit in chemistry, and at least one course in a Level 2 or higher course in the nursing science program of study.

Corequisite: Practicum in Health Science.

Practicum in Nursing is designed to give students practical applications of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

Allied Health Therapeutic Services

TSDS PEIMS Code: N1302120 (ALLHTS)

Grade Placement: 10–11

Credit: 1

Recommended prerequisites: Principles of Allied Health

Allied Health Therapeutic Services builds on the concepts from Principles of Allied Health and allows students to apply the concepts, knowledge, and skills necessary for healthcare careers in an allied health field. This course will focus on anatomy and physiology, medical terminology, and career skills and exploration associated with the healthcare industry standards for respiratory therapy, physical and occupational therapy, radiological imaging, and pharmaceuticals. This course is designed for students who are interested in pursuing careers in the allied health fields.

Clinical Ethics

TSDS PEIMS Code: N1302121 (CLINETH)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Principles of Nursing Science and Science of Nursing.

The Clinical Ethics course is a practical review of a discipline that provides a structured approach to assist health professionals in identifying, analyzing, and resolving ethical issues that arise in clinical practice. Students analyze ongoing developments in advanced medical technology. The course may raise awareness of or concerns about the ethical dimensions of clinical care. Students will leave the course with a practical awareness of how to respect diverse perspectives on ethics, morals, and values in healthcare.

Dental Anatomy and Physiology

TSDS PEIMS Code: N1302122 (DENTAP)

Grade Placement: 10-12

Credit: 1

Recommended prerequisites: Biology and Introduction to Dental Science.

Dental Anatomy and Physiology is a health science course designed for exploration of the physiology of the head, neck, oral, and dental anatomy. Students will identify and describe functions of anatomical structures, including the bones, muscles, nerves, and blood vessels of the head and neck as well as their relationship to the corresponding body systems. Students will also identify and describe oral, head and neck pathologies, conditions, diagnostic tools, treatments, and professions. While this course is identified as dental, it is well suited for all students interested in pursuing any of the professions involved with the head and neck such as dentistry, otolaryngology, optometry, radiology, audiology, neurology, reconstructive/plastic surgery.

Imaging Technology I

TSDS PEIMS Code: N1302123 (IMGTEC1)

Grade Placement: 10-11

Credit: 1

Recommended prerequisites: Introduction to Imaging Technology.

The Imaging Technology I course provides students with the opportunity to learn about standard radiographic positioning and related medical terminology of the chest, abdomen, and upper and lower extremities. The course introduces students to the operation of X-ray equipment, analyzing X-rays, and maintaining diagnostic results. Imaging Technology I prepares students for college, career and military readiness by allowing the student the opportunity to obtain an industry certification, enter the workforce upon graduation from high school, or transition to a postsecondary institution with the prior knowledge to be successful in a radiology career field.

Imaging Technology II

TSDS PEIMS Code: N1302131 (IMGTEC2)

Grade Placement: 11-12

Credit: 1

Prerequisite: Imaging Technology I.

Recommended prerequisites: Introduction to Imaging Technology.

The Imaging Technology II Clinical course provides students with the opportunity to further their education in radiographic imaging. Students will develop a better understanding of radiographic physics, anatomy, equipment, and obtaining and correcting radiographic images. Students are given the opportunity to learn hands-on by participating in the clinical portion of this course. Imaging Technology II Clinical helps prepare students for college, career, and military readiness by allowing the student the opportunity to obtain an industry-based certification, enter the workforce upon graduation from high school, or transition to a post-secondary institution with the prior knowledge to be successful in a radiology career field.

Kinesiology II

TSDS PEIMS Code: N1302124 (KINES2)

Grade Placement: 11-12

Credit: 1

Recommended prerequisite: Kinesiology I.

The Kinesiology II course is designed to provide students an advanced level of knowledge, skills, and understanding of body composition and the effect on health, nutritional needs of physically active individuals, qualitative biomechanics, application of therapeutic modalities, appropriate rehabilitation services, and aerobic training intensity programs. The course is designed to allow students to advance their understanding of professional standards, employability skills, and ethical and legal standards. Throughout this course, students explore the healthcare/exercise business model and gain an understanding of therapeutic sports psychology. Students develop proper aerobic fitness programs and rehabilitation programs. Kinesiology II prepares students for an industry certification exam such as Certified Personal Trainer.

Medical Intervention Evaluation and Research

TSDS PEIMS Code: N1302125 (MEDINEV)

Grade Placement: 10-11

Credit: 1

Recommended prerequisite: Principles of Health Informatics or Principles of Health Science.

Medical Intervention, Evaluation, and Research further develops basic knowledge of health informatics, data management, and biotechnological advances and their connections in the various healthcare settings. Topics include informatics in medical intervention and evaluation, electronic patient management systems, applications in medical diagnostics, best practices in billing and coding medical diagnosis and procedures, appropriate International Classification of Diseases (ICD) 10 codes, fraud prevention, and databases culminating in an extended learning experience. The demand and growth in the field precipitates a needed integration of multiple medical technologies and their impact in healthcare delivery.

Optical Technician

TSDS PEIMS Code: N1302117 (OPTTECH)

Grade Placement: 10-12

Credit: 1

Recommended prerequisites: Biology or Principles of Health Science.

The Optical Technician course introduces high school students to the profession of dispensing eyeglasses and fitting contact lenses. The course includes classroom lectures, hands-on lab hours, and community clinics. The student will be proficient in the terminology of a dispensing optician and in using appropriate professional communication when engaging with patients, peers, colleagues, supervisors, and eye care providers. The course is designed to help the student prepare for entry-level positions in wholesale, retail, benevolent, and independent optical settings.

Pharmacy I

TSDS PEIMS Code: N1302127 (PHARMCY1)

Grade Placement: 10-11

Credit: 1

Recommended Prerequisites: Biology, Introduction to Pharmacy Science, or Principles of Health Science.

The Pharmacy I course is designed to build upon the knowledge and skills taught in the Introduction to Pharmacy Science course. Students build on their existing foundation of knowledge and skills needed to pursue a career in the pharmaceutical field such as a pharmacy technician or pharmacist). Instruction includes pharmacokinetics, pharmacy law, medication safety, the dispensing process, and inventory. This course is aligned with the standards of the national certification exams that students might take, such as Pharmacy Technician Certification Examination (PTCE) and/or Exam for the Certification of Pharmacy Technicians (ExCPT). Recommended participants are students who wish to become certified pharmacy technicians.

Pharmacy II

TSDS PEIMS Code: 13021030 (PHARMII)

Grade Placement: 11-12

Credit: 1

Prerequisites: one credit in biology, one credit in chemistry, and Pharmacy I.

Recommended Prerequisites: Algebra I, Introduction to Pharmacy Science, and Pharmacy I.

The Pharmacy II course provides students with the advanced knowledge and skills to explore various careers in the pharmacy field, including pharmacology, pharmacy law, medication errors, inventory pharmacy calculations, compounding, and workflow expectations in a pharmacy setting. Pharmacy II is designed to be the third course in a pathway leading to college and career readiness in the healthcare therapeutics professions. The course content aligns with the competencies of pharmacy technician certification examinations.

Physical Therapy I

TSDS PEIMS Code: N1302128 (PHYTHER1)

Grade Placement: 10-12

Credit: 1

Recommended prerequisites: Biology, Principles of Health Science or Principles of Allied Health, or Medical Terminology.

Physical Therapy I is designed to provide basic concepts, knowledge, and skills needed to work within physical therapy practice under the supervision of a licensed physical therapist/physical therapist assistant. Specifically, the course focuses on proper management of patient care to safely assist patients/therapists; management of equipment as it relates to physical therapy; strengthening and conditioning; and communication skills to work effectively within a physical therapy practice. This course is designed for students in grades 10, 11, or 12 who desire to work in a physical therapy clinic and/or advance to become a licensed physical therapist/physical therapist assistant.

Physical Therapy II

TSDS PEIMS Code: N1302134 (PHYTHER2)

Grade Placement: 11-12

Credit: 1

Recommended prerequisites: Biology or Physical Therapy I.

Recommended corequisites: Anatomy and Physiology.

The Physical Therapy II innovative course is intended for 11th- and 12th-grade students. Students will build upon the foundational skills that were learned in Physical Therapy I by practicing skills such as musculoskeletal strength and range of motion (ROM), practicing, and analyzing safety techniques, teaching therapeutic exercise routines, and professional skills. Upon completing this course, students will have the foundational knowledge to pursue post-secondary education that leads to a career as a licensed Physical Therapist or Physical Therapist Assistant.

Science of Nursing

TSDS PEIMS Code: N1302129 (SCINURS)

Grade Placement: 10-11

Credit: 1

Recommended prerequisite: Principles of Nursing Science or Principles of Health Science.

The Science of Nursing course introduces students to basic research-based concepts in nursing. Topics include the nursing process, the importance of critical thinking to patient care, regulatory agencies, and professional organizations. Instruction includes skills needed to pursue a nursing degree and training requirements required for specialty nursing roles. Knowledge and skills learned will include emergency care, patient assessment, basic interpretation of vital signs, identification of patients with physical and mental disabilities, patient positioning, use of assistive devices, and application of nursing theories in patient care plans.

Healthcare Administration and Management

TSDS PEIMS Code: 13020962 (HLTHAM)

Grade Placement: 11-12

Credit: 1

Prerequisites: Medical Terminology

Recommended prerequisite: Principles of Health Science and Business Information Management I.

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

Respiratory Therapy I

TSDS PEIMS Code: 13021120 (RESPTHI)

Grade Placement: 11-12

Credit: 1

Prerequisites: At least one credit in a course from the Health Science Career Cluster.

Recommended Prerequisites: None

Respiratory Therapy I is a technical lab course that addresses knowledge and skills related to cardiopulmonary medicine. Respiratory therapists are specialized healthcare practitioners trained in cardiopulmonary medicine to work therapeutically with people suffering from cardiopulmonary diseases. Students will learn basic knowledge and skills performed by respiratory therapists using equipment such as: stethoscopes, sphygmomanometers, thermometers, pulse oximeters, oxygen delivery devices (nasal cannula, masks of various types), nebulizers, and airway clearance and hyperinflation therapy devices.

Respiratory Therapy II

TSDS PEIMS Code: 13021122 (RESPTHII)

Grade Placement: 11-12

Credit: 1

Prerequisites: Respiratory I

Recommended Prerequisites: None

Respiratory Therapy II is a technical lab course that addresses knowledge and skills related to critical care and cardiopulmonary medicine. Respiratory therapists are specialized healthcare practitioners trained in cardiopulmonary medicine to work therapeutically with people suffering from cardiopulmonary diseases. Students will learn advanced knowledge and skills performed by respiratory therapists using equipment such as stethoscopes, sphygmomanometers, thermometers, pulse oximeters and monitors, oxygen delivery devices (nasal cannula, masks of various types), nebulizers, airway clearance and hyperinflation therapy devices, spirometers, and intubation mannequin heads and equipment (endotracheal tubes, laryngoscopes, stylets).

Leadership and Management in Nursing

TSDS PEIMS Code: 13021225 (LMNURS)

Grade Placement: 11-12

Credit: 1

Prerequisites: One credit in biology, one credit in chemistry, and at least one credit in a course from the Health Science Career Cluster.

Recommended Prerequisites: Science of Nursing

This course is designed to explore leadership and management in nursing, studying topics such as ethics, educational levels, career paths, regulatory bodies, and personal and professional leadership skills.

Medical Assistant

TSDS PEIMS Code: 13021015 (MEDASST)

Grade Placement: 11-12

Credit: 1

Prerequisites or corequisite: Anatomy and Physiology

Recommended Prerequisites: Medical Terminology

The Medical Assistant course provides students with the knowledge and skills to pursue a career as a medical assistant and to improve college and career readiness. Students will obtain communication skills, clinical ethics knowledge, safety awareness, and information related to medical assisting career opportunities.

Occupational Therapy I

TSDS PEIMS Code: N1302132 (OCCHLTH1)

Grade Placement: 11-12

Credit: 1

Recommended Prerequisites: Principles of Health Science or Principles of Allied Health AND Medical Terminology or Allied Health Therapeutic Services.

Occupational Therapy I is designed to provide concepts, knowledge, and skills necessary for a career in Occupational Therapy. This course will focus on the principles and practices of occupational therapy practitioners; proper management of patient care to safely assist patients; management of equipment as it relates to occupational therapy; and communication skills to work effectively within an occupational therapy practice. This course is designed for students in grades 11 or 12 who desire to work in an occupational therapy clinic as a therapy technician and/or advance to become a licensed occupational therapy practitioner.

Occupational Therapy II

TSDS PEIMS Code: N1302133 (OCCHLTH2)

Grade Placement: 12

Credit: 1

Recommended Prerequisites: Occupational Therapy I.

Occupational Therapy II is an advanced course designed to build upon students' prior knowledge of Occupational Therapy. This course will focus on the Occupational Therapy Practice Framework and process; application of intervention modalities; use of assistive technology; building therapeutic relationships; and performing occupational therapy assessments. Student instruction is reinforced with hands-on activity labs and field-based learning experiences. This course is designed for students in grade 12 who desire to work in an occupational therapy clinic and/or advance to become a licensed occupational therapist/occupational therapy assistant.

Medical Billing and Coding

TSDS PEIMS Code: 13020964 (MEDBC)

Grade Placement: 11-12

Credit: 1

Prerequisites: Medical Terminology

Recommended Prerequisites: Medical Terminology

Medical Billing and Coding familiarizes students with the process, language, medical procedure codes, requirements of Health Insurance Portability and Accountability Act (HIPAA), and skills they will need to make accurate records. Students will develop an understanding of the entire process of the revenue cycle and how to effectively manage it. The program is designed to prepare students for employment in a variety of health care settings as entry level coder, medical billing specialist, and patient access representative.

Dental Equipment and Procedures

TSDS PEIMS Code: N1302130 (DENTEP)

Grade Placement: 10-12

Credit: 1

Recommended Prerequisites: Introduction to Dental Science and Dental Anatomy and Physiology.

Dental Equipment and Procedures builds upon the exploration of concepts in Dental Anatomy and Physiology. This course provides the foundational content and hands-on practice of essential dental assisting skills and chairside dental assisting functions. Topics include examination and assessment procedures, equipment and materials, instrumentation techniques, and treatment procedures and skills performed by a clinical dental assistant during restorative procedures. The hands-on practice will prepare students for clinical externship experiences in the dental practicum course.

Hospitality & Tourism

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Hospitality & Tourism

Principles of Hospitality and Tourism

TSDS PEIMS Code: 13022200 (PRINHOSP)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

Principles of Hospitality and Tourism introduces students to an industry that encompasses lodging, travel and tourism, recreation, amusements, attractions, and food/beverage operations. Students learn 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 in that industry.

Introduction to Event and Meeting Planning

TSDS PEIMS Code: N1302269 (EVNTPLN)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Hospitality and Tourism, Hotel management and/or Travel and Tourism Management.

This course will introduce students to the concepts and topics necessary for the comprehensive understanding of the fundamentals of the meetings, conventions, events, and exposition industries. The course will review the roles of the organizations and people involved in the businesses that comprise the Meetings, Events, Expositions and Convention (MEEC) industry.

Introduction to Culinary Arts

TSDS PEIMS Code: 13022550 (INCULART)

Grade Placement: 9–10

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Hospitality and Tourism.

Introduction to Culinary Arts will emphasize the principles of planning, organizing, staffing, directing, and controlling the management of a variety of food service operations. The course will provide insight into the operation of a well-run restaurant. Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course.

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.

Food Science

TSDS PEIMS Code: 13023000 (FOODSCI)

Grade Placement: 11–12

Credit: 1

Prerequisites: Three units of science, including Chemistry and Biology. Recommended Prerequisite: Principles of Hospitality and Tourism.

In Food Science students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Food Science is the study of the nature of foods, the causes of deterioration in food products, the principles underlying food processing, and the improvement of foods for the consuming public.

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

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.

Foundations of Restaurant Management

TSDS PEIMS Code: N1302268 (RESTMGMT)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Hospitality and Tourism.

Foundations of Restaurant Management provides students with a foundation to understand basic culinary skills and food service-restaurant management, along with current food service restaurant industry topics and standards. Building on prior instruction, this course provides introductory insight into critical thinking, financial analysis, industry technology, social media, customer awareness and leadership in the food service-restaurant industry. Students will gain an understanding of food service-restaurant operations and the importance of communicating effectively to diverse audiences, purposes and situations in food service-restaurant operations and management. Students will learn how the front of the house and the back of the house of management operate and collaborate and obtain value-added certifications in the industry to help launch themselves into restaurant/foodservice careers.

Travel and Tourism Management

TSDS PEIMS Code: 13022500 (TRTORMGT)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Hospitality and Tourism.

Travel and Tourism Management incorporates management principles and procedures of the travel and tourism industry as well as destination geography, airlines, international travel, cruising, travel by rail, lodging, recreation, amusements, attractions, and resorts. Employment qualifications and opportunities are also included in this course.

Hotel Management

TSDS PEIMS Code: 13022300 (HOTELMGT)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Hospitality and Tourism.

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.

Hospitality Services

TSDS PEIMS Code: 13022800 (HOSPSRVS)

Grade Placement: 11–12

Credit: 2

Prerequisite: None.

Recommended Prerequisites: Principles of Hospitality and Tourism, Hotel Management, and Travel and Tourism Management.

Hospitality Services provides students with the academic and technical preparation to pursue high-demand and high-skill careers in hospitality related industries. The knowledge and skills are acquired within a sequential, standards-based program that integrates hands-on and project-based instruction. Standards included in the Hospitality Services course are designed to prepare students for nationally recognized industry certifications, postsecondary education, and entry-level careers. In addition, Hospitality Services is designed so that performance standards meet employer expectations, enhancing the employability of students. Instruction may be delivered through laboratory training or through internships, mentoring, or job shadowing.

Tourism Marketing Concepts and Applications

TSDS PEIMS Code: N1302270 (TOURMRKT)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Hospitality and Tourism.

Tourism Marketing Concepts and Applications will provide students with a thorough understanding of marketing concepts and theories that apply to the travel and tourism industry to include lodging, food and beverage operations, recreation, amusements, attractions, convention and visitors' bureaus and tourism companies. While general concepts of marketing for travel and tourism are similar to the marketing of other products and services, the travel and tourism industry has unique characteristics that create a variety of challenges and opportunities specific to and important for tourism marketing professionals. Students will learn broad tourism marketing concepts such as understanding a product/service, pricing out a product/service, promoting a product/service with a focus on direct sales and the placement or distribution channels for a product. They will also be introduced to the concepts of markets, market segmentation, and customer needs related to the tourism industry.

Practicum in Hospitality Services

TSDS PEIMS Code:

13022900 (First Time Taken) (PRACHOS1)
13022910 (Second Time Taken) (PRACHOS2)

Grade Placement: 11–12

Credit: 2

Prerequisite: None.

Recommended Prerequisite: Hospitality Services.

Practicum in Hospitality Services is a unique practicum experience to provide opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Hospitality Services 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. Students are taught employability skills, including job- specific skills applicable to their training plan, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development.

Practicum in Hospitality Services is relevant and rigorous, supports student attainment of academic and technical standards, and effectively prepares students for college and career success.

Practicum in Culinary Arts/Extended Practicum in Culinary Arts

TSDS PEIMS Code:

13022705 (First Time Taken) (EXPRCUL1)
13022715 (Second Time Taken) (EXPRCUL2)

Grade Placement: 11–12

Credit: 3

Prerequisite: Culinary Arts. Corequisite: Practicum in Culinary Arts.

Extended 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. Extended 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 further enhancing the knowledge, skills, and industry based experiences that students receive through workplace application.

Practicum in Hospitality Services/Extended Practicum in Hospitality Services

TSDS PEIMS Code:
13022905 (First Time Taken) (EXPRHOS1)
13022915 (Second Time Taken) (EXPRHOS2)
Grade Placement: 11–12
Credit: 3
Prerequisite: None.
Recommended Prerequisite: Hospitality Services.
Corequisite: Practicum in Hospitality Services.
Extended Practicum in Hospitality Services is a unique practicum experience that provides opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Extended Practicum in Hospitality Services 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 further enhancing the knowledge, skills, and industry based experiences that students receive through workplace application.

Practicum in Event and Meeting Planning

TSDS PEIMS Code: N1302275 (PRACEMP)
Grade Placement: 11–12
Credit: 2
Prerequisite: None.
Recommended prerequisite: Introduction to Event Meeting and Planning and Hospitality Services.
The Practicum in Event and Meeting Planning course will reinforce the concepts and topics necessary for the comprehensive understanding of the meetings, events, expositions, and conventions (MEEC) industry. The central focus of this course is to integrate academic education with local meeting, event, expositions, and convention businesses to prepare students for success in the work force and/or postsecondary education. Students will benefit from a combination of classroom instruction and a work based learning experience. Students will learn employability skills, communication skills, customer service skills and other job acquisition related activities. The course is recommended for students who have completed the required prerequisites.

Human Services

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Human Services

Principles of Human Services

TSDS PEIMS Code: 13024200 (PRINHUSR)
Grade Placement: 9–12
Credit: 1
Prerequisite: None.

Principles of Human Services is a laboratory course that will enable students to investigate careers in the Human Services Career Cluster, including counseling and mental health, early childhood development, family and community, personal care, and consumer services. Each student is expected to complete the knowledge and skills essential for success in high-skill, high-wage, or high-demand human services careers.

Principles of Community Service

TSDS PEIMS Code: N1302542 (COMMSERV)
Grade Placement: 9–10
Credit: 1

The purpose of this course is to introduce high school students to the field of non-profits/community service, as well as explore career options that assist individuals and families in need. The students will work to understand policies, design community service plans, and develop a portfolio of different community and state resources. Students will also be encouraged to job shadow, volunteer for community service-based experiences, and participate in service-learning opportunities.

Dollars and Sense

TSDS PEIMS Code: 13024300 (DOLLARSE)
Grade Placement: 11–12
Credit: .5
Prerequisite: None.
Recommended Prerequisite: Principles of Human Services.

Dollars and Sense focuses on consumer practices and responsibilities, money-management processes, decision-making skills, impact of technology, and preparation for human services careers.

Lifetime Nutrition and Wellness

TSDS PEIMS Code: 13024500 (LNURTWEL)

Grade Placement: 9–12

Credit: .5

Prerequisite: None.

Recommended Prerequisite: Principles of Human Services, Principles of Hospitality and Tourism, or Principle of Health Science.

Lifetime Nutrition and Wellness is a laboratory course that allows students to use principles of lifetime wellness and nutrition to help them make informed choices that promote wellness as well as pursue careers related to hospitality and tourism, education and training, human services, and health sciences.

Applied Nutrition and Dietetics

TSDS PEIMS Code: N1302541 (APPNUTR)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Human Services, Lifetime Nutrition and Wellness and/or Human Growth and Development.

The Applied Nutrition and Dietetics course builds on the fundamental nutritional knowledge gained from the Lifetime Nutrition and Wellness course by reinforcing professional standards, food safety and sanitation, food service and management, and nutrition care for individuals and groups at a deeper level. The course also introduces and applies career focused and real-world topics related to nutrition such as the nutrition care process, types of nutrition education and counseling, development of nutrition programs, and nutrition industry related research. Students will research requirements necessary to become a professional in the nutrition and dietetics field such as a registered dietitian, licensed nutritionist, or clinical dietitian.

Interpersonal Studies

TSDS PEIMS Code: 13024400 (INTERSTU)

Grade Placement: 9–12

Credit: .5

Prerequisite: None.

Recommended Prerequisite: Principles of Human Services, Principles of Hospitality and Tourism, Principles of Health Science, or Principles of Education and Training.

Interpersonal Studies examines how the relationships between individuals and among family members significantly affect the quality of life. Students use knowledge and skills in family studies and human development to enhance personal development, foster quality relationships, promote wellness of family members, manage multiple adult roles, and pursue careers related to counseling and mental health services.

Counseling and Mental Health

TSDS PEIMS Code: 13024600 (COUNSMH)

Grade Placement: 11–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Human Services.

In Counseling and Mental Health, students model the knowledge and skills necessary to pursue a counseling and mental health career through simulated environments. Students are expected to apply knowledge of ethical and legal responsibilities, limitations on their actions and responsibilities, and the implications of their actions. Students understand how professional integrity in counseling and mental health care is dependent on acceptance of ethical and legal responsibilities.

Child Development

TSDS PEIMS Code: 13024700 (CHILDDEV)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Human Services.

Child Development is a technical laboratory course that addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.

Child Guidance

TSDS PEIMS Code: 13024800 (CHILDGUI)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Recommended Prerequisite: Principles of Human Services.

Recommended Prerequisite or Corequisite: Child Development.

Child Guidance is a technical laboratory course that addresses the knowledge and skills related to child growth and guidance equipping students to develop positive relationships with children and effective caregiver skills. Students use these skills to promote the well- being and healthy development of children, strengthen a culturally diverse society, and pursue careers related to the care, guidance, and education of children, including those with special needs. Instruction may be delivered through school-based laboratory training or through work-based delivery arrangements such as cooperative education, mentoring, and job shadowing.

Parenting Education I

TSDS PEIMS Code: N1302536 (PAED1)

Grade Placement: 9-12

Credit: 1

Prerequisite: None.

This course is designed to address the special needs and interests of students who are parents or expectant parents. Special emphasis is placed on prenatal care and development, postnatal care, infant care, child development, and parenting skills. Other units of study address personal development, responsible parenthood and adult roles, family problems and crises, conflict resolution, family health issues, nutrition, safety, management, and employability skills. Students develop the knowledge and skills to the multiple roles of student, parent, family member, and provider.

Parenting Education II

TSDS PEIMS Code: N1302537 (PAED2)

Grade Placement: 10-12

Credit: 1

Prerequisite: Parenting Education I.

Parenting Education II is designed to build on education and experiences from Parenting for School Age Parents I. This course provides more in-depth knowledge of parenting and child development including implications of expectations of children, child abuse, disabilities, and issues impacting young families such as employment, postsecondary education, transportation, child care, housing, and personal responsibility. Students develop the knowledge and skills to manage the multiple roles of being a student, parent, family member, and provider.

Family and Community Services

TSDS PEIMS Code: 13024900 (FAMCOSRV)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Human Services.

Family and Community Services is a laboratory-based course designed to involve students in realistic and meaningful community-based activities through direct service or service- learning experiences. Students are provided opportunities to interact with and provide services to individuals, families, and the community through community or volunteer services. Emphasis is placed on developing and enhancing organizational and leadership skills and characteristics.

Practicum in Human Services

TSDS PEIMS Code:
13025000 (First Time Taken) (PRACHUS1)
13025010 (Second Time Taken) (PRACHUS2)
Grade Placement: 11–12
Credit: 2
Prerequisite: None.

Practicum in Human Services provides background knowledge and occupation-specific training that focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community-services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the human services cluster. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

Principles of Cosmetology Design and Color Theory

TSDS PEIMS Code: 13025050 (PRICOSMO)
Grade Placement: 9–10
Credit: 1
Prerequisites: None.
Recommended Prerequisite: Principles of Human Services.

In Principles of Cosmetology Design and Color Theory, 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. Students will attain academic skills and knowledge as well as technical knowledge and skills related to cosmetology design and color theory. Students will develop knowledge and skills regarding various cosmetology design elements such as form, lines, texture, structure and illusion or depth as they relate to the art of cosmetology. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the 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.

Introduction to Cosmetology

TSDS PEIMS Code: 13025100 (INTCOSMO)
Grade Placement: 10
Credit: 1
Prerequisite: None.

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.

Esthetics

TSDS PEIMS Code: N1302533 (COSMETF)

Grade Placement: 10-12

Credit: 2

Prerequisite: None.

Students enrolled in Esthetics will explore the practical skills of a skin care professional, including introduction to the treatment environment, basic facial treatments, hair removal, corrective skin care treatments, makeup application, special effects makeup application and the technology likely to be utilized in a salon, spa, or clinical setting.

Microbiology and Safety for Cosmetology Careers

TSDS PEIMS Code: N1302540 (MICROS)

Grade Placement: 9-12

Credit: 1

Prerequisite: None.

Students who enroll in Microbiology and Safety for Cosmetology Careers will receive instruction in the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, identification of microorganisms, drug resistant organisms, and emerging diseases. Additionally, students will explore and apply concepts as they apply to the safety and health of individuals pursuing a career in cosmetology services. This course also includes an opportunity for students to solve an in-depth analytical problem concerning occupational health and safety in cosmetology.

Nail Care, Enhancements and Spa Services

TSDS PEIMS Code: N1302531 (COSMETM)

Grade Placement: 10-12

Credit: 2

Prerequisite: None.

Nail Care, Enhancement and Spa Service students will demonstrate proficiency in academic, technical, and practical knowledge and skills (basic manipulative skills, safety judgements, and proper work habits). The content is designed to provide the occupational skills required for licensure as a nail technician or related career avenue. Instruction includes advanced training in professional standards/employability skills, TDLR rules and regulations, use of tools, equipment, technologies and materials, and practical skills.

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: 3
Recommended prerequisite: Introduction to Cosmetology.
This course must be taken concurrently with Cosmetology I and may not be taken as a stand-alone 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: 3

Prerequisites: Cosmetology I/Cosmetology I Lab

This course must be taken concurrently with Cosmetology II and may not be taken as a stand-alone 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.

Practicum in Human Services/Extended Practicum in Human Services

TSDS PEIMS Code:
13025005 (First Time Taken) (EXPRHUS1)
13025015 (Second Time Taken) (EXPRHUS2)
Grade Placement: 11–12
Credit: 3
Prerequisite: None.
Corequisite: Practicum in Human Services.
Extended Practicum in Human Services provides background knowledge and occupation- specific training that focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community-services careers. Content for Extended Practicum in Human Services is designed to meet the occupational preparation needs and interests of students and should be based upon the knowledge and skills selected from two or more courses in a coherent sequence in the human services cluster.

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.

Esthetics

TSDS PEIMS Code: N1302533 (COSMETF)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Students enrolled in Esthetics will explore the practical skills of a skin care professional, including introduction to the treatment environment, basic facial treatments, hair removal, corrective skin care treatments, makeup application, special effects makeup application and the technology likely to be performed in a salon, spa, or clinical setting.

Microbiology and Safety for Cosmetology Careers

TSDS PEIMS Code: N1302540 (MICROS)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

Students who enroll in Microbiology and Safety for Cosmetology Careers will receive instruction in the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, identification of microorganisms, drug resistant organisms, and emerging diseases. Additionally, students will explore and apply concepts as they apply to the safety and health of individuals pursuing a career in cosmetology services. This course also includes an opportunity for students to solve an in-depth analytical problem concerning occupational health and safety in cosmetology.

Nail Care, Enhancements and Spa Services

TSDS PEIMS Code: N1302531 (COSMETM)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Nail Care, Enhancement and Spa Service students will demonstrate proficiency in academic, technical, and practical knowledge and skills (basic manipulative skills, safety judgements, and proper work habits). The content is designed to provide the occupational skills required for licensure as a Nail Technician or related career avenue. Instruction includes advanced training in professional standards/employability skills, TDLR rules and regulations, use of tools, equipment, technologies and materials, and practical skills.

Parenting Education I

TSDS PEIMS Code: N1302536 (PAED1)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

This course is designed to address the special needs and interests of students who are parents or expectant parents. Special emphasis is placed on prenatal care and development, postnatal care, infant care, child development, and parenting skills. Other units of study address personal development, responsible parenthood and adult roles, family problems and crises, conflict resolution, family health issues, nutrition, safety, management, and employability skills. Students develop the knowledge and skills to the multiple roles of student, parent, family member, and provider.

Parenting Education II

TSDS PEIMS Code: N1302537 (PAED2)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Parenting Education I.

Parenting Education II is designed to build on education and experiences from Parenting for School Age Parents I. This course provides more in-depth knowledge of parenting and child development including implications of expectations of children, child abuse, disabilities, and issues impacting young families such as employment, postsecondary education, transportation, child care, housing, and personal responsibility. Students develop the knowledge and skills to manage the multiple roles of being a student, parent, family member, and provider.

Social and Community Services

TSDS PEIMS Code: N1302543 (SOCCOMM)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Community Services.

Social and Community Services will provide an overview of the nonprofit, social, community service, and faith-based organization sector in the United States. The course has an emphasis on professional practices and development of the skills needed to implement service programs. The Social and Community Services course builds on knowledge from Principles of Community Services by providing an in-depth study of social services and how they relate to all other family and community services. Topics covered include the roles of community service providers in meeting human service needs, the sociological factors on clients receiving services, and the exploration of careers.

Information Technology

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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.

Introduction to C# Programming Applications

TSDS PEIMS Code: N1302812 (INTCPA)

Grade Placement: 11–12

Credits: 1

Recommended prerequisites: Algebra I and Geometry.

Introduction to C# Programming Applications is a study of C# syntax including data types, control structures, functions, syntax and semantics of language, classes, class relations and exception handling.

Foundations of User Experience

TSDS PEIMS Code: N1302809 (FOUNDUX)

Grade Placement: 10–12

Credit: 1

Recommended prerequisites: Digital Media or Principles of Information Technology.

In Foundations of User Experience (UX), students will analyze and assess current trends in a fast-growing career field that creates meaningful, approachable, and compelling experiences for users of an array of products, services, and or initiatives of companies, governments, and organizations. Students will gain knowledge of introductory observation and research skills; basic design thinking and applied empathy methodologies; collaborative problem-solving and ideation; and interaction design and solution development (includes digital tools). The knowledge and skills acquired enable students to identify real-world problems through research and data-driven investigation to design solutions while participating in collaborative problem solving. Students will be introduced to agile practices and methodologies to develop skills to take the solutions from conceptual sketch to digital designs using professional software tools. Students will explore how to improve the quality of user interactions and perceptions of products, experiences, and any related services.

Web Design

TSDS PEIMS Code: 03580820 (TAWEBDN)

Grade Placement: 9-12

Credit: 1

In Web Design students will acquire knowledge of web design and technological operations and concepts that support creativity, innovation, collaboration, information fluency, critical thinking and decision making. 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 Maintenance

TSDS PEIMS Code: 13027300 (COMPMTN)

Grade Placement: 10–12

Credit: 1 Prerequisite: None.

Recommended Prerequisite: Principles of Information Technology.

Recommended Corequisite: Computer Maintenance Lab.

In Computer Maintenance, students will acquire knowledge of computer maintenance and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer maintenance. Students will apply technical skills to address the IT industry and emerging technologies.

Computer Maintenance/Computer Maintenance Lab

TSDS PEIMS Code: 13027310 (COMMTLAB)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

Recommended Prerequisite: Principles of Information Technology.

Corequisite: Computer Maintenance.

In Computer Maintenance Lab, students will acquire knowledge of computer maintenance and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer maintenance. Students will apply technical skills to address the IT industry and emerging technologies. Districts are encouraged to offer this course in a consecutive block with Computer Maintenance to allow students sufficient time to master the content of both courses.

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.

Internetworking Technologies I

TSDS PEIMS Code: N1302803 (INTNET1)

Grade Placement: 10–12

Credit:1

The Internetworking Technologies I course is normally comprised of the courses called Cisco CCNA R&S: Introduction to Networks (CCNA 1) and Cisco CCNA R&S: Routing and Switching Essentials (CCNA 2). The Introduction to Networks course introduces the concept of networking, using various analogies to help the student understand the movement of packets throughout the Internet, and the protocol standards used. The Routing and Switching course moves the student into the theory of "moving packets." The concepts of routing and switching "packets" to the correct destination is covered, and how a network administrator can direct and/or streamline this process through device configuration and deployment.

Internetworking Technologies II

TSDS PEIMS Code: N1302804 (INTNET2)

Grade Placement: 10–12

Credit: 1

Required prerequisite: Internetworking Technologies I

The Internetworking Technologies 2 course is normally comprised of the courses called Cisco CCNA R&S: Scaling Networks (CCNA 3) and Cisco CCNA R&S: Connecting Networks (CCNA 4) The CCNA 3 course covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. The CCNA 4 course discusses the Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements.

Geographic Information Systems (GIS)

TSDS PEIMS Code: N130280 (GIS)

Grade Placement: 10–12

Credit: 1

Recommended prerequisites: Principles of Art, Audio/Video Technology, Principles of Information Technology, or Principles of Technology.

Geographic Information Systems (GIS) is a course designed to introduce students to Geographic Information Systems and Remote Sensing (RS) technology through academic study and applied instruction. Students will be introduced to terminology and concepts relating to GIS/RS technology and will apply these concepts through the use of GIS software programs. Students will participate in structured, applied learning exercises taken from existing data sources, as well as conduct new study of these data sources through self-driven study and analysis. An ongoing emphasis of the use of GIS and RS technology in various career fields will enhance the applied learning activities and exercises. Skill based training in GIS is designed to introduce students to the use of GIS software and software extensions through academic study and extensive applied instruction. Students will be introduced to terminology and concepts relating to GIS and apply these concepts through the use of industry standard software.

Raster-Based Geographic Information Systems

TSDS PEIMS Code: N1302806 (RBGIS)

Grade Placement: 10–12

Credits: 1

Recommended prerequisites: Geographic Information Systems.

This course introduces the principles of Geographic Information Systems (GIS) data sets including raster-based information such as images or photographs. Students will study local problems and acquire information, including images or aerial photographs, process the data they acquire, and merge the acquired data with vector data. Students will plan, conduct, and present solutions for locally-based problems.

Spatial Technology and Remote Sensing

TSDS PEIMS Code: N1302807 (SPATECRS)

Grade Placement: 10–12

Credit: 1

Recommended prerequisites: Geographic Information Systems and Raster-Based GIS.

This course is designed to provide students with instruction in Geographic Information Systems (GIS) and Remote Sensing (RS) technology. Students will receive instruction in standard geospatial extension software and geospatial tools, including global positioning systems (GPS), and continued training in GIS project management and problem solving. Each student will participate in applied learning activities with emphasis placed on planning, conducting, and presenting special projects dealing with the use of GIS/RS tools and data.

IT Troubleshooting

TSDS PEIMS Code: N1302814 (ITTROUB)

Grade Placement: 10–12

Credit: 1

Recommended prerequisites: Principles of Information Technology and Computer Maintenance/Lab.

Prerequisite: None.

The *IT Troubleshooting* course is about applying logic over technical components to identify and resolve problems. The course focuses on developing a methodical approach in IT troubleshooting and leveraging those skills in a workplace environment. In this course, students will learn and use proven troubleshooting methods and apply those in a collaborative workplace setting. Students will develop personal success skills, including time management and personal accountability measures, strategies for collaboration and teamwork, and effective written and verbal communication skills. The knowledge and skills acquired in the course will allow students to use information technology (IT) resources, information, and data safely, ethically, and following legal guidelines. Students will work within a service level model that helps them to interpret, clarify, and diagnose issues with hardware, software, and networking.

Digital Media

TSDS PEIMS Code: 13027800 (DIMEDIA)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

In Digital Media, students will analyze and assess current and emerging technologies, while designing and creating multimedia projects that address customer needs and resolve a problem. Students will implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society.

Students will enhance reading, writing, computing, communication, and critical thinking and apply them to the IT environment.

Web Communications

TSDS PEIMS Code: 03580810 (TAWEBCM)

Grade Placement: 9

Credit: 0.5

In Web Communications, students will acquire knowledge of web communications and technological operations and concepts. This is an exploratory course in web communications. 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.

Advanced Cloud Computing

TSDS PEIMS Code: N1302813 (ADCLDCMP)

Grade Placement: 10–12

Credit: 1

Recommended Prerequisite: one computer science, computer programming, or information technology course.

The Advanced Cloud Computing course is an exploration of cloud computing. Upon completion of the course, students are prepared to sit for cloud computing professional certifications. In this course, students explore cloud computing services, applications, and use cases. Students dive deeply into cloud computing best practices and learn how cloud computing helps users develop a global infrastructure to support use case at scale while also developing and inventing innovative technologies.

Advanced User Experience Design

TSDS PEIMS Code: N1302814 (ADVUXD)

Grade Placement: 10–11

Credit: 1

Recommended Prerequisites: Foundations of User Experience Design.

The Advanced User Experience (UX) Design course allows students to apply skills in science and art to make technology useful, meaningful, memorable and accessible to all users. Students will use knowledge from the Foundations of User Experience Design course to expand the research, design, programming, testing, and communication skills essential for success in this user-focused career field.

Independent Study in Evolving/Emerging Technologies

TSDS PEIMS Code:

03581500 (First Time Taken)	(TAINDET1)
03581600 (Second Time Taken)	(TAINDET2)
03581700 (Third Time Taken)	(TAINDET3)

Grade Placement: 9–12

In the Independent Study in Evolving/Emerging Technologies course, through the study of evolving/emerging technologies, including technology-related terms, concepts, and data input strategies, students will communicate information in different formats and to diverse audiences using a variety of technologies. Students will learn to make informed decisions, develop and produce original work that exemplifies the standards identified by the selected profession or discipline, and publish the product in electronic media and print. Students will demonstrate efficient acquisition of information by identifying task requirements, using search strategies, and using technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports 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. 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.

Independent Study in Technology Applications

TSDS PEIMS Code

03580900 (First Time Taken)	(TAIND1)
03581000 (Second Time Taken)	(TAIND2)
03581100 (Third Time Taken)	(TAIND3)

Grade Placement: 9–12

Credit: 1

Recommended prerequisite: a minimum of one credit from the courses in the Information Technology Career Cluster

In Independent Study in Technology Applications, through the study of technology applications foundations, including technology-related terms, concepts, and data input strategies, students will communicate information in different formats and to diverse audiences using a variety of technologies. Students will learn to make informed decisions; develop and produce original work that exemplifies the standards identified by the selected profession or discipline; and publish the product in electronic media and print. Students will practice the efficient acquisition of information by identifying task requirements, using search strategies, and using technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports 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. 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 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.

Practicum in Information Technology

TSDS PEIMS Code:
13028000 (First Time Taken) (PRACIT1)
13028010 (Second Time Taken) (PRACIT2)
Grade Placement: 12
Credit: 2
Prerequisite: A minimum of two high school information technology (IT) courses.
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.

Computer Technician Practicum/Extended Computer Technician Practicum

TSDS PEIMS Code:

13027505 (First Time Taken)	(EXCOMPT1)
13027515 (First Time Taken)	(EXCOMPT2)

Grade Placement: 10–12

Credit: 3

Prerequisite: None.

Recommended Prerequisites: Principles of Information Technology, Computer Maintenance, Computer Maintenance Lab, Networking, and Networking Lab. Corequisite: Computer Technician Practicum.

In the Extended 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. Students shall be awarded one credit for successful completion of this course.

Practicum in Information Technology/Extended Practicum in Information Technology

TSDS PEIMS Code:

13028005 (First Time Taken)	(EXPRIT1)
13028050 (Second Time Taken)	(EXPRIT2)

Grade Placement: 12

Credit: 3

Prerequisite: Minimum of two high school information technology (IT) courses. Corequisite: Practicum in Information Technology.

In Extended 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 instructor, with an industry mentor, or both.

Law, Public Safety, Corrections & Security

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Law, Public Safety, Corrections & Security

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.

Foundations of Court Reporting

TSDS PEIMS Code: N1303017 (FDCRTREP)

Grade Placement: 10–12

Credit: 1

Recommended prerequisites: English I and Principles of Government and Public Administration.

This course will enable the student to identify the parts of a computer-compatible steno machine and demonstrate proficiency in creating reports using the specialized chorded steno machine keyboard functions and computer software. The students will evaluate the workings of real-time reporting information systems and communications technology. The student will acquire the ability to write conflict-free real-time translation theory on a computer-compatible steno machine, using proper punctuation and grammar. The student will be able to create and organize a personal dictionary for brief form writing the most common words and phrases and a phonetic-based system for writing all words. The student will build reading and writing skills on literary material, jury charge material, and question/answer testimony to navigate the inner workings of the court system. These materials include but are not limited to courtroom filings, subpoenas, affidavits, and all other documents needing transcription. Additionally, students will demonstrate proper dictation practices required for cognitive theory translation and speed-accuracy development.

Legal Research and Writing

TSDS PEIMS Code: N13003014 (LEGRW)

Grade Placement: 10-12

Credits: 1

Recommended prerequisite: Court Systems and Practices.

Legal Research and Writing provides an introduction into the study and practice of legal writing and research. This course is designed to introduce students to the methods and tools used to conduct legal research, develop and frame legal arguments, produce legal writings such as briefs, memorandums, and other legal documents, study U.S. Constitutional law, and prepare for appellate argument(s).

Advanced Legal Skills and Professions

TSDS PEIMS Code: N1303016 (ADVLSP)

Grade Placement: 11-12

Credits: 1

Recommended prerequisite: Court Systems and Practices, Principles of Law, Public Safety, corrections and Security, Business Law, Debate I or Political Science.

Legal Research and Writing provides an introduction into the study and practice of legal writing and research. This course is designed to introduce students to the methods and tools used to conduct legal research, develop and frame legal arguments, produce legal writings such as briefs, memorandums, and other legal documents, study U.S. Constitutional law, and prepare for appellate argument(s).

Correctional Services

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.

Firefighter I

TSDS PEIMS Code: 13029900 (FIRE1)

Grade Placement: 10–12

Credit: 2

Prerequisite: None.

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

Firefighter I introduces students to firefighter safety and development. Students will analyze Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protective equipment, and the principles of fire safety.

Firefighter II

TSDS PEIMS Code: 13030000 (FIRE2)
Grade Placement: 11–12
Credit: 3
Prerequisite: Firefighter I.
Recommended Prerequisite: Principles of Law, Public Safety, Corrections, and Security.
Firefighter II is the second course in a series for students studying firefighter safety and development. Students will understand Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protective equipment, and the principles of fire safety. Students will demonstrate proper use of fire extinguishers, ground ladders, fire hoses, and water supply apparatus systems.

Emergency Medical Technician Basic

TSDS PEIMS Code: N1303015 (EMTB)
Grade Placement: 11–12
Credits: 2
Recommended prerequisite: Principles of Law, Public Safety, Corrections, and Security; and Anatomy and Physiology.
Emergency Medical Technician (EMT)—Basic instructs students to meet and exceed standard knowledge needed to be a valid Emergency Medical Technician. The curriculum includes skills necessary for a student to provide entry level emergency medical care, life support, and ambulance service. The EMT—Basic course is an introductory course to concepts, knowledge, and skills needed by EMTs in the areas of communications, transportation, and recordkeeping. Students interested in working in public safety, including fire, police, and ambulance operators will be capable of performing the job expectations of an EMT safely and effectively after the completion of this course.

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 ll

TSDS PEIMS Code: 13029400 (LAWENF2)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisite: Law Enforcement l.
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.

Forensic Psychology

TSDS PEIMS Code: N1303012 (FORENSPSY)

Grade Placement: 11–12

Credit: 1

Recommended prerequisite: Law Enforcement I and Psychology.

Forensic psychology is found at the intersection between psychology and the criminal justice system. It involves understanding criminal law in the relevant jurisdictions in order to be able to interact within the criminal justice system. It utilizes and applies basic skills developed in psychology and criminal scenarios resulting in a structured and scientific approach to investigative analysis; thereby, enabling police and law enforcement officials to predict criminal activity via scientific analysis rather than intuition. Students will learn basic structured psychological investigative techniques in question building, interviewing, criminal behavior characteristics, truth detection methodology, research methods, statistical analysis and probability forecasting.

Court Systems and Practices

TSDS PEIMS Code: 13029600 (COURTSP)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Law Enforcement l or Principles of Government or Public Administration.

Court Systems and Practices is an overview of the federal and state court systems. The course identifies the roles of judicial officers and the trial processes from pretrial to sentencing and examines the types and rules of evidence. Emphasis is placed on constitutional laws for criminal procedures such as search and seizure, stop and frisk, and interrogation.

Federal Law Enforcement and Protective Services

TSDS PEIMS Code: 13029800 (FEDLEPS)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

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

Federal Law Enforcement and Protective Services provides the knowledge and skills necessary to prepare for certification in security services for federal law enforcement and protective services. The course provides an overview of security elements and types of organizations with a focus on security measures used to protect lives, property, and proprietary information, to ensure computer security, to provide information assurance, and to prevent cybercrime.

Disaster Response

TSDS PEIMS Code: N1303011 (DISRESP)

Grade Placement: 9–12

Credit: 1

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

Disaster Response includes basic training of students in disaster survival and rescue skills that would improve the ability of citizens to survive until responders or other assistance could arrive. Students will receive education, training, and volunteer service to make communities safer, stronger, and better prepared to respond to the threats of terrorism, crime, public health issues and disasters of all kinds.

Advanced Legal Skills and Professions

TSDS PEIMS Code: N1303016 (ADVLSP)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Principles of Law, Public Safety, Corrections and Security, Court Systems and Practices, Business Law, Debate I, or Political Science I.

Advanced Legal Skills and Professions provides students with a foundation to understand the basic mechanics of the U.S. legal system. Building on prior instruction in constitutional issues and the basics of American court systems, this course provides insight into the practical application of the law, as well as civil and criminal procedure, giving students a hands-on opportunity to experience a variety of legal professions. Students will gain an understanding of the attorney-client relationship and the importance of confidentiality, discovery, pretrial motions, jury selection, opening statements, direct and cross examinations, proper use of objections and the rules of evidence, and closing arguments. By conducting elements of a full trial in a mock setting, students will also increase their ability to extemporize appropriately by thinking on their feet. Students will learn how to evaluate a set of facts and mold it into a coherent trial strategy, learning trial practice from the ground floor.

Practicum in Law, Public Safety, Corrections, and Security

TSDS PEIMS Code:

13030100 (First Time Taken) (PRACLPS1)

13030110 (Second Time Taken) (PRACLPS2)

Grade Placement: 11–12

Credit: 2

Prerequisite: None.

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.

Practicum in Law, Public Safety, Corrections, and Security/Extended Practicum in Law, Public Safety, Corrections, and Security

TSDS PEIMS Code:

13030105 (First Time Taken) (EXPRLPS1)

13030115 (Second Time Taken) (EXPRLPS2)

Grade Placement: 11–12

Credit: 3

Prerequisite: None.

Corequisite: Practicum in Law, Public Safety, Corrections, and Security.

Extended Practicum in Law, Public Safety, Corrections, and Security 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.

Manufacturing

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Practicum in Manufacturing/Extended Practicum in Manufacturing

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.

Blueprint Reading for Manufacturing Applications

TSDS PEIMS Code: N1303684 (TECHBR)

Grade Placement: 10–12

Credit: 1

Recommended Prerequisites: Algebra I, Geometry, and Principles of Construction.

Blueprint Reading for Manufacturing Applications is an introduction to reading and interpreting working drawings for fabrication processes and associated trades. Students will learn sketching techniques to create pictorial and multiple-view drawings. Students will interpret working drawings including dimensions, notes, symbols, sections and auxiliary views.

Introduction to Film Interpretation of Weldments

TSDS PEIMS Code: N1303687 (INTFMWLD)

Grade Placement: 10–12

Credit: 1

Recommended prerequisites: Algebra I.

Introduction to Film Interpretation of Weldments provides an overview of non-destructive testing (NDT) principles. It includes coverage of the inspection process, systems, measurements, theories and practices. Students will identify terminology and fundamental concepts of film interpretation of weldments; describe the trends of NDT careers within the industry cluster; identify safety, health, environmental, and ergonomic issues in non-destructive testing; discuss quality and continuous improvement methods; describe the importance of maintenance and inspection within manufacturing; and identify processes and production steps in manufacturing.

Introduction to Industrial Maintenance

TSDS PEIMS Code: N1303688 (INTINMAT)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Construction Technology I.

Introduction to Industrial Maintenance allows students to acquire knowledge in industrial maintenance principles. The course will provide an overview that includes tools and fasteners pertinent to the industry. Students will engage in industrial print reading, rigging, lubrication, gears, bearings and seals along with basic electrical circuits and fluid power. Students will identify safety, health and environmental maintenance and troubleshooting within industrial maintenance.

Basic Fluid Power

TSDS PEIMS Code: N1303683 (BASICFP)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Algebra I, Geometry, and Solid-State Electronics.

Basic Fluid Power is an overview of automated manufacturing principles. It includes coverage of the manufacturing process, control systems, and measurement theory. Students will identify terminology and fundamental concepts of manufacturing; describe the trends of manufacturing careers within the industry cluster; identify safety, health, environmental, and ergonomic issues in manufacturing; discuss quality and continuous improvement methods; describe the importance of maintenance within manufacturing; and identify processes and production steps in manufacturing.

Diversified Manufacturing I

TSDS PEIMS Code: 13032650 (DIMANU1)

Grade Placement: 10–12

Credit: 1 Prerequisite: None.

Recommended prerequisite: Algebra I.

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.

Diversified Manufacturing II

TSDS PEIMS Code: 13032660 (DIMANU2)

Grade Placement: 11–12

Credit: 1

Prerequisite: Diversified Manufacturing I.

Recommended Prerequisite: Algebra I.

In Diversified Manufacturing II, students will 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 II 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.

Manufacturing Engineering Technology I

TSDS PEIMS Code: 13032900 (MANENGT1)

Grade Placement: 10–12

Credit: 1 Prerequisite: None.

Recommended Prerequisite: Algebra I.

In Manufacturing Engineering Technology I, students will 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. Students will prepare for success in the global economy. The study of manufacturing engineering will allow 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.

Manufacturing Engineering Technology II

TSDS PEIMS Code: 13032950 (MANENGT2)

Grade Placement: 11–12

Credit: 1

Prerequisite: Manufacturing Engineering I.

Recommended Prerequisite: Algebra II, Computer Science, or Physics.

In Manufacturing Engineering Technology II, students will 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 Engineering Technology II will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

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

Metal Fabrication and Machining I

TSDS PEIMS Code: 13032700 (MTFBMCH1)

Grade Placement: 10–12

Credit: 2 Prerequisite: None.

Recommended Prerequisite: Algebra I or Geometry.

Metal Fabrication and Machining I provides the knowledge, skills, and certifications required for equal employment opportunities in the metal production industry. Students must have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

Metal Fabrication and Machining ll

TSDS PEIMS Code: 13032800 (MTFBMCH2)

Grade Placement: 11–12

Credit: 2

Prerequisite: Metal Fabrication and Machining l.

Recommended Prerequisites: Geometry and Algebra ll.

Metal Fabrication and Machining II builds on the knowledge, skills, and certifications students acquire in Metal Fabrication and Machining I. Students will develop advanced concepts and skills as related to personal and career development. This course integrates 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.

Precision Metal Manufacturing l

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 l 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.

Precision Metal Manufacturing II/Precision Metal Manufacturing II Lab

TSDS PEIMS Code: 13032610 (PRMMLAB2)
Grade Placement: 11–12
Credit: 3
Prerequisite: Precision Metal Manufacturing I.
Corequisite: Precision Metal Manufacturing II.
Precision Metal Manufacturing II Lab provides the knowledge, skills, and technologies required for employment in precision machining. While Precision Metal Manufacturing II Lab 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 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

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.

Welding I

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.

Welding II

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 ll Lab

TSDS PEIMS Code: 13032410 (WELDLAB2)

Grade Placement: 11–12

Credit: 3

Prerequisites: Welding l.

Corequisites: Welding ll.

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.

Occupational Safety & Environmental Technology I

TSDS PEIMS Code: N1303680 (OSET1)

Grade Placement: 9–12

Credit:1

Recommended prerequisite: Principles of Transportation Systems, Principles of Distribution and Logistics, or Principles of Manufacturing.

During Occupational Safety & Environmental Technology (OSET) 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 use safety resources and discover procedures for collaborating with business and industry regarding ways to increase employee safety and health, reduce workers' compensation insurance costs and medical expenses, decrease payout for return-to-work programs, reduce faulty products, and lower costs for job accommodations for injured workers. The sequence of OSET courses provides students with the knowledge and skills to enter business and industry under OSET/OSHA. Students will be prepared to investigate hazards and create plans of action to address hazard controls for employers.

Occupational Safety and Environmental Technology (OSET) II

TSDS PEIMS Code: N1303681 (OSET2)

Grade Placement: 9–12

Credit: 1

Recommended prerequisite: OSET I.

During the Occupational Safety & Environmental Technology (OSET) II course, students will analyze the accident sequence, investigate hazard control concepts and principles, and examine fire protection systems and their applications with emphasis on the fire prevention codes and standards. Students will apply critical thinking skills to analyze system safety, organizational cultures, and the importance of leadership. Students will describe the organization of the accident investigation, from beginning to end. Students will examine analytical techniques in accident investigations and will utilize analytical investigation techniques to assist organizations in preventing accidents. Students will gain knowledge and skills necessary to make proactive hazard control an organizational priority. The sequence of OSET courses provides students with the knowledge and skills to enter business and industry under OSET/OSHA. Students will be prepared to investigate hazards and create plans of action to address hazard controls for employers.

Occupational Safety and Environmental Technology (OSET) III

TSDS PEIMS Code: N1303682 (OSET3)

Grade Placement: 11–12

Credits: 2

Prerequisites: OSET I and OSET II.

Recommended prerequisite: Chemistry or IPC.

During Occupational Safety & Environmental Technology (OSET) III, students will study a variety of national and worldwide health and safety problems, and learn preventative measures to resolve, reduce, and/or eliminate safety and health issues encountered at the workplace. Students will encounter detailed information from various federal agencies that are involved in workplace safety and health and demonstrate understanding of that information. Focus will be on the Occupational Safety and Health Administration (OSHA) regulations and the Department of Transportation (DOT) regulations with an emphasis on identifying and applying appropriate regulatory safety standards. This course will allow students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings.

Fiber Optic Technician

TSDS PEIMS Code: N130368 (FOTECH)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Principles of Information Technology or Principles of Construction.

Through a challenging curriculum encompassing design, installation, repair, and maintenance of high speed data systems, students gain the knowledge and skills necessary to become employed in a number industries. The Fiber Optic Technician hands-on training covers premise wiring used in industrial, commercial, and residential networks and how to terminate, test, troubleshoot, and repair fiber optic cables and network devices. Students concentrate on the installation, service, and maintenance of high-speed data infrastructures.

Programmable Logic Controller I

TSDS PEIMS Code: N1303689 (PROLGCNT1)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Applied Engineering or Principles of Manufacturing.

Programmable Logic Controller I is a course designed to introduce students to the function and operation of Programmable Logic Controllers (PLC) through academic and applied instruction. Students will be introduced to relevant terminology, the components that make up a PLC, how PLC communicates with external components and other concepts relating to the use of PLC's in the manufacturing industry. Students will participate in structured, applied learning exercises taken from existing PLC applications. Students will also learn how to read ladder logic diagrams and ultimately write their first program. This course is recommended for students in grade 10 through 12. The central focus of this course is for students to gain an understanding of how programmable logic controllers work and how they are used in automated industries.

Programmable Logic Controller II

TSDS PEIMS Code: N1303690 (PROLGCNT2)
Grade Placement: 11–12
Credit: 1
Recommended prerequisite: Principles of Applied Engineering or Principles of Manufacturing and Programmable Logic Controllers (PLC) I.
The purpose of the Programmable Logic Controllers (PLC) II course is to demonstrate advanced knowledge of programming of programmable logic controllers (PLC) by incorporating the use of timers, counters, and other advanced functions. The students that complete the PLC II course will gain hands-on experience in the use of PLCs in industry and be able to troubleshoot the PLCs in common industrial applications. Additionally, the course includes an introduction to human machine interfaces (HMI) and networking. The PLC II course aligns to industry standards for various brand PLCs, and the outcomes from this course will prepare the students for postsecondary education and career readiness in the industrial maintenance/manufacturing industry.

Practicum in Manufacturing

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.

Practicum in Manufacturing/Extended Practicum in Manufacturing

TSDS PEIMS Code:
13033005 (First Time Taken) (EXPRMAN1)
13033015 (Second Time Taken) (EXPRMAN2)
Grade Placement: 12
Credit: 3 Prerequisite: None.
Corequisite: Practicum in Manufacturing.
The Extended 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.

Marketing

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Advertising

TSDS PEIMS Code: 13034200 (ADVERTIS)

Grade Placement: 9–12

Credit: .5

Prerequisite: None.

Recommended Prerequisite: Principles of Business, Marketing, and Finance.

Advertising is designed as a comprehensive introduction to the principles and practices of advertising. Students will gain knowledge of techniques used in current advertising, including print, broadcast, and digital media. The course explores the social, cultural, ethical, and legal issues of advertising, historical influences, strategies, media decision processes as well as integrated marketing communications, and careers in advertising and sales promotion. The course provides an overview of how communication tools can be used to reach target audiences and increase consumer knowledge.

Marketing

TSDS PEIMS Code: N1303424 (MRKTING)

Grade Placement: 10–12

Credit: 1

Recommended prerequisite: Principles of Business, Marketing and Finance.

Marketing explores the seven core functions of marketing which include: marketing planning – why target market and industry affect businesses; marketing-information management – why market research is important; pricing – how prices maximize profit and affect the perceived value; product/service management – why products live and die; promotion – how to inform customers about products; channel management – how products reach the final user; and selling – how to convince a customer that a product is the best choice. Students will demonstrate knowledge in hands-on projects which may include conducting research, creating a promotional plan, pitching a sales presentation, and introducing an idea for a new product/service.

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. 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.

Fashion Marketing

TSDS PEIMS Code: 13034300 (FASHMKTG)
Grade Placement: 9–12
Credit: .5
Prerequisite: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance.
Fashion Marketing is designed to provide students with knowledge of the various business functions in the fashion industry. Students in Fashion Marketing will gain a working knowledge of promotion, textiles, merchandising, mathematics, selling, visual merchandising, and career opportunities.

Retail Management

TSDS PEIMS Code: N1303420 (REMGMT)
Grade Placement: 10–12
Credit: 1
Recommended prerequisite: Principles of Business, Marketing, and Finance.
Retail management focuses on the distribution and selling of products to consumers using various vending points such as chain stores, department stores, stand-alone stores, and various online markets. The course highlights the everyday mechanisms necessary to operate a successful retail establishment. The student is taught to evaluate methods for promoting merchandise, supervising employees, handling customer needs, and maintaining inventories.

Entrepreneurship

TSDS PEIMS Code: 13034400 (ENTREP)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisites: Principles of Business, Marketing, and Finance.
Students will learn the principles necessary to begin and operate a business. The primary focus of the course is to help students understand the process of analyzing a business opportunity, preparing a business plan, determining feasibility of an idea using research, and developing a plan to organize and promote the business and its products and services.

Entrepreneurship II

TSDS PEIMS Code: N1303423 (ENTPRNR2)

Grade Placement: 11–12

Credit: 1

Prerequisite: Entrepreneurship

The purpose of the course is to prepare students with the knowledge and skills needed to become a successful entrepreneur within an innovative marketplace. The goal and outcome of the course is for students to have their business launched by the end of the course or have the tools necessary to launch and operate their business. Students are encouraged to work in close cooperation with local industry leaders, community members, and educators to develop ideas and objectives, complete a business model canvas, pitch to potential investors, register with governmental agencies, develop their brand identity, and participate in local chamber of commerce meetings and events. The recommended participants are students in the CTE Entrepreneurship program of study, students in grades 11-12, and those interested in starting a business.

Social Media Marketing

TSDS PEIMS Code: 13034650 (SMEDMKTG)

Grade Placement: 9–12

Credit: .5

Prerequisite: None.

Recommended Prerequisite: Principles of Business, Marketing and Finance or any marketing course.

Social Media Marketing is designed to look at the rise of social media and how marketers are integrating social media tools in their overall marketing strategy. The course will investigate how the marketing community measures success in the new world of social media. Students will manage a successful social media presence for an organization, understand techniques for gaining customer and consumer buy-in to achieve marketing goals, and properly select social media platforms to engage consumers and monitor and measure the results of these efforts.

Sports and Entertainment Marketing

TSDS PEIMS Code: 13034600 (SPORTSEM)

Grade Placement: 9–12

Credit: .5

Prerequisite: None.

Recommended Prerequisite: Principles of Business, Marketing, and Finance.

Sports and Entertainment Marketing will provide students with a thorough understanding of the marketing concepts and theories that apply to sports and entertainment. The areas this course will cover include basic marketing concepts, publicity, sponsorship, endorsements, licensing, branding, event marketing, promotions, and sports and entertainment marketing strategies.

Sports and Entertainment Marketing II

TSDS PEIMS Code: N1303422 (SPORTEM2)
Grade Placement: 10–12
Credits: 0.5
Prerequisite: Sports and Entertainment Marketing.
Recommended prerequisite: Principles of Business, Marketing, and Finance.
Sports and Entertainment Marketing II is an advanced course designed to build upon students' prior knowledge of sports and entertainment marketing. Students will develop a thorough understanding of advanced marketing concepts and theories as they relate to the sports and entertainment industries. Students will investigate the components of branding, sponsorships and endorsements, as well as promotion plans needed for sports and entertainment events. The course also supports career development skills and explores career options. Academic skills (mathematics, science, English, and history/social science) related to the content are a part of this course.

Practicum in Marketing

TSDS PEIMS Code:
13034800 (First Time Taken) (PRACMKT1)
13034810 (Second Time Taken) (PRACMKT2)
Grade Placement: 11–12
Credit: 2
Prerequisite: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance.
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.

Practicum in Marketing/Extended Practicum in Marketing

TSDS PEIMS Code:
13034805 (First Time Taken) (EXPRMKT1)
13034815 (Second Time Taken) (EXPRMKT2)
Grade Placement: 11–12
Credit: 3
Prerequisite: None.
Recommended Prerequisite: Principles of Business, Marketing, and Finance. Corequisite: Practicum in Marketing.
Extended 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.

Advanced Marketing

TSDS PEIMS Code: 13034700 (ADVMKTG)
Grade Placement: 11–12
Credit: 2
Prerequisites: One credit from the courses in the Marketing Career Cluster.
Recommended Prerequisite: Practicum in Marketing.
In Advanced Marketing, students will gain knowledge and skills that help them become proficient in one or more of the marketing functional areas. Students will demonstrate appropriate management and research skills to solve problems related to marketing. This course covers technology, communication, and customer-service skills.

Practicum of Entrepreneurship

TSDS PEIMS Code: N1303425 (PRACENT)

Grade Placement: 11–12

Credit: 2

Recommended Prerequisites: Entrepreneurship and Entrepreneurship II.

The Practicum in Entrepreneurship provides students the opportunity to apply classroom learnings and experiences to real-world business problems and opportunities, while expanding their skill sets and professional relationships as a real or simulated business owner versus the experience one would have as an employee. Students will prepare for an entrepreneurial career in their area of interest in their career cluster and build on and apply the knowledge and skills gained from courses taken in an array of career areas. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of the student's need for work-based learning 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. It is recommended that students are paired with local business owners or employers in their specific industry program of study.

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Practicum in Science, Technology, Engineering, and Mathematics/Extended Practicum in Science, Technology, Engineering, and Mathematics

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.

Principles of Bioscience

TSDS PEIMS Code: 13036300 (PRBIOSCI)

Grade Placement: 9–10

Credit: 1

Prerequisite: None.

Principles of Biosciences is a strong reinforcement of Biology content that provides an overview of biotechnology, bioengineering, and related fields. Topics include genetics, cell structure, proteins, nucleic acids, and the impact of immunological events in biotechnology. Students will further study the increasingly important agricultural, environmental, economic, and political roles of bioenergy and biological remediation; the roles of nanoscience and nanotechnology in biotechnology medical research; and future trends in biological science and biotechnology.

Principles of Technology

TSDS PEIMS Code: 13037100 (PRINTECH)

Grade Placement: 10–12

Credit: 1

Prerequisites: One credit of high school science and Algebra I.

In Principles of Technology, students will conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Various systems will be described in terms of space, time, energy, and matter. Students will study a variety of topics that include laws of motion, conservation of energy, momentum, electricity, magnetism, thermodynamics, and characteristics and behavior of waves. Students will apply physics concepts and perform laboratory experimentations for at least 40% of instructional time using safe practices.

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

Introduction to Computer Aided Design and Drafting

TSDS PEIMS Code: N1303769 (INTRCADD)

Grade Placement: 9–12

Credit: 1

Prerequisite: Architectural Design.

Introduction to Computer-Aided Design and Drafting (CADD), introduces students to CADD equipment, software selection and interfaces; setting up a CADD workstation; upgrading a computer to run advanced CADD software; storage devices; storing, retrieving, back-up and sharing databases; file servers and local area networks (LANs); and transferring drawing files over the Internet.

Fundamentals of Computer Science

TSDS PEIMS Code: 03580140 (TAFCS)

Grade Placement: 9-12

Credit: 1

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

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.

Computer Science II

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.

Computer Science III

TSDS PEIMS Code: 03580350 (TACS3)

Grade Placement: 11-12

Credit: 1

Prerequisite: Computer Science II, Advanced Placement (AP) Computer Science A, or International Baccalaureate (IB) Computer Science.

Computer Science III 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 advanced computer science data structures 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 Forensics

TSDS PEIMS Code: 03580360 (TADGFR)

Grade Placement: 9-12

Credit: 1

Digital forensics is an evolving discipline concerned with analyzing anomalous activity on computers, networks, programs, and data. As a discipline, it has grown with the emergence of a globally-connected digital society. As computing has become more sophisticated, so too have the abilities of malicious agents to access systems and private information. By evaluating prior incidents, digital forensics professionals have the ability to investigate and craft appropriate responses to disruptions to corporations, governments, and individuals. Whereas cybersecurity takes a proactive approach to information assurance to minimize harm, digital forensics takes a reactive approach to incident response.

Discrete Mathematics for Computer Science

TSDS PEIMS Code: 03580370 (TADISMA)

Grade Placement: 11-12

Credit: 1

Prerequisite: Algebra II.

Discrete Mathematics for Computer Science provides the tools used in most areas of computer science. Exposure to the mathematical concepts and discrete structures presented in this course is essential in order to provide an adequate foundation for further study. Discrete Mathematics for Computer Science is generally listed as a core requirement for Computer Science majors. Course topics are divided into six areas: sets, functions, and relations; basic logic; proof techniques; counting basics; graphs and trees; and discrete probability. Mathematical topics are interwoven with computer science applications to enhance the students' understanding of the introduced mathematics. Students will develop the ability to see computational problems from a mathematical perspective. Introduced to a formal system (propositional and predicate logic) upon which mathematical reasoning is based, students will acquire the necessary knowledge to read and construct mathematical arguments (proofs), understand mathematical statements (theorems), and use mathematical problem-solving tools and strategies. Students will be introduced to discrete data structures such as sets, discrete functions, and relations and graphs and trees. Students will also be introduced to discrete probability and expectations. 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.

Game Programming and Design

TSDS PEIMS Code: 03580380 (TAGMPD)

Grade Placement: 9-12

Credit: 1

Game Programming and Design will foster student creativity and innovation by presenting students with 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 gaming problems. Through data analysis, students will include the identification of task requirements, plan search strategies, and use programming concepts to access, analyze, and evaluate information needed to design games. By acquiring programming 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 create a computer game that is presented to an evaluation panel. 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.

Introduction to Computer Aided Design and Drafting

TSDS PEIMS Code: N1303769 (INTRCADD)

Grade Placement:

Credits: 1

Prerequisite:

Intermediate Computer-Aided Design and Drafting (CADD), focuses on the fundamentals of computer-aided drafting using various drafting programs. Emphasis is placed on drawing set up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems; and using input and output devices.

Intermediate Computer Aided Design and Drafting

TSDS PEIMS Code: N1303770 (INTMCADD)

Grade Placement: 10–12

Credits: 1

Prerequisite: Architectural Design and Introduction to Computer Aided Drafting and Design (CADD).

Intermediate Computer-Aided Design and Drafting (CADD), focuses on the fundamentals of computer-aided drafting using various drafting programs. Emphasis is placed on drawing set up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems; and using input and output devices.

Mobile Application Development

TSDS PEIMS Code: 03580390 (TAMBAP)

Grade Placement: 9-12

Credit: 1

Prerequisite: Algebra I

Mobile Application Development will foster students' creativity and innovation by presenting opportunities to design, implement, and deliver meaningful projects using mobile computing devices. Students will collaborate with one another, their instructor, and various electronic communities to solve problems presented throughout the course. Through data analysis, students will identify task requirements, plan search strategies, and use software development concepts to access, analyze, and evaluate information needed to program mobile devices. By using software design 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 mobile application development through the study of development platforms, programming languages, and software design standards. 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.

Foundations of Cybersecurity

TSDS PEIMS Code: 03580850 (TAFCYB)

Grade Placement: 9-12

Credit: 1

In the Foundations of Cybersecurity course, students will develop the knowledge and skills needed to explore fundamental concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will review and explore security policies designed to mitigate risks. The skills obtained in this course prepare students for additional study in cybersecurity. A variety of courses are available to students interested in this field. Foundations of Cybersecurity may serve as an introductory course in this field of study.

Cybersecurity Capstone

TSDS PEIMS Code: 03580855 (TACYBCAP)

Grade Placement: 11-12

Credit: 1

Recommended prerequisite: Foundations of Cybersecurity.

In the Cybersecurity Capstone course, students will develop the knowledge and skills needed to explore advanced concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will develop security policies to mitigate risks. The skills obtained in this course prepare students for additional study toward industry certification. A variety of courses are available to students interested in the cybersecurity field. Cybersecurity Capstone may serve as a culminating course in this field of study.

Digital Image Processing

TSDS PEIMS Code: N1303766 (DGIP)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Algebra I, Geometry, and Algebra II.

This course introduces the topic of how images (pictures) are represented in a way that computers can store them in memory, manipulate their pixels, display them, and analyze their contents. Digital images are processed by programs written in scientific computing software environments. The following image processing operations will be studied: enhancement, filtering, reconstruction, compression, object detection, and classification.

AC/DC Electronics

TSDS PEIMS Code: 13036800 (ACDCELEC)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Applied Engineering.

AC/DC Electronics focuses on the basic electricity principles of alternating current/direct current (AC/DC) circuits. Students will demonstrate knowledge and applications of circuits, electronic measurement, and electronic implementation. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students will use a variety of computer hardware and software applications to complete assignments and projects. Additionally, students will explore career opportunities, employer expectations, and educational needs in the electronics industry.

Solid State Electronics

TSDS PEIMS Code: 13036900 (SOSTELEC)

Grade Placement: 11–12

Credit: 1

Prerequisite: AC/DC Electronics.

In Solid State Electronics, students will demonstrate knowledge and applications of advanced circuits, electrical measurement, and electrical implementation used in the electronics and computer industries. Students will transfer advanced academic skills to apply engineering principles and technical skills to troubleshoot, repair, and modify electronic components, equipment, and power electronic systems in a project-based environment. Additionally, students will explore career opportunities, employer expectations, and educational needs in the electronics industry. Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

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 discreet 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.

Introduction to Engineering Design (PLTW)

TSDS PEIMS Code: N1303742 (IED)

Grade Placement: 9–12

Credit: 1

Introduction to Engineering Design (IED) is an Activity-Project-Problem-Based course designed to build on foundational engineering concepts with an emphasis on the application of modeling in the engineering design process to develop solutions. Embedded throughout the course are important engineering concepts, such as engineering mindset, systems thinking, and computational thinking. Students will dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. Students will work both individually and in teams to design solutions to a variety of problems using 3-D modeling software and use an engineering notebook to document their work. This course prepares students for college, a career, or the military by developing their spatial reasoning, design thinking, problem-solving skills, and transportable skills and by exposing them to a variety of careers.

Aerospace Engineering (PLTW)

TSDS PEIMS Code: N1303745 (AERO)

Grade Placement: 9–12

Credit: 1

Recommended Prerequisites: At least one credit in a Level 2 or higher course in Engineering.

In this course, students explore the fundamentals of flight in air and space as they bring the concepts to life by designing and testing components, such as an airfoil, propulsion system, and a rocket. They learn orbital mechanics concepts and apply these by creating models using industry-standard software. Students simulate a progression of operations to explore a planet, including creating a map of the terrain and using the map to execute a mission using an autonomous robot. Building enthusiasm while learning real-world skills related to the aerospace industry is a primary goal of the course. This course prepares students for college, a career, or the military by deepening their knowledge of aerospace concepts, developing students problem-solving skills, transportable skills (such as communication and ethical reasoning), and exposing them to a variety of careers.

Civil Engineering and Architecture (PLTW)

TSDS PEIMS Code: N1303747 (CEA)

Grade Placement: 9–12

Credit: 1

Introduction to Engineering Design (IED) is an Activity-Project-Problem-Based course designed to build on foundational engineering concepts with an emphasis on the application of modeling in the engineering design process to develop solutions. Embedded throughout the course are important engineering concepts, such as engineering mindset, systems thinking, and computational thinking. Students will dig deep into the engineering design process, applying math, science, and engineering standards to hands-on projects. Students will work both individually and in teams to design solutions to a variety of problems using 3-D modeling software and use an engineering notebook to document their work. This course prepares students for college, a career, or the military by developing their spatial reasoning, design thinking, problem-solving skills, and transportable skills and by exposing them to a variety of careers.

Environmental Sustainability (PLTW)

TSDS PEIMS Code: N1303746 (ENVSUS)

Grade Placement: 9–12

Credit: 1

In PLTW Environmental Sustainability, students design solutions to solve real-world challenges related to clean drinking water, a stable food supply, and renewable energy. Students are introduced to environmental issues and use the engineering design process to research and design potential solutions. Through both individual and collaborative team activities, projects, and problems, students solve problems as they practice common design and scientific protocols, such as project management, lab techniques, and peer review. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Building enthusiasm for and a real understanding of the role, impact, and practice of environmental sustainability is a primary goal of the course.

Computer Integrated Manufacturing (PLTW)

TSDS PEIMS Code: N1303748 (CIM)

Grade Placement: 9–12

Credit: 1

Recommended Corequisite: College prep math and science and completed Introduction to Engineering Design (PLTW)

PLTW Computer Integrated Manufacturing is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products around us. Students build upon their Computer Aided Design (CAD) experience through the use of Computer Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing systems. Throughout the course students learn about manufacturing processes and systems. This course culminates with a capstone project where

students design, build, program, and present a manufacturing system model capable of creating a product.

Engineering Design and Development (PLTW)

TSDS PEIMS Code: N1303749 (EDD)

Grade Placement: 11–12

Credit: 1

Recommended Prerequisites: At least two courses in Engineering with at least one being a Level 2 or higher.

Engineering Design and Development (EDD) is an open-ended engineering research course in which students work in teams to design and develop an original solution to a well-defined and justified open-ended problem by applying an engineering design process using the knowledge and skills they developed in previous courses. EDD is appropriate for 11th and 12th-grade students. Students will perform research to select, define, and justify a problem. After carefully defining the design requirements and creating multiple solution approaches, teams of students select an approach, create, and test their solution prototype. Student teams will present and defend their original solution to an outside panel. This course prepares students for college, a career, or the military by helping them become better problem-solvers. Students learn how to manage projects and further develop their transferable skills, such as communication and ethical reasoning.

Engineering Essentials (PLTW)

TSDS PEIMS Code: N1303760 (ENGESS)

Grade Placement: 9–12

Credit: 1

Engineering Essentials (EES) is for grade 9-12 students. Students explore the work of engineers and their role in the design and development of solutions to real-world problems. Students are introduced to engineering concepts applicable across multiple engineering disciplines. They are empowered to build technical skills using a variety of engineering tools. Students learn and apply the engineering design process to develop mechanical, electronic, process, and logistical solutions to relevant problems across a variety of industry sectors. Using PLTW's activity-, project-, problem-based (APB) instructional approach, students advance from completing structured activities to solving open-ended projects and problems that provide opportunities to develop planning and technical documentation skills and in-demand, transportable skills, such as problem solving, critical and creative thinking, collaboration, communication, and ethical reasoning. The course emphasizes statistical analysis and mathematical modeling – computational methods commonly used in engineering problem-solving.

Engineering Applications of Computer Science Principles

TSDS PEIMS Code: N1303772 (EASCP)

Grade Placement: 10–12

Credit: 1

Engineering Applications of Computer Science Principles (EACSP) is a year-long, design-based high school course for students who want to expand and deepen their engineering design skills and habits of mind through the purposeful integration and application of computer science (CS) principles and practices. Developed by University of Texas Engineering and Computer Engineering

faculty, experienced secondary teachers and curriculum developers, and engineers with decades of industry experience, this hands-on course engages students in authentic, integrated engineering and CS practices in a project-based environment. Building on the skills and habits of mind developed in an introductory engineering design course, EACSP scaffolds students' acquisition and application of CS principles across a series of engaging and socially relevant design challenges.

Engineering Design and Presentation I

TSDS PEIMS Code: 13036500 (ENGDSPR1)

Grade Placement: 10–12

Credit: 1

Prerequisite: Algebra I.

Recommended Prerequisite: Principles of Applied Engineering.

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.

Engineering Design and Presentation II

TSDS PEIMS Code: 13036600 (ENGDSPR2)

Grade Placement: 11–12

Credit: 2

Prerequisites: Algebra I and Geometry.

Recommended Prerequisite: Principles of Applied Engineering or Engineering Design and Presentation I.

Engineering Design and Presentation II is a continuation of knowledge and skills learned in Engineering Design and Presentation I. 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. Emphasis will be placed on using skills from ideation through prototyping.

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.

Engineering Science

TSDS PEIMS Code: 13037500 (ENGSCIEN)

Grade Placement: 10–12

Credit: 1

Prerequisite: Algebra I and Biology Chemistry, Integrated Physics, and Chemistry (IPC), or Physics.

Recommended Prerequisite: Geometry.

Engineering Science is an engineering course designed to expose students to some of the major concepts and technologies that they will encounter in a postsecondary program of study in any engineering domain. Students will have an opportunity to investigate engineering and high-tech careers. In Engineering Science, students will employ science, technology, engineering, and mathematical concepts in the solution of real-world challenge situations. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

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

Biotechnology I

TSDS PEIMS Code: 13036400 (BIOTECH1)

Grade Placement: 11–12

Credit: 1

Prerequisite: Biology.

Recommended Prerequisites: Principles of Biosciences and Chemistry.

In Biotechnology I, students will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. Students will conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Biotechnology I will study a variety of topics that include structures and functions of cells, nucleic acids, proteins, and genetics. 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.

Biotechnology ll

TSDS PEIMS Code: 13036450 (BIOTECH2)

Grade Placement: 11–12

Credit: 1

Prerequisites: Biology, Biotechnology l and Chemistry.

Biotechnology II has the components of any rigorous scientific or bioengineering program of study from the problem identification, investigation design, data collection, data analysis, and formulation and presentation of the conclusions. This course applies the standard skills mastered in Biotechnology I and includes assay design. After taking this course, students should be prepared for entry-level lab technician jobs. Students must meet the 40% laboratory and fieldwork requirement.

Quality Assurance for Biosciences

TSDS PEIMS Code: N1303771 (QABIOS)

Grade Placement: 11–12

Credit: 1

Prerequisite: Biotechnology 1.

Quality Assurance for the Biosciences is designed to introduce the student to quality principles and regulatory affairs as they apply to the biotechnology, biopharmaceutical, and the biomedical device industries. This course focuses on exploring online regulatory websites, such as FDA.gov, and discovering how new regulations arise and how to find and interpret them. A large component of this course requires students to participate in discussions related to bioethics and the controversial issues surrounding bioethics and regulations governing the biotechnology industry and quality assurance. This course is a broad overview that covers regulations of drugs, biologics, medical devices, food and other products; however, students are encouraged to investigate further in areas of interest.

Scientific Research and Design

TSDS PEIMS Code:
13037200 (First Time Taken) (SCRID)
13037210 (Second Time Taken) (SCRID2)
13037220 (Third Time Taken) (SCRID3)
Grade Placement: 11–12
Credit: 1
Prerequisite: Biology, Chemistry, Integrated Physics, Chemistry (IPC), or Physics.
Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. These components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Students must meet the 40% laboratory and fieldwork requirement. Students may take this course with different course content for a maximum of three credits.
Note: This course satisfies a science credit requirement for students on the Foundation High School Program.

Advanced Placement Computer Science A/B

TSDS PEIMS Code: A3580110 (Math), A3580120 (LOTE) (APTACSAM, APTACSAL)
Credit: 2
Recommended prerequisites: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$.
Content requirements for Advanced Placement (AP) Computer Science A are prescribed in the College Board Publication Advanced Placement Course Description: Computer Science A, published by The College Board.

Advanced Placement Computer Science Principles

TSDS PEIMS Code: A3580300 (APCSPRIN)
Credit: 1
Recommended prerequisite: Algebra I.
Content requirements for Advanced Placement (AP) Computer Science Principles are prescribed in the College Board Publication Advanced Placement® Curriculum Framework: AP Computer Science Principles, published by The College Board

International Baccalaureate Computer Science Standard Level

TSDS PEIMS Code: I3580200 (IBTACSSL)

Credits: 2

Recommended prerequisites: Computer Science I, Algebra II.

Content requirements for IB Computer Science Standard Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.

International Baccalaureate Computer Science Higher Level

TSDS PEIMS Code: I3580310 (Math), I3580320 (LOTE) (IBTACSHLM, IBTACSHLL)

Credits: 2

Recommended prerequisites: Computer Science I, Algebra II.

Content requirements for IB Computer Science Higher Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.

International Baccalaureate Information Technology in a Global Society Standard Level

TSDS PEIMS Code: I3580400 (IBITGSSL)

Credits: 2

Recommended prerequisites: Computer Science I, Algebra II.

Content requirements for IB Information Technology in a Global Society Standard Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.

International Baccalaureate Information Technology in a Global Society Higher Level

TSDS PEIMS Code: I3580500 (IBITGSHL)

Credits: 2

Recommended prerequisites: Computer Science I, Algebra II

Content requirements for IB Information Technology in a Global Society Higher Level are prescribed by the International Baccalaureate Organization. Subject guides may be obtained from International Baccalaureate of North America.

Texas Pre-Freshman Engineering Program II-IV

TSDS PEIMS Code:

N1303753	(TXPRENG2)
N1303754	(TXPRENG3)
N1303755	(TXPRENG4)

Grade Placement: 9–12

Credit: 1 per course

The Texas Pre-Freshman Engineering Program (TexPREP™) was established in 1979 at The University of Texas at San Antonio as the San Antonio Pre-Freshman 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 II 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 three-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.

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.

Practicum in Science, Technology, Engineering, and Mathematics/Extended Practicum in Science, Technology, Engineering, and Mathematics

TSDS PEIMS Code:

13037405 (First Time Taken) (EXPRSTEM1)
13037415 (Second Time Taken) (EXPRSTEM2)

Grade Placement: 12

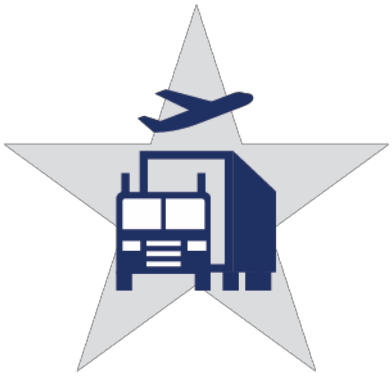
Credit: 3

Prerequisites: Algebra I and Geometry.

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

Corequisite: Practicum in Science, Technology, Engineering, and Mathematics Career Cluster credits.

Extended 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.



Transportation, Distribution & Logistics

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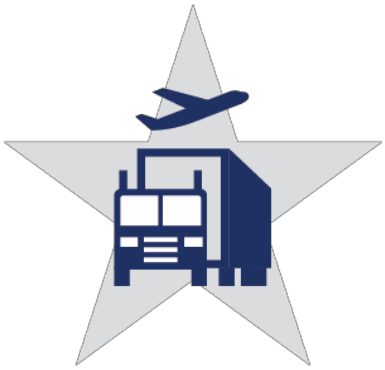

Transportation, Distribution & Logistics

Principles of Transportation Systems

TSDS PEIMS Code: 13039250 (PRINTRSY)

Grade Placement: 9–12

Credit:1

Prerequisite: None.

In Principles of Transportation Systems, students will gain knowledge and skills in the safe application, design, production, and assessment of products, services, and systems. This knowledge includes the history, laws and regulations, and common practices used in the transportation industry. Students should apply knowledge and skills in the application, design, and production of technology as it relates to the transportation industries. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings.

Principles of Distribution and Logistics

TSDS PEIMS Code: 13039260 (PRINDILG)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

In Principles of Distribution and Logistics, students will gain knowledge and skills in the safe application, design, production, and assessment of products, services, and systems. This knowledge includes the history, laws and regulations, and common practices used in the logistics of warehousing and transportation systems. Students should apply knowledge and skills in the application, design, and production of technology as it relates to distribution and logistics industries. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings

Introduction to Transportation Technology

TSDS PEIMS Code: 13039270 (INTRTEC)

Grade Placement: 9–10

Credit: .5

Prerequisite: None.

Introduction to Transportation Technology includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Transportation Technology includes applicable safety and environmental rules and regulations. In Transportation Technology, students will gain knowledge and skills in the repair, maintenance, and diagnosis of transportation systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.

Principles of Maritime Science

TSDS PEIMS Code: N1304661 (PRMSCI)

Grade Placement: 9–12

Credit: 1

The Principles of Maritime Science 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. Students enrolled in this course will identify career opportunities, skills, abilities, tools, certifications, and safety measures for sea based maritime careers. Students will also understand components, systems, equipment, production and safety regulations associated with maritime industries. A baseline understanding of ships and maritime systems is developed to support assessment of the impact, benefit, and risk of decisions involving the design, acquisition, operation, regulation, law enforcement, damage control, maintenance, and salvage of ships and maritime systems. This course will also inform students on the most effective and efficient manners to assure a safe, economically efficient, and environmentally sound maritime system with the intent to lead to advanced coursework in maritime studies in later grades. This course aligns with Chapter 130, Subchapter P: Transportation, Distribution, and Logistics.

Concepts of Distribution and Logistics Technology

TSDS PEIMS Code: N1303800 (DISTLOG)

Grade Placement: 10–12

Credit: 1

In Concepts of Distribution and Logistics Technology, students will gain knowledge and skills in safe application, design, and assessment of technologies used in the supply chain and logistics industries. The students will apply knowledge and skills in using standard and emerging technologies in the field of logistics. This course allows students to understand, apply, and simulate the new technologies of distribution and logistics. The Concepts of Distribution and Logistics Technology course will provide students with a broader basis for understanding the technology of managing, storing, shipping, and receiving different materials. These technologies will include data base tracking and delivering software, equipment, and services used in the field. The course will develop the students' knowledge of distribution, logistics, and the supply chain.

Logistics Engineering

TSDS PEIMS Code: N1303801 (LOGENG)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Principles of Distribution and Logistics and Distribution and Logistics.

The purpose of the Logistics Engineering course is to prepare students for supply chain management (SCM) and logistics professions and required certifications/post-secondary education requirements for each. The main goal of this course is to provide a pathway for high school students to learn core competencies as identified by the local SCM and logistics industry and post-secondary institutions. The central focus of the Logistics Engineering course is to provide instruction which can lead to various workforce-preparation degree programs that support employment in the manufacturing, transportation, distribution, supply chain management and logistics industries.

Introduction to Shipboard Engineering

TSDS PEIMS Code: N1304666 (INTSE)

Grade Placement: 10-12

Credit: 1

Recommended prerequisite: Principles of Maritime Science.

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.

Advanced Shipboard Engineering

TSDS PEIMS Code: N1304667 (ADVSE)

Grade: 11–12

Credit: 1

Recommended prerequisite: Introduction to Shipboard Engineering.

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.

Maritime Science I

TSDS PEIMS Code: N1304662 (MSCI1)

Grade Placement: 9–12

Credit: 1

Recommended prerequisite: Principles of Maritime Science.

Maritime Science I provides training for entry-level employment and a basis for continuing education in deck and piloting careers and merchant mariner credentialing. Students will build on the foundational knowledge acquired in the Principles of Maritime Science course. Maritime Science I will instruct students in progressing aspects of vessel piloting and navigation, safety of life at sea, voyage planning, shipboard damage control and marine pollution. Specifically, students will understand safety expectations, laws, and environmental and human factors involved in the maritime industry. The course focuses on lab assignments and simulator experiences to reinforce critical-thinking and decision-making skills in navigation, ship handling, collision avoidance, and risk assessment and mitigation. Navigation instruction, including chart preparation, various distance, speed, and time relationships, positioning techniques, calculation of tides and currents, and voyage planning, and aids to navigation, will be explored. Students will learn basic shipboard damage control actions required in the event of shipboard casualties, search and rescue, advancements, collateral duties, and other personnel management issues.

Maritime Science II

TSDS PEIMS Code: N1304663 (MSCI2)

Grade Placement: 9–12

Credit: 1

Recommended prerequisite: Principles of Maritime Science.

Prerequisite: Maritime Science I.

After successful completion of Principles of Maritime Science and Maritime Science I, students may participate in the course, Maritime Science II. 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; external communications; and other relevant knowledge, skills, and techniques. Upon successful completion of this course, students will be able to plan and execute safe vessel navigation. Students will exhibit knowledge of all bridge navigation (TRANSAS, ECDIS, and Paper Charts) equipment and procedures. Using case studies and real world simulations, students will identify the contributing factors involved in maritime accidents.

Introduction to Aerospace and Aviation

TSDS PEIMS Code: N1304672 (INTAEAVI)

Grade Placement: 9–11

Credit: 1

The Introduction to Aerospace and Aviation course will provide the foundation for advanced exploration in the areas of professional pilot, aerospace engineering, and unmanned aircraft systems. Students will learn about the history of aviation, from Leonardo da Vinci's ideas about flight to the Wright brothers and the space race. Along the way students will learn about the innovations and technological developments that have made today's aviation and aerospace industries possible. The course includes engineering practices, the design process, aircraft structure, space vehicles past and present, and a look toward future space exploration. Students will also learn about the wide variety of exciting and rewarding careers available to them. The Introduction to Aerospace and Aviation course will inspire students to consider aviation and other aerospace careers while laying the foundation for continued study in grades 10-12.

Introduction to Unmanned Aerial Vehicle (UAV)

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.

Aviation Ground School

TSDS PEIMS Code: N1304675 (AVIAGS)

Grade Placement: 11–12

Credit: 1

Recommended prerequisites: Algebra I, Introduction to Unmanned Aerial Vehicles, Introduction to Aircraft Technology, or Junior Reserve Officer Training Corps (ROTC) II.

This course is designed to extend student interests in all aspects of aviation while preparing students to take the formal ground requisite exam for the Federal Aviation Administration (FAA) FAA Airman Knowledge Test which is required to obtain a private pilot's license. The rigor of the course challenges students with complex aeronautical, engineering, weather, management and judgement concepts. Rules, regulations, obligations, and commitments to discipline and focus are foundational throughout the course. The ability to grasp flight without actually flying a real aircraft extends well beyond the classroom as students learn navigation, weather science, attention to detail (mathematical fuel and load planning), health and mental well-being related to flight planning and piloting aircraft.

Small Engine Technology I

TSDS PEIMS Code: 13040000 (SMENTEC1)

Grade Placement: 9–12

Credit: 1

Prerequisite: None

Small Engine Technology I includes knowledge of the function and maintenance of the systems and components of all types of small engines such as outdoor power equipment, motorcycles, generators, and irrigation engines. This course is designed to provide training for employment in the small engine technology industry. Instruction includes the repair and service of cooling, air, fuel, lubricating, electrical, ignition, and mechanical systems. In addition, the student will receive instruction in safety, academic, and leadership skills as well as career opportunities.

Small Engine Technology II

TSDS PEIMS Code: 13040100 (SMENTEC2)

Grade Placement: 10–12

Credit: 2

Prerequisite: Small Engine Technology I.

Small Engine Technology II includes advanced knowledge of the function, diagnosis, and service of the systems and components of all types of small engines such as outdoor power equipment, motorcycles, generators, and irrigation engines. This course is designed to provide hands-on and practical application for employment in the small engine technology industry. Instruction includes the repair and service of cooling, air, fuel, lubricating, electrical, ignition, and mechanical systems and small engine overhauls. In addition, students will receive instruction in safety, academic, and leadership skills as well as career opportunities.

Automotive Basics

TSDS PEIMS Code: 13039550 (AUTOBASC)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

Automotive Basics includes knowledge of the basic automotive systems and the theory and principles of the components that make up each system and how to service these systems. Automotive Basics includes applicable safety and environmental rules and regulations. In Automotive Basics, students will gain knowledge and skills in the repair, maintenance, and servicing of vehicle systems. This study allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.

Automotive Technology I: Maintenance and Light Repair

TSDS PEIMS Code: 13039600 (AUTOTEC1)

Grade Placement: 9–12

Credit: 2

Prerequisite: None.

Recommended Prerequisites: Automotive Basics.

Automotive Technology I: Maintenance and Light Repair includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. This course includes applicable safety and environmental rules and regulations. In Automotive Technology I: Maintenance and Light Repair, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.

Automotive Technology II: Automotive Service

TSDS PEIMS Code: 13039700 (AUTOTEC2)

Grade Placement: 11–12

Credit: 2

Prerequisites: Automotive Technology I: Maintenance and Light Repair.

Automotive Technology II: Automotive Service includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Automotive Technology II: Automotive Service includes applicable safety and environmental rules and regulations. In this course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.

Advanced Transportation Systems Laboratory

TSDS PEIMS Code: 13039510 (AIRPLAB)

Grade Placement: 11–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: A minimum of one credit from the courses in the Transportation, Distribution, and Logistics Career Cluster.

Corequisites: Automotive Technology II: Automotive Services, Diesel Equipment Technology II, Collision Repair, Paint and Refinishing, Aircraft Airframe Technology, or Aircraft Powerplant Technology.

Advanced Transportation Systems Laboratory provides the opportunity to extend knowledge of the major transportation systems and the principles of diagnosing and servicing these systems. Topics in this course may include alternative fuels such as hybrid, bio diesel, hydrogen, compressed natural gas (CNG), liquidized natural gas (LNG), propane, and solar; total electric vehicles and power trains; advanced transportation systems such as collision avoidance, telematics, vehicle stability control, navigation, vehicle-to-vehicle communications; and other technologies. This study will allow students to have an increased understanding of science, technology, engineering, and mathematics in all aspects of these systems. This will reinforce, apply, and transfer academic knowledge and skills to a variety of relevant activities, problems, and settings.

Note: This course must be taken concurrently with a corequisite course and may not be taken as a stand-alone course.

Aircraft Airframe Technology/Advanced Transportation Systems Laboratory
13039410
AIRAFLAB

Aircraft Powerplant Technology/Advanced Transportation Systems Laboratory
13039510
AIRPPLAB

Automotive Technology II: Automotive Services/Advanced Transportation Systems Laboratory
13039710
AUTOLAB2

Collision Repair/Advanced Transportation Systems Laboratory
13039810
COLLRLAB

Paint and Refinishing/Advanced Transportation Systems Laboratory
13039910
PTREFLAB

Diesel Equipment Technology II/Advanced Transportation Systems Laboratory
13040170
DIEQLAB2

Introduction to Aircraft Technology

TSDS PEIMS Code: 13039350 (INAIRTEC)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

Introduction to Aircraft Technology is designed to teach the theory of operation of aircraft airframes, powerplants, and associated maintenance and repair practices. Maintenance and repair practices include knowledge of the function, diagnosis, and service, airframe structures, airframe systems and components, powerplant theory and maintenance, and powerplant systems and components of aircraft. Industry recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.

Aircraft Airframe Technology

TSDS PEIMS Code: 13039400 (AIRAFTEC)

Grade Placement: 10–12

Credit: 2

Prerequisite: Introduction to Aircraft Technology.

Aircraft Airframe Technology is designed to teach the theory of operation of aircraft airframes and associated maintenance and repair practices. Airframe maintenance and repair practices include knowledge of the function, diagnosis, and service of airframe structures, systems, and components of aircraft.

Aircraft Powerplant Technology

TSDS PEIMS Code: 13039500 (AIRPPTEC)

Grade Placement: 11–12

Credit: 2

Prerequisite: Introduction to Aircraft Technology.

Aircraft Powerplant Technology is designed to teach the theory of operation of aircraft powerplants and associated maintenance and repair practices. Powerplant maintenance and repair practices include knowledge of the theory, function, diagnosis, and service of powerplant, systems, and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.

Basic Collision Repair and Refinishing

TSDS PEIMS Code: 13039750 (BASCOLRR)
Grade Placement: 9–12
Credit: 1
Prerequisite: None.
Basic Collision Repair 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 collision repair and refinishing.

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.

Diesel Equipment Technology I

TSDS PEIMS Code: 13040150 (DIEQTEC1)
Grade Placement: 9–12
Credit: 2
Prerequisite: None.
Diesel Equipment Technology I includes knowledge of the function and maintenance of diesel systems. Rapid advances in diesel technology have created new career opportunities and demands in the transportation industry. This course provides the knowledge, skills, and technologies required for employment in transportation systems.

Diesel Equipment Technology II

TSDS PEIMS Code: 13040160 (DIEQTEC2)
Grade Placement: 10–12
Credit: 2
Prerequisite: Diesel Equipment Technology I.
Diesel Equipment Technology II includes knowledge of the function, diagnosis, and service of diesel equipment systems. Rapid advances in diesel technology have created new career opportunities and demands in the transportation industry. This course provides the advanced knowledge, skills, and technologies required for employment in transportation systems.

Energy and Power of Transportation Systems

TSDS PEIMS Code: 13039300 (EPTSYS)
Grade Placement: 10–12
Credit: 1
Recommended Prerequisite: Principles of Transportation Systems.
Energy and Power of Transportation Systems will prepare students to meet the expectations of employers in this industry and to interact and relate to others. Students will learn the technologies used to provide products and services in a timely manner. The businesses and industries of the Transportation, Distribution, and Logistics career cluster are rapidly expanding to provide new career and career advancement opportunities.
Performance requirements will include academic and technical skills. Students will need to understand the interaction between various vehicle systems, including engines, transmissions, brakes, fuel, cooling, and electrical. Students will also need to understand the logistics used to move goods and services to consumers, as well as the components of transportation infrastructure.

Management of Transportation Systems

TSDS PEIMS Code: 13040200 (MNGTRSY)
Grade Placement: 10–12
Credit: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Transportation Systems.
In Management of Transportation Systems, students will gain knowledge and skills in material handling and distribution and proper application, design, and production of technology as it relates to the transportation industries. This course includes the safe operation of tractor-trailers, forklifts, and related heavy equipment. This course will allow students to reinforce, apply, and transfer their academic knowledge and skills to management of transportation systems and associated careers.

Distribution and Logistics

TSDS PEIMS Code: 13040300 (DISTLGS)
Grade Placement: 11–12
Credit: 1
Prerequisite: None.
Recommended Prerequisite: Principles of Distribution and Logistics.
Distribution and Logistics is designed to provide training for entry-level employment in distribution and logistics. This course focuses on the business planning and management aspects of distribution and logistics. To prepare for success, students will learn, reinforce, experience, apply, and transfer their knowledge and skills related to distribution and logistics.

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 Distribution and Logistics

TSDS PEIMS Code:
13040470 (First Time Taken) (PRACDLG1)
13040480 (Second Time Taken) (PRACDLG2)
Grade Placement: 11–12
Credit: 2
Prerequisite: None.
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.

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.

Practicum in Distribution and Logistics/Extended Practicum in Distribution and Logistics

TSDS PEIMS Code:

13040475 (First Time Taken) (EXPRDLG1)
13040485 (Second Time Taken) (EXPRDLG2)

Grade Placement: 11–12
Credit: 3
Prerequisite: None.
Corequisite: Practicum in Distribution and Logistics.

Extended 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. Extended Practicum in Distribution and Logistics can be either school lab based or work based.