

2019-2020



Master Course List Taylor High School

CAREER AND TECHNICAL EDUCATION

Taylor High School
Career and Technical Education Course Offerings
2019-2020

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 II

TSDS PEIMS Code: 12701400

(CAREERP2)

Grade Placement: 12

Credit: 2

Prerequisite: Career Preparation I.

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.

General Employability Skills

TSDS PEIMS Code: N1270153 (GEMPLS)

Grade Placement: 9–12

Credit:

Prerequisite: None.

General Employability Skills



TAC Chapter 130. Career and Technical Education



Agriculture, Food & Natural Resources

Principles of Agriculture, Food, and Natural Resources

TSDS PEIMS Code: 13000200 (PRINAFNNR)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

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

Livestock Production

TSDS PEIMS Code: 13000300 (LIVEPROD)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

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

Wildlife, Fisheries, and Ecology Management

TSDS PEIMS Code: 13001500 (WFECGT)

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.

Veterinary Medical Applications

TSDS PEIMS Code: 13000600. (VETMEDAP)

Grade Placement: 11–12

Credit: 1

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

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

Agricultural Mechanics and Metal Technologies

TSDS PEIMS Code: 13002200 (AGMECHMT)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

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

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

Agricultural Structures Design and Fabrication

TSDS PEIMS Code: 13002300. (AGSDF)

Grade Placement: 11–12

Credit: 1

Prerequisite: None.

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

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.

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 or Geometry.

Recommended Corequisite: Welding 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.

Floral Design

TSDS PEIMS Code: 13001800 (FLORAL)

Grade Placement: 9–12

Credit: 1

Prerequisite: None.

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

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

Advanced Floral Design

TSDS PEIMS Code: N

Grade Placement: 10–12

Credit: 1

Prerequisite: Floral Design.

Advanced in Floral Design is in an innovative CTE course which can explore in depth the following units that are covered in Floral Design 1. At the completion of the course student can earn, an Industry Floral Design Certificate.

Unit 1: Career Exploration in the Agricultural/Floral Industry

Unit 2: Supervised Agricultural Experience (SAE)

Unit 3: Principles and Techniques in Floral Art and Interioscapes

Unit 4: Floral Management Practices

Unit 5: Floral Design Principles and Techniques

Unit 6: Evaluating Floral Design

Unit 7: Critiquing Floral Arrangements

Unit 8: Floral Business Management

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

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.

***Practicums are available with a Carpentry, Electrical, or Plumbing Focus*



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 for 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.

Graphic Design and Illustration I

TSDS PEIMS Code: 13008800

(GRA

PHDI1) 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.

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.

Audio/Video Production I

TSDS PEIMS Code: 13008500 (AVPROD1)

Grade Placement: 9–12

Credits: 1

Prerequisite: None.

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

Recommended Corequisite: Audio/Video Production I Lab.

In addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on pre-production, production, and post-production audio and video products.

Audio/Video Production II

TSDS PEIMS Code: 13008600 (AVPROD2)

Grade Placement: 10–12

Credits: 1

Prerequisite: Audio/Video Production I.

Recommended Prerequisite: Audio/Video Production I.

Recommended Corequisite: Audio/Video Production II Lab.

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

Audio/Video Production II/Audio/Video Production II Lab

TSDS PEIMS Code: 13008610 (AVPLAB2)

Grade Placement: 10–12

Credits: 2

Prerequisite: Audio/Video

Production I. Corequisite:

Audio/Video Production II.

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.

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 II and Audio/Video Production II 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.

Commercial Photography I

TSDS PEIMS Code: 13009100 (CPHOTO1)

Grade Placement: 9–12

Credits: 1

Prerequisite: None.

Recommended Corequisite: Commercial Photography I Lab.

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

Commercial Photography II

TSDS PEIMS Code: 13009200 (CPHOTO2)

Grade Placement: 10–12

Credits: 1

Prerequisite: None.

Recommended Prerequisites: Commercial Photography I and Commercial Photography I Lab. Recommended Corequisite: Commercial Photography Lab II.

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

Practicum in Commercial Photography/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.



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.

Business Law

TSDS PEIMS Code: 13011700. (BUSLAW)

Grade Placement: 11–12

Credits: 1

Prerequisite: None.

Business Law 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 Information Management I

TSDS PEIMS Code: 13011400 (BUSIM1)

Grade Placement: 9–12

Credits: 1

Prerequisite: None.

Recommended Prerequisite: Touch System Data
Entry. Recommended Corequisite: Business Lab.

In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in

society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word- processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.

Business Information Management II

TSDS PEIMS Code: 13011500 (BUSIM2)

Grade Placement: 10–12

Credits: 1

Prerequisite: Business Information Management I.

Recommended Prerequisite: Touch System Data

Entry. Recommended Corequisite: Business Lab.

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



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.

Health Science Theory

TSDS PEIMS Code: 13020400 (HLTHSCI)

Grade Placement: 10–12

Credit: 1

Prerequisites: Biology.

Recommended Corequisite: Health Science Clinical.

The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.

Practicum in Health Science

TSDS PEIMS Code:

13020500 (First Time Taken) (PRACHLS1)

13020510 (Second Time Taken) (PRACH

LS2) 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.

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.



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 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.

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.

Advanced Culinary Arts

TSDS PEIMS Code: 13022650

(ADCULA

RT) 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



Human Services

Principles of Human Services

TSDS PEIMS Code: 13024200

(PRINH

USR) 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.

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.

Interpersonal Studies

TSDS PEIMS Code: 13024400

(INTER

STU) 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.

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.



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.

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.

Introduction to Computer Science

TSDS PEIMS Code:

Grade Placement:

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Information Technology.
Recommended Corequisite:.

AP Computer Science Principles

TSDS PEIMS Code:)

Grade Placement: 10–12

Credit: 1

Prerequisite: None.

Recommended Prerequisite: Principles of Information Technology.

Recommended Corequisite:.

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

AP Computer Science A

TSDS PEIMS Code:

Grade Placement: 10–12

Credit: 1

Prerequisite: Introduction to Computer Science and AP Computer Science Principals

Recommended Prerequisite: Principles of Information Technology.

Recommended Corequisite:.

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



Science, Technology, Engineering & Mathematics

Principles of Applied Engineering

TSDS PEIMS Code: 13036200 (PRAPPENG)

Grade Placement: 9–10

Credit: 1

Prerequisite: Algebra 1 and Passed Algebra 1 STAAR EOC

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.

Engineering Design and Presentation I

TSDS PEIMS Code: 13036500 (ENGDSPI)

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.

Project-Based Research

TSDS PEIMS Code:

12701500 (First Time Taken) (PROBS1)

12701510 (Second Time Taken)(PROBS2)

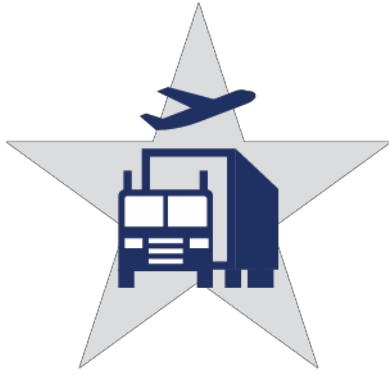
12701520 (Third Time Taken) (PROBS3)

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.



Transportation, Distribution & Logistics

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.

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.

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.