The State Board of Education (SBOE) proposes new §§127.59, 127.61, 127.262, 127.263, 127.510, 127.511, 127.569, 127.571, 127.604, 127.689-127.691, 127.695-127.699, and 127.773, concerning Texas Essential Knowledge and Skills (TEKS) for career development and career and technical education (CTE). The proposed new sections would add TEKS for state-approved innovative courses in the following CTE career clusters: agriculture, food, and natural resources; business, marketing, and finance; health science; hospitality and tourism; information technology; and law and public service.

BACKGROUND INFORMATION AND JUSTIFICATION: After the board adopted new rules concerning graduation requirements, the previously approved experimental courses were phased out as of August 31, 1998. Since the adoption of the TEKS, school districts and other entities have submitted requests for approval of innovative courses that do not have TEKS and meet a demonstrated student need.

In 2023, CTE advisory committees were convened to make recommendations for the review and refresh of programs of study as required by the Texas Perkins State Plan. Finalized programs of study were published in the fall of 2023 with an implementation date beginning in the 2024-2025 school year. CTE courses to be developed or revised to complete or update programs of study were determined.

At the April 2024 meeting, the SBOE approved new TEKS for 23 courses in the agribusiness, animal science, plant science, and aviation maintenance programs of study as well as two STEM courses that may satisfy science graduation requirements: Physics for Engineers and Scientific Research and Design. Additionally, Texas Education Agency (TEA) staff shared an overview of upcoming interrelated needs for TEKS review and revision and instructional materials review and approval (IMRA). Staff explained upcoming needs related to development and amendment of CTE courses, made recommendations for completing the work in batches, and recommended including CTE in the next three cycles of IMRA. In 2024, the SBOE began the review of current CTE TEKS, the development of new CTE TEKS, and the review of innovative courses to be approved as TEKS for courses in the new engineering program of study. At the June 2024 meeting, the SBOE approved recommendations that TEA present certain innovative courses with minor edits for consideration for adoption as TEKS-based courses. A discussion item was presented to the Committee of the Full Board at the September 2024 SBOE meeting regarding proposed new TEKS for courses in the following CTE career clusters: agriculture, food, and natural resources; business, marketing, and finance; health science; hospitality and tourism; information technology; and law and public service.

The proposed new sections would ensure the standards for CTE programs of study remain current and support relevant and meaningful programs of study.

The SBOE approved the proposed new sections for first reading and filing authorization at its November 22, 2024 meeting.

FISCAL IMPACT: Monica Martinez, associate commissioner for standards and programs, has determined that for the first five years the proposal is in effect (2025-2029), there are no additional costs to the state. There may be fiscal implications for school districts and open-enrollment charter schools to implement the proposed new TEKS, which may include the need for professional development and revisions to district-developed databases, curriculum, and scope and sequence documents. Since curriculum and instruction decisions are made at the local district level, it is difficult to estimate the fiscal impact on any given district.

LOCAL EMPLOYMENT IMPACT: The proposal has no effect on local economy; therefore, no local employment impact statement is required under Texas Government Code, §2001.022.

SMALL BUSINESS, MICROBUSINESS, AND RURAL COMMUNITY IMPACT: The proposal has no direct adverse economic impact for small businesses, microbusinesses, or rural communities; therefore, no regulatory flexibility analysis specified in Texas Government Code, §2006.002, is required.

COST INCREASE TO REGULATED PERSONS: The proposal does not impose a cost on regulated persons, another state agency, a special district, or a local government and, therefore, is not subject to Texas Government Code, §2001.0045.

TAKINGS IMPACT ASSESSMENT: The proposal does not impose a burden on private real property and, therefore, does not constitute a taking under Texas Government Code, §2007.043.

GOVERNMENT GROWTH IMPACT: TEA staff prepared a Government Growth Impact Statement assessment for this proposed rulemaking. During the first five years the proposed rulemaking would be in effect, it would create new regulations by proposing new CTE TEKS required to be taught by school districts and open-enrollment charter schools offering the courses. The proposal would ensure the standards for agriculture, food, and natural resources; business, marketing, and finance; health science; hospitality and tourism; information technology; and law and public service remain current and support relevant and meaningful programs of study. Additionally, the proposal to change these CTE courses from state-approved innovative courses to TEKS-based courses would better align the TEKS and add additional course options for students.

The proposed rulemaking would not create or eliminate a government program; would not require the creation of new employee positions or elimination of existing employee positions; would not require an increase or decrease in future legislative appropriations to the agency; would not require an increase or decrease in fees paid to the agency; would not expand, limit, or repeal an existing regulation; would not increase or decrease the number of individuals subject to its applicability; and would not positively or adversely affect the state's economy.

PUBLIC BENEFIT AND COST TO PERSONS: Ms. Martinez has determined that for each year of the first five years the proposal is in effect, the public benefit anticipated as a result of enforcing the proposal would be better alignment of the TEKS to support relevant and meaningful programs of study. There is no anticipated economic cost to persons who are required to comply with the proposal.

DATA AND REPORTING IMPACT: The proposal would have no data or reporting impact.

PRINCIPAL AND CLASSROOM TEACHER PAPERWORK REQUIREMENTS: TEA has determined that the proposal would not require a written report or other paperwork to be completed by a principal or classroom teacher.

PUBLIC COMMENTS: The public comment period on the proposal begins December 20, 2024, and ends at 5:00 p.m. on January 21, 2025. The SBOE will take registered oral and written comments on the proposal at the appropriate committee meeting in January 2025 in accordance with the SBOE board operating policies and procedures. A request for a public hearing on the proposal submitted under the Administrative Procedure Act must be received by the commissioner of education not more than 14 calendar days after notice of the proposal has been published in the *Texas Register* on December 20, 2024.

STATUTORY AUTHORITY. The new sections are proposed under Texas Education Code (TEC), §7.102(c)(4), which requires the State Board of Education (SBOE) to establish curriculum and graduation requirements; TEC, §28.002(a), which identifies the subjects of the required curriculum; TEC, §28.002(c), which requires the SBOE to identify by rule the essential knowledge and skills of each subject in the required curriculum that all students should be able to demonstrate and that will be used in evaluating instructional materials and addressed on the state assessment instruments; TEC, §28.002(n), which permits the SBOE by rule to develop and implement a plan designed to incorporate foundation curriculum requirements into the career and technical education (CTE) curriculum; TEC, §28.002(o), which requires the SBOE to determine that at least 50% of the approved CTE courses are cost effective for a school district to implement; TEC, §28.025(a), which requires the SBOE to determine by rule the curriculum requirements for the foundation high school graduation program that are consistent with the required curriculum under TEC, §28.002; and TEC, §28.025(b-17), which requires the SBOE to adopt rules to ensure that a student may comply with the curriculum requirements under TEC, §28.025(b-1)(6), by successfully completing an advanced CTE course, including a course that may lead to an industry-recognized credential or certificate or an associate degree.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), (n), and (o); and 28.025(a) and (b-17).

<rule>

§127.59. Geographic Information Systems for Agriculture (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisites: Principles of Agriculture, Food, and Natural Resources. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Agriculture, Food, and Natural Resources career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

(3) Geographic Information Systems for Agriculture is a course designed to provide students with the academic and technical knowledge and skills that are required to pursue a career as a precision agriculture specialist, a crop specialist, an independent crop consultant, a nutrient management specialist, a physical scientist, a precision agronomist, a precision farming coordinator, a research agricultural engineer, or a soil fertility specialist. Students will learn to use computers to develop or analyze maps of remote sensing to compare physical topography with data on soils, fertilizer, pests, or weather.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) identify career and entrepreneurship opportunities for a chosen occupation in the field of agriculture and develop a plan for obtaining the education, training, and certifications required for the chosen occupation;

(B) model professionalism by continuously exhibiting appropriate work habits, solving problems, taking initiative, communicating effectively, listening actively, and thinking critically;

(C) model appropriate personal and occupational safety and health practices and explain the importance of established safety and health protocols for the workplace;

(D) analyze and interpret the rights and responsibilities, including ethical conduct and legal responsibilities, of employers and employees; and

(E) analyze the importance of exhibiting good citizenship and describe the effects of good citizenship on the development of home, school, workplace, and community.

(2) The student develops a supervised agriculture experience program. The student is expected to:

(A) plan, propose, conduct, document, and evaluate a supervised agriculture experience as an experiential learning activity;

(B) use appropriate record-keeping skills in a supervised agricultural experience;

(C) participate in youth agricultural leadership opportunities;

(D) review and participate in a local program of activities; and

(E) create or update documentation of relevant agricultural experience such as community service, professional, or classroom experiences.

(3) The student explains the current applications of geographic information system (GIS) in agriculture, food, and natural resources and identifies the future need for GIS in precision agriculture. The student is expected to:

(A) research and compare current and emerging careers related to GIS in agriculture and natural resource fields;

(B) identify and analyze applications of GIS technologies in agriculture, food, and natural resources;

(C) explain GIS data as it pertains to agriculture; and

(D) describe the types of licensing, certification, and credentialing requirements related to GIS occupations.

(4) The student analyzes geographic information and spatial data types in agriculture, food and natural resources. The student is expected to:

(A) identify the uses of GIS in agriculture;

(B) identify the GIS terminology used in agriculture applications, such as spatial analysis, remote sensing, georeferencing, geostatistics, and geocoding;

(C) identify GIS models and representations in precision agriculture;

(D) explain GIS representations of geographic phenomena in soil types, topography, and farming management;

(E) organize and describe spatial data in yield monitoring for crop planning; and

(F) analyze GIS data sources and ethics in agriculture.

(5) The student uses agriculture, food, and natural resources GIS tools. The student is expected to:

(A) identify hardware and software for agriculture data management and processing;

(B) explain spatial data capture and preparation, spatial data storage and maintenance, spatial query and analysis, and spatial data presentation for agriculture; and

(C) describe remote sensing tools and technologies used in precision farming, including unmanned aerial support (UAS), unmanned aerial vehicles (UAV), and global positioning satellite (GPS).

(6) The student integrates spatial referencing and global positioning techniques in agriculture, food, and natural resources. The student is expected to:

(A) explain spatial referencing systems and projections for capturing and displaying agricultural data; and

(B) identify uses for satellite-based positioning to increase agriculture proficiency.

(7) The student evaluates applications for spatial data entry and preparation for agricultural analysis. The student is expected to:

(A) analyze agricultural GIS spatial data; and

(B) explain and analyze data accuracy and precision related to using GIS in agriculture.

(8) The student performs agricultural spatial data analysis. The student is expected to:

(A) analyze GIS maps of agricultural fields to determine variables that would impact maximum crop yields;

(B) compare vector and raster-based data for agricultural analysis; and

(C) explain types of GIS analysis used in natural resource management.

(9) The student creates spatial data visualizations and cartographic models. The student is expected to:

(A) identify types of GIS maps used in agriculture;

(B) develop GIS maps for various types of agricultural data;

(C) identify and explain the purpose of cartographic symbols used in precision farming; and

(D) analyze visual data and explain how the data is used in agricultural decision making.

§127.61. Beekeeping and Honey Processing (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisites: Principles of Agriculture, Food, and Natural Resources. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Agriculture, Food, and Natural Resources career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

(3) Beekeeping and Honey Processing is a course designed to provide students with the academic and technical knowledge and skills that are required to pursue a career related to beekeeping, apiary operations, honey harvesting, and related industries. Beekeeping and honey processing is a vital part of the United States agricultural economy. To prepare for success in Beekeeping and Honey Processing, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) identify career and entrepreneurship opportunities for a chosen occupation in the field of agriculture and develop a plan for obtaining the education, training, and certifications required for the chosen occupation;

(B) model professionalism by continuously exhibiting appropriate work habits, solving problems, taking initiative, communicating effectively, listening actively, and thinking critically;

(C) model appropriate personal and occupational safety and health practices and explain the importance of established safety and health protocols for the workplace;

(D) analyze and interpret the rights and responsibilities, including ethical conduct and legal responsibilities, of employers and employees; and

(E) analyze the importance of exhibiting good citizenship and describe the effects of good citizenship on the development of home, school, workplace, and community.

(2) The student develops a supervised agriculture experience program. The student is expected to:

(A) plan, propose, conduct, document, and evaluate a supervised agriculture experience as an experiential learning activity;

(B) use appropriate record-keeping skills in a supervised agricultural experience;

(C) participate in youth agricultural leadership opportunities;

(D) review and participate in a local program of activities; and

(E) create or update documentation of relevant agricultural experience such as community service, professional, or classroom experiences.

(3) The student explores the biology of bee behavior. The student is expected to:

(A) identify different types and life spans of bees;

(B) explain the different roles assumed by the different types of honeybees, including the queen, drones, and workers; and

(C) describe honeybee development, castes, behavior, division of labor, and the bee life cycle, including larval, pupal, and adult stages.

(4) The student analyzes beehive design and development. The student is expected to:

(A) identify the site characteristics required for successful beehive production;

(B) analyze factors such as climatic characteristics and food sources to determine the suitability of a beehive site for honey harvesting and pollination;

(C) research and compare the conditions of successful beehives in other parts of the world with similar local conditions; and

(D) develop a beehive design and installation plan, including consideration of sunlight, access to water, wind, topography, human and animal habitation, and good neighbor policy.

(5) The student evaluates technology and best practices for weatherizing a beehive. The student is expected to:

(A) explain the environmental conditions that lead to bee colonies adapting to extremes in climate conditions;

(B) compare seasonal strategies for proper beehive management and describe why best management practices change based on the seasons, including spring, summer, autumn, and winter; and

(C) explain practices for winterizing hives.

(6) The student demonstrates beehive management techniques. The student is expected to:

(A) identify the tools of an apiarist and demonstrate safe and proper usage of tools;

(B) demonstrate inspection of a beehive and describe necessary equipment, including a bee suit, a smoker, and a comb replacement;

(C) explain beehive training techniques, including diagnosing the brood pattern, adding brood comb to the nest, switching colonies, feeding bees, providing water, removing old combs, extracting honey, and caging queens;

(D) identify safety precautions in the field while handling live bees, caring for the colonies in the hives, and extracting honey and honeycomb;

(E) explain the proper methods of bee handling to prevent harm to handlers and others; and

(F) describe personal protective equipment used to reduce the risk of accidents.

(7) The student develops an integrated pest management plan for beehives. The student is expected to:

(A) identify the major insect pests and diseases of honeybees;

(B) compare the components of honeybee integrated pest management; and

(C) describe the safe usage of pesticides in honeybee hives.

(8) The student examines honey harvesting and the use of proper equipment and tools. The student is expected to:

(A) describe the tools and equipment used in honey production, including a bee brush, fume board, honey drip tray, nectar detector, escape board, and extractor;

(B) explain the safe use of honey harvesting tools;

(C) explain the use of technology in modern honey production systems; and

(D) explain the appropriate procedures used to extract honey.

(9) The student identifies procedures and regulations for sanitation and safety in the food industry. The student is expected to:

(A) identify food industry inspection standards, including hazard analysis and critical control points;

(B) identify the appropriate chemicals used in the food industry, specifically in honey processing;

(C) identify safety and governmental regulations involved in the processing and labeling of foods, including honey;

(D) explain the procedures relating to the safe manufacture of foods through hygienic food handling and processing;

(E) develop and maintain sanitation schedules; and

(F) identify food safety laws that impact the bee industry.

(10) The student demonstrates an in-depth understanding of a beekeeping and honey processing business, including production, processing, marketing, sales, and distribution. The student is expected to:

(A) describe the roles of an entrepreneur in a beekeeping and honey processing operation;

(B) differentiate between small, medium, and large-sized honey businesses;

(C) create a list of tools and equipment needed to start a beekeeping operation and develop a budget to start a beekeeping business; and

(D) develop a business model for beekeeping, honey production, and honey processing.

(11) The student completes the process for development, implementation, and evaluation of a marketing plan and a financial forecast for beekeeping. The student is expected to:

(A) identify and explain the target market for honey-related products;

(B) create and conduct a customer survey;

(C) analyze the customer survey results;

(D) identify modification recommendations based on customer survey results;

(E) complete a detailed honey-related products market analysis;

(F) analyze and explain different types of marketing strategies;

(G) describe a social media marketing campaign for honey-processed products; and

(H) develop and explain a projected income statement, cash budget, balance sheet, and projected sources and uses of funds statement.

(12) The student explains the scope and nature of distribution of honey-related products. The student is expected to:

(A) explain effective distribution activities, including transportation, storage, product handling, and inventory control;

(B) explain how distribution can add value to goods, services, and intellectual property; and

(C) analyze distribution costs for honey-related products.

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STATUTORY AUTHORITY. The new sections are proposed under Texas Education Code (TEC), §7.102(c)(4), which requires the State Board of Education (SBOE) to establish curriculum and graduation requirements; TEC, §28.002(a), which identifies the subjects of the required curriculum; TEC, §28.002(c), which requires the SBOE to identify by rule the essential knowledge and skills of each subject in the required curriculum that all students should be able to demonstrate and that will be used in evaluating instructional materials and addressed on the state assessment instruments; TEC, §28.002(n), which permits the SBOE by rule to develop and implement a plan designed to incorporate foundation curriculum requirements into the career and technical education (CTE) curriculum; TEC, §28.002(o), which requires the SBOE to determine that at least 50% of the approved CTE courses are cost effective for a school district to implement; TEC, §28.025(a), which requires the SBOE to determine by rule the curriculum requirements for the foundation high school graduation program that are consistent with the required curriculum under TEC, §28.002; and TEC, §28.025(b-17), which requires the SBOE to adopt rules to ensure that a student may comply with the curriculum requirements under TEC, §28.025(b-1)(6), by successfully completing an advanced CTE course, including a course that may lead to an industry-recognized credential or certificate or an associate degree.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), (n), and (o); and 28.025(a) and (b-17).

<rule>

§127.262. Marketing (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Principles of Business, Marketing, and Finance. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

(3) The Marketing course explores the seven core functions of marketing, which include marketing planning -- why target marketing 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 through hands-on projects that may include conducting research, creating a promotional plan, pitching a sales presentation, and introducing an idea for a new product or service.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student defines marketing and identifies the seven core functions of marketing. The student is expected to:

(A) define marketing and explain the marketing concept; and

(B) identify the seven core functions of marketing, including marketing planning, marketing-information management, pricing, product/service management, promotion, channel management, and selling.

(2) The student knows the interrelationship and purpose of the marketing mix or 4P's of marketing: product, price, promotion, and place. The student is expected to:

(A) identify and describe the four elements of the marketing mix, including product, price, place, and promotion;

(B) explain how each component of the marketing mix contributes to successful marketing;

(C) analyze the interdependence of each element of the marketing mix with the other three elements;

(D) develop and present an idea for a new product or service and the marketing mix for the new product or service; and

(E) investigate and explain how to determine the feasibility of a new product or service proposal.

(3) The student knows how a company considers internal and external factors to understand the current market. The student is expected to:

(A) explain the internal and external factors that influence marketing planning;

(B) define a marketing plan and describe each step in the plan;

(C) identify and explain market position and market share;

(D) explain how a business can use a strengths, weaknesses, opportunities, and threats (SWOT) analysis to plan for opportunities in the market;

(E) conduct a SWOT analysis; and

(F) analyze the data from a SWOT analysis to make informed business decisions.

(4) The student applies the concepts of market and market identification to make informed business decisions. The student is expected to:

(A) define the term market;

(B) identify the target market for a product or service;

(C) define niche marketing, identify examples of niche marketing, and compare niche marketing to other marketing strategies;

(D) analyze an appropriate target market within a specific industry;

(E) compare types of markets, including business to business and business to consumer; and

(F) identify real-life scenarios of effective markets and explain what makes a market effective.

(5) The student understands the concept of market segmentation. The student is expected to:

(A) define the term market segmentation;

(B) explain the commonly used types of market segmentation, including demographic segmentation, geographic segmentation, psychographic segmentation, and behavioral segmentation;

(C) analyze the impact of culture on buying decisions; and

(D) describe how market segmentation concepts apply to real-world situations.

(6) The student understands the purpose and importance of gathering and evaluating information for use in making business decisions. The student is expected to:

(A) describe marketing information and how it influences marketing decisions;

(B) use marketing-research tools to gather primary and secondary data;

(C) compare primary and secondary research data;

(D) define analytics;

(E) identify sources of data and information that can be analyzed to make business decisions;

(F) identify key business metrics that are used to make business decisions or evaluate outcomes of business decisions; and

(G) analyze data and make recommendations for improving business operations.

(7) The student explains concepts and strategies used in determining and adjusting prices to maximize return and meet customers' perceptions of value. The student is expected to:

(A) investigate and describe how businesses make pricing decisions;

(B) identify and explain goals for pricing, including profit, market share, and competition;

(C) analyze factors affecting price, including supply and demand, perceived value, costs, expenses (profit margin), and competition;

(D) explain the economic principle of break-even point;

(E) explain key pricing terms, including odd/even pricing, loss leaders, prestige pricing, penetration pricing, price bundling, price lining, and everyday low pricing; and

(F) explain how supply and demand affect price.

(8) The student explains the role of product or service management as a marketing function. The student is expected to:

(A) explain the concept of product mix, including product lines, product width, and product depth;

(B) explain the importance of generating new product ideas;

(C) analyze the product mix for a current business;

(D) identify and discuss the components of the product life cycle, including introduction, growth, maturity, and decline; and

(E) identify the impact of marketing decisions made in each stage of the product life cycle.

(9) The student knows the process and methods to communicate information about products to achieve a desired outcome. The student is expected to:

(A) explain the role of promotion as a marketing function;

(B) identify and describe elements of the promotional mix, including advertising, public relations, personal selling, and sales promotion;

(C) describe and demonstrate effective ways to communicate features and benefits of a product to a potential client; and

(D) analyze and evaluate websites for effectiveness in achieving a desired outcome.

(10) The student identifies promotional channels used to communicate with the targeted audiences. The student is expected to:

(A) create advertising examples using various media, including print media such as outdoor, newspapers, magazines, and direct mail; digital media such as email, apps, and social

media; and broadcast media such as television and radio, to communicate with target audiences;

(B) describe various public-relations activities such as a press releases and publicity management;

(C) analyze and compare examples of sales promotions such as coupons, loyalty programs, rebates, samples, premiums, sponsorship, and product placement; and

(D) explain the role of marketing ethics in promotional strategies.

(11) The student explores the role of channel members and methods of product transportation. The student is expected to:

(A) define channel of distribution;

(B) describe the roles of intermediaries, including manufacturer, agent, wholesaler/industrial distributor, retailer, and consumer/industrial user, and explain how the roles may impact business decisions and the success of a business;

(C) identify and discuss the methods of transportation for products, including road, air, maritime, rail, and intermodal; and

(D) analyze and explain the impact of the distribution channel on price.

(12) The student demonstrates how to determine client needs and wants and responds through planned and personalized communication. The student is expected to:

(A) explain the role of personal selling as a marketing function;

(B) explain the role of customer service as a component of selling relationships;

(C) explain the importance of preparing for the sale, including gaining knowledge of product features and benefits, identifying the target market and their needs, and overcoming common objections; and

(D) identify and explain ways to determine needs of customers and their buying behaviors, including emotional, rational, or patronage.

(13) The student demonstrates effective sales techniques. The student is expected to:

(A) describe the steps of the selling process such as approaching the customer, determining needs, presenting the product, overcoming objections, closing the sale, and suggestive selling;

(B) explain effective strategies and techniques for various sales situations; and

(C) develop and pitch a sales presentation for a product or service using the steps of the sales process such as addressing customers' needs, wants, and objections and negotiating the sale.

(14) The student implements a marketing plan. The student is expected to:

(A) identify a key target audience;

(B) develop an appropriate message and select a medium to attract customers;

(C) create a promotional plan that includes target market, promotional objective, advertising media selection, promotional schedule, and budget;

(D) develop and present a marketing plan to an audience; and

(E) analyze various marketing plans for effectiveness.

(15) The student knows the nature and scope of project management. The student is expected to:

(A) investigate and describe the various tools available to manage a project such as a Gantt chart; and

(B) define and explain the components of a project plan, including project goals schedule, timeline, budget, human resources, quality management, risk management, monitoring, and controlling a project.

(16) The student knows the nature and scope of ethics in marketing. The student is expected to:

(A) analyze and explain the role and use of ethics in marketing;

(B) research and discuss how ethics has affected a company's profitability; and

(C) describe how marketing ethics can be effectively applied to the decision-making process.

§127.263. Retail Management (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Principles of Business, Marketing, and Finance. Students shall be awarded one credit for the successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current professions.

(2) The Business, Marketing, and Finance Career Cluster focuses on planning, managing, and performing marketing activities to reach organizational objectives.

(3) Retail Management is designed as a comprehensive introduction to the principles and practices of retail management. The course explores the process of promoting greater sales and customer satisfaction by gaining a better understanding of the consumers of the goods and services provided by a company. The course provides an overview of the strategies involved in the retail process such as distributing finished products created by the business to consumers and determining what buyers want and require from the retail market.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student uses self-development techniques and interpersonal skills to accomplish retail management objectives. The student is expected to:

(A) describe and demonstrate effective interpersonal and team-building skills involving situations with coworkers, managers, and customers;

(B) create a self-development plan that includes improving leadership and interpersonal skills and that identifies opportunities to participate in leadership and career development activities; and

(C) identify and describe employability skills needed to be successful in the retail marketing industry.

(2) The student explores features of excellent customer service. The student is expected to:

(A) discuss the importance of and demonstrate effective communication skills such as active listening, evaluating nonverbal signals, and use of appropriate grammar, vocabulary, and tone;

(B) present written and oral communication, including email, traditional letter writing, face-to-face conversations, and phone conversation, in a clear, concise, and effective manner for a variety of purposes and audiences;

(C) discuss how company policy impacts an employee's interactions with consumers and a consumer's interactions with the retail establishment; and

(D) analyze how attitude impacts a consumer's experience with the retailer.

(3) The student creates professional documents required for employment. The student is expected to:

(A) develop a professional portfolio or resume;

(B) write appropriate business correspondence such as a letter of intent and a thank you letter;

(C) complete sample job applications accurately and effectively; and

(D) explain protocol for identifying and asking for references.

(4) The student analyzes non-store retailing modalities, including direct selling, telemarketing, online retailing, automatic vending, direct marketing, and e-tailing. The student is expected to:

(A) investigate and evaluate the effectiveness of marketing and selling through online platforms such as mobile apps and software applications;

(B) analyze and explain the disadvantages of non-store retailing such as security concerns, inability to interact with the customer, delay in customer receipt of the product, less ease of return for unwanted items, and the lack of social interaction between customers and retailers; and

(C) analyze and explain the advantages of non-store retailing such as unlimited access for customers to view the inventory, the ability for customers to purchase 24 hours per day/7 days a week, lower overhead cost, and a larger inventory of items than is housed in a brick-and-mortar facility.

(5) The student analyzes marketing research to make changes to business strategies or operations. The student is expected to:

(A) synthesize and analyze data collected through surveys, interviews, group discussions, and internal records to create data reports;

(B) explain how data reports are used to make decisions to improve a retailer's practices and improve overall operations;

(C) analyze and evaluate the effective use of surveys to gather data needed by the retailer to make effective operational decisions;

(D) disaggregate and analyze internal data such as sales data, shipping data, finance reports, inventory reports, and customer and personnel feedback collected by the retailer to make effective operational decisions;

(E) disaggregate and analyze marketing data based on indicators such as age, gender, education, employment, income, family status, and ethnicity to identify and evaluate products based on the retailers' target market; and

(F) identify and analyze how the product, price, promotion, and placement of the product impacts the retail market.

(6) The student understands the role and responsibilities of a buyer in retail management and understands the purpose of analyzing the target market to interpret consumer needs and wants based on data. The student is expected to:

(A) define and describe various merchandising categories such as staple, fashion, seasonal, and convenience;

(B) describe merchandise plans and their components, including planned sales, planned stock, planned stocked reductions, and planned retail purchases;

(C) analyze and discuss each stage of a product's life cycle, including introduction, growth, maturity, and decline, and explain how each stage relates to the target market; and

(D) develop a budget based on financial goals.

(7) The student applies inventory management strategies to effectively create and manage reliable tracking systems to schedule purchases, calculate turnover rate, and plan merchandise and marketing decisions. The student is expected to:

(A) describe the process of purchasing inventory and executing a purchase order, transporting orders, and receiving orders;

(B) explain inventory management practices, including ordering, storing, producing, and selling merchandise;

(C) differentiate between perpetual and periodic inventory tracking methods and describe how point-of-sale software, universal product codes, radio frequency identification, stock shrinkage, and loss prevention impact a retailer's inventory management; and

(D) analyze and describe how stock turnover rates impact inventory.

(8) The student evaluates retailer pricing strategies based on factors such as competition, the economy, and supply and demand to maximize sales and profit. The student is expected to:

(A) analyze how uncontrollable factors such as competition, the economy, and supply and demand impact pricing;

(B) explain how controllable factors such as company goals, operating expenses, and product life cycles impact pricing;

(C) differentiate between demand-based pricing, competition-based pricing, and cost-based pricing and explain how each pricing method is used to determine the base price for a product;

(D) identify and describe how market share impacts pricing of products; and

(E) create price points using keystone pricing, industry benchmarks, and industry surveys.

(9) The student explores effective promotional activities, including advertising, sales promotion, public relations, and personal selling, that retail managers use to inform, persuade, and remind customers of products that will meet consumer needs. The student is expected to:

(A) explain the six elements of effective communication, including source, message, channel, environment, context, and feedback;

(B) demonstrate effective written, verbal, and nonverbal communication;

(C) analyze and evaluate promotional communication techniques used to inform or motivate consumers to invest in products or services;

(D) differentiate between techniques used for advertising, public relations, personal selling, and sales promotion; and

(E) investigate and evaluate technology applications that promote items using online advertising, web presence, social media, email campaigns, and other modes of electronic promotions.

(10) The student analyzes and applies personal selling elements needed in retail management to determine how to generate sales. The student is expected to:

(A) explain sales generating techniques, including prospecting, solution development, buyer qualification, opportunity qualification and control, negotiation, and account management and follow-up;

(B) describe how ethical behaviors of a sales associate impacts the retail market;

(C) demonstrate effective selling techniques needed in the retail market;

(D) analyze and describe best practices in product training for sales associates;

(E) explain how determining the needs, presenting the product, handling objections, closing the sale, and following up with customers increases sales for the retailer; and

(F) identify effective questions and questioning techniques sales associates use with consumers to gain a competitive advantage or increase sales and discuss the importance of strategically selecting questions and techniques based on the product or service and target market.

(11) The student explores how to effectively use visual merchandising. The student is expected to:

(A) analyze and describe how a retailer's storefront, store layout, store interior, centralized visual merchandising, and interior displays impact sales and a consumer's experience with the business; and

(B) develop a visual merchandising plan using proper design elements such as mannequins, props, lighting, color, signage, and graphics.

(12) The student understands the role of the retail manager for recruiting, hiring, training, supervising, and terminating employees as well as maintaining the everyday operation of a business to ensure that it functions efficiently and meets established goals. The student is expected to:

(A) identify and describe effective methods of recruiting employees externally;

(B) explain effective methods of recruiting employees internally;

(C) describe how to recruit a diverse pool of talent for employment consideration;

(D) explain the importance of the Equal Employment Opportunity Commission guidelines on the recruitment process;

(E) explain the benefits of training employees to learn new skills and technologies and comply with new laws and regulations;

(F) develop an employee appraisal program;

(G) explain an effective employee performance evaluation system and the importance of including supervisors and managers, peers, customers or clients, and subordinates in the process; and

(H) identify leadership and career development activities such as involvement with appropriate student and local management associations and create a personal development plan that includes participation in leadership and career development activities.

(13) The student understands the importance of effective teams and how effective leaders implement group development strategies. The student is expected to:

(A) explain the process of forming, storming, norming, performing, and adjourning;

(B) analyze and discuss effective interpersonal and team-building skills involving situations with coworkers, supervisors, and subordinates;

(C) investigate and analyze personal integrity and its effects on relationships in the workplace;

(D) describe characteristics of successful working relationships such as teamwork, conflict resolution, self-control, and the ability to accept criticism;

(E) discuss the importance of showing respect to all people and explain how showing respect to all people impacts the success of a business;

(F) identify employer expectations and discuss how meeting employer expectations impacts the success of a business; and

(G) explain and demonstrate productive work habits and attitudes.

(14) The student explores the practice of risk management, including identifying, assessing, and reducing risk through proper planning. The student is expected to:

(A) differentiate between natural, human, market, economic, and market risks;

(B) differentiate between controllable and uncontrollable risks;

(C) investigate and explain effective strategies for identifying, assessing, and reducing risks; and

(D) analyze how financial losses from human, physical, and natural risk factors can be minimized through the use of insurance.

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STATUTORY AUTHORITY. The new sections are proposed under Texas Education Code (TEC), §7.102(c)(4), which requires the State Board of Education (SBOE) to establish curriculum and graduation requirements; TEC, §28.002(a), which identifies the subjects of the required curriculum; TEC, §28.002(c), which requires the SBOE to identify by rule the essential knowledge and skills of each subject in the required curriculum that all students should be able to demonstrate and that will be used in evaluating instructional materials and addressed on the state assessment instruments; TEC, §28.002(n), which permits the SBOE by rule to develop and implement a plan designed to incorporate foundation curriculum requirements into the career and technical education (CTE) curriculum; TEC, §28.002(o), which requires the SBOE to determine that at least 50% of the approved CTE courses are cost effective for a school district to implement; TEC, §28.025(a), which requires the SBOE to determine by rule the curriculum requirements for the foundation high school graduation program that are consistent with the required curriculum under TEC, §28.002; and TEC, §28.025(b-17), which requires the SBOE to adopt rules to ensure that a student may comply with the curriculum requirements under TEC, §28.025(b-1)(6), by successfully completing an advanced CTE course, including a course that may lead to an industry-recognized credential or certificate or an associate degree.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), (n), and (o); and 28.025(a) and (b-17).

<rule>

§127.510. Speech and Language Development (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 11 and 12. Recommended prerequisites: Principles of Health Science, Anatomy and Physiology, and Introduction to Speech Pathology and Audiology. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.

(3) The Speech and Language Development course provides advanced knowledge and skills related to speech and language acquisition and growth of developing children. Understanding healthy development and speech, language, and communication developmental milestones is a prerequisite for studying communication disorders. This course provides students with the knowledge and skills necessary to pursue further education, possibly culminating in a bachelor's degree and subsequent master's degree in communication sciences and disorders.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or co-curricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) explain the importance of and demonstrate clear, concise, and effective verbal and non-verbal communication; and

(B) describe and demonstrate effective teamwork skills, including cooperation, contribution, and collaboration.

(2) The student understands basic human communication processes, including the biological, neurological, psychological, developmental, linguistic, and cultural processes. The student is expected to:

(A) differentiate between communication, speech, language, and hearing;

(B) summarize the structural bases of speech production and hearing;

(C) compare anatomy and physiology of the speech mechanism;

(D) examine and describe the anatomy and physiology of the auditory system;

(E) identify and describe healthy verbal and nonverbal communication development;

(F) describe the developmental building blocks and prerequisites for healthy speech and language development;

(G) identify and define terminology related to human communication such as speech sound production, fluency (stuttering), voice, language, hearing, hearing loss, breathing, swallowing, pragmatics, and cognition; and

(H) explain social-interactive and psychological bases of communication and the influences it has on interpersonal communication, including linguistic and cultural influences.

(3) The student gains knowledge and understanding of various theoretical perspectives of healthy speech and language acquisition. The student is expected to:

(A) investigate and explain the major theories of language acquisition;

(B) compare the major theories of speech sound production; and

(C) research and explain the connections between language development and speech development as they relate to phonological awareness in learning to read.

(4) The student understands the healthy development of speech sound production in children. The student is expected to:

(A) describe articulatory phonetics and explain how articulatory phonetics relate to the respiratory system, including the larynx, vocal tract, articulators (velopharynx, tongue, lips, and jaw), and air flow;

(B) analyze the foundation for speech acquisition in relation to auditory perception before birth and in infants;

(C) describe early vocal development in infants as a prerequisite for speech;

(D) explain how the use of vowels by infants and young children is important for the development of speech;

(E) illustrate ways to categorize or describe vowel and diphthong production;

(F) research and describe the development of consonant inventories in young English-speaking children;

(G) describe and differentiate between models for describing consonant production;

(H) summarize progression in speech development for combining sounds into syllable shapes and words; and

(I) analyze the linguistic and cultural influences of the heritage/native language on the development of speech sound production in English.

(5) The student understands the components of a developing language system and how language skills develop in children. The student is expected to:

(A) identify and explain the components of a language system, including phonology, phonetics, morphology, syntax, semantics, and pragmatics;

(B) explain the components of a developing language system in terms of vocabulary, grammar, and social and interpersonal communication;

(C) describe the prerequisite skills for developing language;

(D) differentiate between language delay, language disorders, and language difference;

(E) outline the milestones of healthy language development from birth through age five years related to comprehension and expression;

(F) summarize healthy language development from Kindergarten (age 5) through Grade 5 (age 10 or 11) and describe factors that influence age-appropriate development of language;

(G) describe healthy continuing language development in adolescence for each component of a developing language system; and

(H) compare cultural and ethnic differences in language development.

(6) The student explores the healthy development of verbal fluency skills in children. The student is expected to:

(A) define and differentiate between verbal fluency, disfluencies, and stuttering;

(B) identify and explain common disfluencies and periods of expected disfluencies;

(C) explain the development of speech and language skills;

(D) differentiate between and discuss variables that may affect verbal fluency; and

(E) describe ways to measure verbal fluency for English language learners and evaluate the effectiveness of each method.

(7) The student explores parameters of voice production in children and adults. The student is expected to:

(A) describe the physical and physiological parameters of voice production;

(B) describe the components of healthy voice production, including voice quality, pitch, loudness, resonance, and duration;

(C) explain causes or etiologies of variations in voice production;

(D) describe how parameters of voice production change throughout the span of life;

(E) analyze environmental variables that may affect voice production;

(F) explain the practice of speech-language pathology and allowable services; and

(G) analyze the ethical considerations for the speech-language pathologist in dealing with individuals with a possible voice disorder and the requirement for ongoing work with a physician.

(8) The student understands the development of effective language and communication skills needed to demonstrate high levels of achievement in elementary and secondary school. The student is expected to:

(A) research and describe the milestones of communication development and literacy development;

(B) compare milestones of communication development to the milestones of literacy development;

(C) differentiate between interpersonal language used for conversational interaction and more formal, literate language used for learning academic content;

(D) define and provide examples of tier 1, tier 2, and tier 3 vocabulary as it relates to language development and meeting grade level expectations of academic vocabulary across subject areas;

(E) explain the development of language used for oral and written narratives and demonstrate how story grammar can be used as a bridge between conversational language and academic language;

(F) analyze the development of pragmatic-language skills and the types of verbal, nonverbal, and written communication skills needed to do well in school; and

(G) define emergent literacy and analyze the language base necessary for the development of reading skills.

(9) The student explores healthy and unhealthy speech and language development. The student is expected to:

(A) describe the role of the speech-language pathologist in determining healthy speech and language development and speech sound disorders and language disorders;

(B) explain the purpose of and describe techniques for screening speech and language skills in children;

(C) explain the purpose of and describe techniques for evaluating speech and language skills in children;

(D) analyze the Response to Intervention (RtI) method for accurately identifying a speech or language disorder in school-age children; and

(E) discuss the role of the speech-language pathologist in referral, counseling, and providing basic information when there are concerns about a child's speech or language development.

(10) The student demonstrates effective verbal and nonverbal communication skills. The student is expected to:

(A) describe and demonstrate appropriate communication skills when interacting with elementary age students, classroom teachers, speech-language pathologists, principals, and parents in various situations;

(B) identify and demonstrate verbal and nonverbal communication techniques that should be used when communicating with children who have sensory loss, language barriers, cognitive impairment, and other learning disabilities;

(C) identify and evaluate electronic communication and technology devices that may be used when interacting with children with communication disorders; and

(D) differentiate between oral interpretation and translation skills from English to a second language.

(11) The student explores the influence of dialects of Standard American English or native language on the development of speech and language skills in English and on the production of English. The student is expected to:

(A) provide examples of how a common phrase may be expressed across Standard American English and three different dialects;

(B) describe how speech and language patterns vary as a function of language, age, socioeconomic status, and geography;

(C) analyze the characteristics of American English dialects in terms of speech sound production and language use;

(D) explain the influence of heritage language on the speech sound production and grammar development of English in emergent bilingual students; and

(E) analyze speech and language patterns of English language learners in terms of expected speech and language development.

§127.511. Speech Communication Disorders (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 11 and 12. 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. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development.

(3) The Speech 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.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or co-curricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) demonstrate verbal and non-verbal communication in a clear, concise, and effective manner; and

(B) demonstrate the ability to cooperate, contribute, and collaborate as a member of a team.

(2) The student demonstrates knowledge of the nature of speech, language, hearing, and communication disorders and differences. The student is expected to:

(A) identify the anatomy and describe the function of the peripheral and central auditory pathways;

(B) describe the physical and psychological attributes of sound;

(C) differentiate between the different types of hearing loss and their causes;

(D) describe the impact of hearing loss on speech and language development;

(E) compare the processes of speech, language, and hearing in people of various cultures;

(F) identify and relate disorder differences in relationship to communication skills;

(G) explain the concepts of speech, language, hearing, and communication disorders across the human lifespan; and

(H) explain potential barriers and solutions that an interpreter or translator must consider when communicating with a child with a communication disorder.

(3) The student demonstrates knowledge of the etiologies, characteristics, and anatomical/physical, acoustic, psychological, developmental, linguistic, and cultural correlates of communication disorders across the human lifespan. The student is expected to:

(A) compare common causes of hearing impairment in children and adults;

(B) analyze the causes of speech, language, and hearing disorders across the lifespan;

(C) identify common communication and hearing disorders, their typical symptoms, etiologies, characteristics, and associated correlates;

(D) evaluate the impact of communication disorders on the individual; and

(E) compare cultural variations in how communication disorders are perceived.

(4) The student describes the types of communication disorders most commonly seen in children and the services provided by professionals in this field to provide habilitation or rehabilitation. The student is expected to:

(A) analyze speech sound disorders of the child's phonological system and describe the production of speech sounds such as place, manner, voicing, and distinctive feature analysis;

(B) describe and organize evidence-based treatment approaches for speech sound disorders;

(C) summarize fluency disorders, including secondary characteristics;

(D) analyze evidence-based treatment approaches for stuttering;

(E) identify voice disorders in terms of vocal quality, pitch, volume, resonance, and duration;

(F) develop a plan for an evidence-based treatment for voice disorders and the required interface with a physician;

(G) explain language disorders in terms of the child's use of syntax, morphology, semantics, pragmatics, phonology, and metalinguistics; and

(H) compare current evidence-based treatment approaches for language disorders in preschool and elementary-age children.

(5) The student demonstrates effective verbal and nonverbal communication skills. The student is expected to:

(A) demonstrate communication skills appropriate to the situation when interacting with elementary age students, classroom teachers, speech-language pathologists, principals, and parents with communication disorders;

(B) demonstrate knowledge of verbal and nonverbal communication techniques that should be used when communicating with children that have sensory loss, language barriers, cognitive impairment, and other learning disabilities; and

(C) employ electronic communication and technology devices when interacting with children with communication disorders with appropriate supervision in a school setting.

(6) The student demonstrates sensitivity and understanding of cultural and linguistic influences on an individual's communication patterns and describes how cultural and linguistic influences must be considered when working with children with communication disorders and their families. The student is expected to:

(A) analyze how speech and language patterns vary as a function of language, age, socioeconomic status, and geography;

(B) prepare a simulated interview with the parent or family member of a child referred for a hearing or communication evaluation;

(C) identify patterns of communication that are common for individuals from different cultural and linguistic backgrounds such use of eye contact, personal space, and gestures;

(D) apply design strategies for culturally sensitive family-centered practices for children with communication disorders; and

(E) explain the terms language disorder, language delay, language difference, heritage language, and dialect for describing the communication patterns of a young child.

(7) The student identifies screening, evaluation, and diagnosis procedures that are used to identify hearing loss/deafness, speech sound production disorders, stuttering, voice impairment, and language disorders in children. The student is expected to:

(A) explain principles related to different audiometric test procedures;

(B) participate in a basic audiometric test (screening procedure) and interpret a variety of test results regarding whether the individual passed or failed the screening;

(C) interpret principles related to screening speech sound production, fluency, voice, and language skills in young children;

(D) evaluate developmental screening activities that include screening speech and language development; and

(E) synthesize the components of a comprehensive diagnostic report of findings inclusive of speech sound production, fluency (stuttering), voice production, and receptive, expressive, and social language skills to explain the test results.

(8) The student identifies research-based and evidence-based practices in speech-language pathology and audiological service delivery. The student is expected to:

(A) define evidence-based practice (EBP) and differentiate EBP from scientifically-based research in the fields of speech-language pathology and audiology;

(B) define the set of Evidence Levels used by the American Speech-Language-Hearing Association as a protocol to evaluate research evidence;

(C) correlate research studies to the Evidence Levels used by the American Speech-Language-Hearing Association;

(D) analyze the role of expert opinion and clinical experience in evidence-based practice; and

(E) design and present an action research project in the field of communication disorders.

(9) The student demonstrates knowledge and understanding of a variety of treatment approaches used with children with communication disorders. The student is expected to:

(A) compare two treatment approaches for speech sound disorders;

(B) compare two treatment approaches for fluency disorders;

(C) describe and practice treatment approaches for voice disorders in the areas of vocal quality, pitch, loudness, resonance, and duration;

(D) compare two treatment approaches for language disorders in preschool children;

(E) compare two treatment approaches for language disorders in elementary school-age children; and

(F) identify treatment approaches for language disorders with children with disabilities such as autism, intellectual disability, cleft palate, or cerebral palsy.

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STATUTORY AUTHORITY. The new sections are proposed under Texas Education Code (TEC), §7.102(c)(4), which requires the State Board of Education (SBOE) to establish curriculum and graduation requirements; TEC, §28.002(a), which identifies the subjects of the required curriculum; TEC, §28.002(c), which requires the SBOE to identify by rule the essential knowledge and skills of each subject in the required curriculum that all students should be able to demonstrate and that will be used in evaluating instructional materials and addressed on the state assessment instruments; TEC, §28.002(n), which permits the SBOE by rule to develop and implement a plan designed to incorporate foundation curriculum requirements into the career and technical education (CTE) curriculum; TEC, §28.002(o), which requires the SBOE to determine that at least 50% of the approved CTE courses are cost effective for a school district to implement; TEC, §28.025(a), which requires the SBOE to determine by rule the curriculum requirements for the foundation high school graduation program that are consistent with the required curriculum under TEC, §28.002; and TEC, §28.025(b-17), which requires the SBOE to adopt rules to ensure that a student may comply with the curriculum requirements under TEC, §28.025(b-1)(6), by successfully completing an advanced CTE course, including a course that may lead to an industry-recognized credential or certificate or an associate degree.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), (n), and (o); and 28.025(a) and (b-17).

<rule>

§127.569. Foundations of Restaurant Management (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Principles of Hospitality and Tourism. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services.

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

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards as required by the food service industry. The student is expected to:

(A) explain the importance of and demonstrate effective oral and written communication;

(B) describe professional grooming, hygiene, and appropriate uniform standards for various food service positions and scenarios;

(C) describe how punctuality and time-management skills are critical to the success of employees and businesses in the food service industry;

(D) describe what demonstrating self-respect and respect for others looks like;

(E) analyze and demonstrate effective teamwork strategies and leadership styles;

(F) describe initiative, adaptability, and problem-solving techniques and discuss how each may be used in the food service industry; and

(G) identify opportunities to participate in community leadership and teamwork activities that enhance professional skills.

(2) The student develops academic knowledge and skills required to pursue the full range of career and postsecondary education opportunities within the food service industry. The student is expected to:

(A) use information management methods and tools to organize oral and written information;

(B) create a variety of written documents such as job descriptions, menus, presentations, and advertisements;

(C) calculate numerical concepts such as weights, measurements, pricing, and percentages;

(D) identify how scientific principles used in the food service industry affect customer service and profitability; and

(E) explain how to operate a profitable restaurant using mathematics and science knowledge and skills.

(3) The student uses verbal and nonverbal communication skills to create, express, and interpret information to establish a positive work environment. The student is expected to:

(A) develop and deliver business presentations;

(B) identify and create various marketing strategies used by the food service industry to increase customer or client traffic and profitability;

(C) plan and facilitate new staff member training;

(D) explain how interpersonal communications such as verbal and nonverbal cues enhance communication with coworkers, employees, managers, and customers or clients; and

(E) explain how active listening skills can affect employee morale and customer service.

(4) The student solves problems using critical thinking, innovation, and creativity independently and in teams. The student is expected to:

(A) develop ideas to increase customer service, employee morale, and profitability; and

(B) describe how employing critical-thinking and interpersonal skills can help resolve conflicts with individuals such as coworkers, customers or clients, and employers.

(5) The student uses information technology tools specific to restaurant management to access, manage, integrate, and interpret information. The student is expected to:

(A) identify information technology tools and applications used to perform workplace responsibilities and explain how the tools and applications may be used to increase productivity;

(B) describe how business financial statements may be evaluated to increase profitability;

(C) analyze customer service scenarios and make recommendations for improvements;

(D) explain how point-of-sale systems are used to evaluate business outcomes and provide customer service; and

(E) design Internet resources for business profitability.

(6) The student understands the various roles and responsibilities within teams, work units, departments, organizations, and the larger environment of the food service industry. The student is expected to:

(A) compare the roles and responsibilities of food service operations staff, including back-of-the-house, front-of-the-house, and support roles, and explain how each impact profitability of business operations;

(B) explain how developing strategic work schedules impacts effective customer service and profitability;

(C) investigate quality-control standards and practices and analyze how those standards and practices affect restaurant profitability;

(D) analyze various styles of restaurant services such as table, buffet, fast food, fast casual, and quick service for cost and level of profitability;

(E) describe how various place settings impact the customer service experience and profitability of the business; and

(F) explain how proper service techniques in food service operations contribute to the customer or client experience.

(7) The student understands the importance of health, safety, and environmental management systems in organizations and their impact on organizational performance, profitability, and regulatory compliance. The student is expected to:

(A) explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;

(B) explain and discuss the importance of Occupational Safety and Health Administration (OSHA) standards and OSHA requirements for organizations, how OSHA inspections are conducted, and the role of national and state regulatory entities;

(C) explain the role industrial hygiene plays in occupational safety and explain various types of industrial hygiene hazards, including physical, chemical, biological, and ergonomic;

(D) research and discuss sources of food-borne illness and determine ways to prevent them;

(E) identify and explain the appropriate use of types of personal protective equipment used in industry;

(F) discuss the importance of safe walking and working surfaces in the workplace and best practices for preventing or reducing slips, trips, and falls in the workplace;

(G) describe types of electrical hazards in the workplace and the risks associated with these hazards and describe control methods to prevent electrical hazards in the workplace;

(H) analyze the hazards of handling, storing, using, and transporting hazardous materials and identify and discuss ways to reduce exposure to hazardous materials in the workplace;

(I) identify workplace health and safety resources, including emergency plans and Safety Data Sheets, and discuss how these resources are used to make decisions in the workplace;

(J) describe the elements of a safety and health program, including management leadership, worker participation, and education and training;

(K) explain the purpose and importance of written emergency action plans and fire protection plans and describe key components of each such as evacuation plans and emergency exit routes, list of fire hazards, and identification of emergency personnel;

(L) explain the components of a hazard communication program; and

(M) explain and give examples of safety and health training requirements specified by standard setting organizations.

(8) The student explores professional ethics and legal responsibilities within the food service industry. The student is expected to:

(A) research and describe laws and guidelines affecting operations in the restaurant industry; and

(B) explain the reasons for liability insurance in the restaurant industry.

(9) The student understands the importance of developing skills in time management, decision making, and prioritization. The student is expected to:

(A) identify and explain delegation of tasks related to the effective operation of a food service establishment;

(B) describe the relationships between scheduling, payroll costs, and sales forecasting; and

(C) analyze various steps in determining the priority of daily tasks to be completed in a food service establishment.

(10) The student investigates the skills, training, and educational requirements needed to successfully gain and maintain employment in the food service industry and explores local and regional opportunities in the industry. The student is expected to:

(A) describe effective strategies for seeking employment in the food service industry;

(B) identify the required training and educational requirements that lead to a career in the food service industry;

(C) select educational and work history highlights to include in a career portfolio;

(D) create and update a personal career portfolio;

(E) describe and demonstrate effective interviewing techniques for gaining employment in the food service industry;

(F) create a personal training plan for obtaining employment in a specific occupation such as Texas Alcoholic Beverage Commission training and Food Safety and Sanitation training in the food service industry;

(G) research and analyze the local and regional labor market to determine opportunities in the food service industry;

(H) investigate professional development opportunities to keep current on relevant trends and information within the food service industry; and

(I) identify and discuss entrepreneurship opportunities within the food service industry.

(11) The student explores factors that have shaped the food service industry. The student is expected to:

(A) research and describe the history and growth of the food service industry;

(B) explain how culture and globalization influence the food service industry; and

(C) analyze current trends affecting the food service industry.

(12) The student understands factors that affect the profitability of a food service business. The student is expected to:

(A) explain the importance of effectively managing inventory to maintain profitability of the food service business;

(B) describe and demonstrate effective stewarding processes and procedures such as establishing thorough cleaning schedules and proper dishwashing techniques;

(C) describe how proper food storage techniques affect the profitability of an establishment;

(D) explain how pricing and controlling costs such as labor and supplies affect the profitability of a food service business; and

(E) analyze how customer service and customer or client loyalty affect the profitability of a food service business and compare strategies for building and maintaining customer loyalty.

§127.571. Introduction to Event and Meeting Planning (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Principles of Hospitality and Tourism, Hotel Management, or Travel and Tourism Management. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services.

(3) Introduction to Event and Meeting Planning introduces students to the concepts and topics necessary to understand the meetings, events, expositions, and conventions (MEEC) industry. The course will review the roles of the organizations and people involved in the businesses that comprise the MEEC industry.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) explain the importance of developing personal and professional skills such as punctuality, initiative, leadership, respect for all people, conflict management, work ethic, and adaptability;

(B) explain how critical thinking, innovation, and creativity are essential to the problem-solving process;

(C) describe appropriate professional grooming, hygiene, and appearance for the workplace;

(D) identify effective teamwork and conflict-management skills and explain how using effective teamwork and conflict-management skills leads to the achievement of collective goals;

(E) explain how planning and time-management skills and tools can be used to enhance results and complete work tasks;

(F) identify and describe essential workplace skills necessary for obtaining employment and developing a career;

(G) prepare and complete employment-related documents such as paper and electronic job applications and I-9 and W-4 forms;

(H) compare effective stress-management techniques and explain the importance of using effective stress-management techniques;

(I) explain the various steps in the decision-making process; and

(J) describe and demonstrate effective interview techniques for gaining employment in various positions and at various businesses in the MEEC industry.

(2) The student recognizes the importance of and uses oral and written communication skills in creating, expressing, and interpreting information and ideas. The student is expected to:

(A) explain the importance of using verbal and non-verbal communication skills effectively with customers or clients and colleagues;

(B) summarize information formally and informally;

(C) synthesize information from various sources and determine how to prioritize and convey relevant information to customers or clients and colleagues;

(D) explain how to use active listening skills to obtain and clarify information;

(E) develop and deliver different types of presentations such as informative, instructional, persuasive, and decision making;

(F) identify interpersonal skills used to maintain internal and external customer or client satisfaction and describe how effectively using those interpersonal skills impacts customer or client relationships; and

(G) identify and use technical vocabulary related to the meeting and event planning industry.

(3) The student applies academics with career-readiness skills. The student is expected to:

(A) explain how applying mathematical skills to business transactions such as sales forecasting, service pricing, and planning for profitability are essential to operating a successful business;

(B) calculate and interpret key ratios, financial statements, and budgets related to the hospitality event and meeting planning industry;

(C) identify opportunities in the hospitality industry to use advanced reading, writing, and mathematics skills;

(D) analyze and summarize data from tables, charts, and graphs to estimate and find solutions to problems and identify opportunities for increased profitability; and

(E) identify and use industry standards for budgeting and forecasting to maximize profit and growth.

(4) The student explores career opportunities available within the meeting and event planning segment of the hospitality industry. The student is expected to:

(A) compile a list of professional organizations that support the professionals in the convention, meeting, and event planning industry;

(B) develop a personal training plan to keep current on relevant trends and information within the meeting and event planning industry; and

(C) identify occupational opportunities for meeting and event planning for hospitality businesses and corporate businesses.

(5) The student explores the history of and current trends and career opportunities in the meeting and event planning industry. The student is expected to:

(A) describe how the meeting and event planning industry has evolved;

(B) analyze and describe current trends in the meeting and event planning industry;

(C) describe the varied occupations related to meeting and event planning such as meeting planning and management, conference planning and management, trade show planning and management, social event planning and management, association and non-profit meeting planning and management, corporation meeting planning and management, convention and visitor bureau planning and management, and destination management planning and organization;

(D) describe how a professional mentor can be beneficial to a career and identify potential mentors in the meeting and event planning industry; and

(E) create a career plan to achieve the desired career position in the meeting and event planning industry.

(6) The student explores how varying needs of customers or clients impact the event planning industry. The student is expected to:

(A) explain the importance of meeting the varying needs of customers or clients for the successful operation of a business;

(B) explain how a business plan and business activities may be modified to meet the varying needs of customers or clients; and

(C) describe how understanding diversity such as differences in social etiquette, dress, and behaviors may positively impact event and meeting planning.

(7) The student uses information technology tools in event and meeting planning to access, manage, integrate, and create information. The student is expected to:

(A) research and compare event planning software and technology tools such as tools that manage attendee engagement or provide marking services that help perform workplace tasks and meet business objectives;

(B) create complex multimedia publications and presentations for clients and colleagues;

(C) explain how point-of-sale systems are used in the meeting and event planning industry;

(D) explain how Internet resources can promote industry growth;

(E) investigate and evaluate current and emerging technologies used to improve guest services; and

(F) use electronic tools to produce appropriate communication for planning and selling meetings and events.

(8) The student understands the professional, ethical, and legal responsibilities in event and meeting planning services. The student is expected to:

(A) explain ethical conduct such as maintaining client confidentiality and privacy of sensitive content when interacting with others;

(B) identify different components of a meeting or event contract;

(C) investigate and describe applicable rules, laws, and regulations related to event and meeting planning;

(D) discuss the reasons for providing event security;

(E) compare options for event insurance; and

(F) explain the reasons for event insurance.

(9) The student understands the importance of health, safety, and environmental management systems and their impact on organizational performance and regulatory compliance. The student is expected to:

(A) explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;

(B) explain and discuss the importance of Occupational Safety and Health Administration (OSHA) standards and OSHA requirements for organizations, how OSHA inspections are conducted, and the role of national and state regulatory entities;

(C) explain the role industrial hygiene plays in occupational safety and explain various types of industrial hygiene hazards, including physical, chemical, biological, and ergonomic;

(D) research and discuss sources of food-borne illness and determine ways to prevent them;

(E) identify and explain the appropriate use of types of personal protective equipment used in industry;

(F) discuss the importance of safe walking and working surfaces in the workplace and best practices for preventing or reducing slips, trips, and falls in the workplace;

(G) describe types of electrical hazards in the workplace and the risks associated with these hazards and describe control methods to prevent electrical hazards in the workplace;

(H) analyze the hazards of handling, storing, using, and transporting hazardous materials and identify and discuss ways to reduce exposure to hazardous materials in the workplace;

(I) identify workplace health and safety resources, including emergency plans and Safety Data Sheets, and discuss how these resources are used to make decisions in the workplace;

(J) describe the elements of a safety and health program, including management leadership, worker participation, and education and training;

(K) explain the purpose and importance of written emergency action plans and fire protection plans and describe key components of each such as evacuation plans and emergency exit routes, list of fire hazards, and identification of emergency personnel;

(L) explain the components of a hazard communication program; and

(M) explain and give examples of safety and health training requirements specified by standard setting organizations.

(10) The student explores marketing strategies and how effective marketing strategies are used in the meeting and event planning industry. The student is expected to:

(A) develop effective marketing strategies for meetings and events;

(B) create promotional packages for meetings and events;

(C) design an effective, comprehensive menu;

(D) analyze the state of the economy to plan effective meeting and event services; and

(E) develop a meeting and events business plan.

(11) The student understands and demonstrates appropriate professional customer service skills required by the meeting and event planning industry. The student is expected to:

(A) create a detailed plan or process to provide maximum customer service;

(B) describe and demonstrate how critical-thinking and interpersonal skills are effectively used to resolve conflicts with individuals such as coworkers, employers, guests, and clients; and

(C) analyze customer or client feedback to formulate improvements in services and products.

(12) The student explores different business segments and stakeholders within the event and meeting planning industry. The student is expected to:

(A) compare roles and responsibilities of various departments in the larger lodging environment, including food and beverage services;

(B) differentiate between meeting and event planning operations for different clients such as business, leisure, professional organizations, and students; and

(C) identify the various stakeholders in the MEEC industry.

(13) The student understands the roles and responsibilities within teams, work units, departments, organizations, and the larger environment of the meeting and event planning industry. The student is expected to:

(A) differentiate between the roles and responsibilities of meeting and event planning staff and lodging property staff;

(B) describe the responsibilities of an event manager or planner;

(C) identify and explain how operating procedures can contribute to profitable operations; and

(D) identify and explain how inventory management systems used in the meeting and event planning industry can contribute to profitable operations.

(14) The student knows how to create a functional and aesthetic meeting and event plan to meet the customer or client requirements. The student is expected to:

(A) describe how to conduct a pre-meeting or pre-event meeting with potential clients to identify the meeting or event requirements;

(B) discuss the importance of a meeting venue floorplan specification chart and appropriate meeting room set-up;

(C) compare various meeting room set-up options and describe the benefits of each option;

(D) describe how meeting room set-up options vary based on the venue;

(E) develop a meeting room set-up for a planned event;

(F) calculate the square footage required for an event based on the number of anticipated attendees for the event;

(G) identify and design effective traffic patterns for a specific event;

(H) explain and demonstrate proper table rotations; and

(I) develop a staffing guide to schedule various staff for a meeting or event.

(15) The student understands the importance of collaborating with various companies to provide an all-inclusive successful meeting or event. The student is expected to:

(A) identify the various entities involved in the meeting and event planning industry such as convention and visitors' bureaus, group travel companies, entertainers, recreations, amusements, attractions, florists, caterers, and venues and differentiate between the roles each entity plays in planning the meeting or event;

(B) differentiate between event sponsors, organizers, and producers and the events that are coordinated by each;

(C) explain and demonstrate how to effectively plan and negotiate with various entities to deliver a successful meeting or event;

(D) compare products and services from related industries; and

(E) explain how the meeting and event planning process differs based on the venue such as hotels and resorts, convention and visitors' centers, event centers, and destination venues and describe the pros and cons of convening a meeting or event at various venues.

§127.604. Practicum in Event and Meeting Planning (Two Credits), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 11 and 12. Recommended prerequisite: Introduction to Event and Meeting Planning. Students shall be awarded two credits for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services.

(3) 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 MEEC 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 activities related to job acquisition. The course is recommended for students who have completed the required prerequisites.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates proficiency in professional standards/employability skills as required by the meeting and event planning industry. The student is expected to:

(A) participate in a paid or unpaid, laboratory or work-based application of previously studied knowledge and skills related to event meeting and planning;

(B) demonstrate proper interview techniques for event and meeting planning occupations;

(C) complete employment-related documents such as job applications (written and electronic formats), a resume, and I-9 and W-4 forms;

(D) exhibit suitable grooming and appearance standards appropriate for the workplace and planned events;

(E) demonstrate productive work habits and a positive attitude;

(F) model knowledge of personal and occupational safety practices in the workplace; and

(G) integrate verbal, nonverbal, and written communication skills in a variety of settings.

(2) The student applies professional advancement skills and strategies in the meeting and event planning industry. The student is expected to:

(A) develop strategies to enhance career advancement and promote lifelong industry learning;

(B) describe historical events that have affected the event and meeting planning industry;

(C) formulate plans to address current events that have an effect on the event and meeting planning industry;

(D) document in manual and electronic format acquired technical knowledge and skills needed for success in the meeting planning industry;

(E) produce and present a professional portfolio, including a current resume, documentation of skill attainment or technical competencies, recognitions, awards, scholarships, community service activities, student organization participation, evaluations, letters of recommendation, and cover letters;

(F) evaluate employment options by comparing salaries and benefits offered by different companies and occupations within the industry; and

(G) develop a personal budget based on career choice using effective money management and financial planning techniques.

(3) The student demonstrates the ethics and etiquette necessary for the meeting and event planning workplace. The student is expected to:

(A) practice appropriate business and personal etiquette in the workplace;

(B) display appropriate electronic communication techniques and etiquette;

(C) exhibit the behaviors that align with the hospitality code of ethics and ethical standards; and

(D) determine the most ethical behavior or course of action in response to various situations experienced in the meeting and event planning industry.

(4) The student develops and demonstrates the interpersonal and customer service skills needed for success in the meeting and event planning environment. The student is expected to:

(A) exhibit essential workplace characteristics such as organization, perseverance, motivation, dependability, punctuality, initiative, self-control, and the ability to accept and act on criticism;

(B) demonstrate effective team-building skills such as collaboration, planning, conflict resolution, rapport-building, decision-making, problem-solving, and persuasion and influencing techniques;

(C) identify and respond to customer or client needs, including resolving customer dissatisfaction;

(D) exercise leadership by anticipating and proactively diffusing potential event issues; and

(E) negotiate to resolve conflicts in the workplace and with customers by using strategies such as active listening, "I" messages, negotiation, and offering win-win solutions.

(5) The student demonstrates the industry-based knowledge and skills required for a successful career in the event and meeting planning industry. The student is expected to:

(A) employ job-specific technical vocabulary with accuracy and fluency;

(B) explain event planning procedures designed to ensure client needs are met such as Banquet Event Orders, rate assignment, event organization, client relations, and determination of payment methods;

(C) assess meeting or event company structures and traits that lead to profitability and business success;

(D) determine the correct procedures for the execution of client events and contracts;

(E) identify and organize tasks for daily operation;

(F) describe societal events that have shaped the event and meeting planning industry both in the past and present; and

(G) interpret the role of the convention and visitors' bureau in the event and meeting planning industry.

(6) The student develops and practices awareness of varying needs of customers or clients understands the impact of diversity on the industry. The student is expected to:

(A) assesses how varying needs of customers or clients impacts the event planning industry both from a planning and profitability aspect;

(B) demonstrate respect for individual differences;

(C) explain the importance of meeting the varying needs of customers or clients for the successful operation of a business;

(D) develop business plans and activities to meet the varying needs of customers or clients; and

(E) describe differences in social etiquette, dress, and behaviors and explain how differences affect the event planning process.

(7) The student uses information technology tools in event and meeting planning to access, manage, integrate, and create information. The student is expected to:

(A) evaluate current and emerging technologies that improve client services;

(B) evaluate and incorporate event planning software and technology tools that help to perform workplace tasks and meet business objectives;

(C) create and present multi-level (complex) multimedia presentations to clients;

(D) use and problem-solve issues with point-of-sale systems;

(E) design a plan for using Internet resources to maximize company profitability; and

(F) use appropriate electronic communication tools for planning and selling meetings and events.

(8) The student differentiates between and adapts to various roles, types of events, and functions. The student is expected to:

(A) differentiate between the types of event sponsors, organizers, and producers and their events such as trade shows, conferences, social events, and corporate meetings;

(B) identify various suppliers for different event planning needs and explain how they service different events;

(C) describe the importance of sales coordinators to events and meetings regardless of organization or type of event;

(D) evaluate and modify different types of catering options and menus based on the needs of the event or organization;

(E) evaluate and modify different types of meeting room set-ups (banquet, classroom, theater, and reception) based on the needs of the event or organization; and

(F) determine and organize staff and resources according to the specific needs of the organization and event.

(9) The student collaborates within departments, organizations, and the larger environment of the meeting and event planning industry. The student is expected to:

(A) analyze the roles and responsibilities of each level of the management structure of a venue;

(B) identify the advantages and disadvantages of different event destinations and facilities and their effects on profitability and customer satisfaction;

(C) analyze the roles and responsibilities of an in-house event manager or planner as compared to independent professionals; and

(D) define specific roles and responsibilities when interfacing with destination venues.

(10) The student understands and can articulate the factors that contribute to a successful and profitable event. The student is expected to:

(A) analyze the expenses associated with the planning and production of a meeting or event;

(B) analyze and evaluate how marketing techniques impact operation and profitability related to an event;

(C) calculate costs of supplies and evaluate how costs affect profitability;

(D) evaluate the impact of payroll expenses on profitability;

(E) analyze and modify operating procedures to result in more profitable or cost-effective operations;

(F) research and create a marketing plan for various markets such as weddings, government and military groups, professional and educational organizations, family or social gatherings, and geography;

(G) identify profit margins associated with various markets; and

(H) evaluate the importance of conducting pre-and post-event evaluations for continuous improvement.

(11) The student demonstrates knowledge of potential liability situations that can affect business reputation and profitability. The student is expected to:

(A) compare and contrast different levels of insurance and liability limits for events;

(B) analyze customer-provided insurance options for events;

(C) identify and explain legal, health, and safety obligations related to event planning;

(D) assess the implications and responsibilities associated with providing or allowing alcohol at an event; and

(E) research law enforcement requirements for events and meetings.

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STATUTORY AUTHORITY. The new sections are proposed under Texas Education Code (TEC), §7.102(c)(4), which requires the State Board of Education (SBOE) to establish curriculum and graduation requirements; TEC, §28.002(a), which identifies the subjects of the required curriculum; TEC, §28.002(c), which requires the SBOE to identify by rule the essential knowledge and skills of each subject in the required curriculum that all students should be able to demonstrate and that will be used in evaluating instructional materials and addressed on the state assessment instruments; TEC, §28.002(n), which permits the SBOE by rule to develop and implement a plan designed to incorporate foundation curriculum requirements into the career and technical education (CTE) curriculum; TEC, §28.002(o), which requires the SBOE to determine that at least 50% of the approved CTE courses are cost effective for a school district to implement; TEC, §28.025(a), which requires the SBOE to determine by rule the curriculum requirements for the foundation high school graduation program that are consistent with the required curriculum under TEC, §28.002; and TEC, §28.025(b-17), which requires the SBOE to adopt rules to ensure that a student may comply with the curriculum requirements under TEC, §28.025(b-1)(6), by successfully completing an advanced CTE course, including a course that may lead to an industry-recognized credential or certificate or an associate degree.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), (n), and (o); and 28.025(a) and (b-17).

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§127.689. Advanced Cloud Computing (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended Prerequisites: At least one credit in a Level 2 or higher course in computer science, programming, software development, or networking systems. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

(3) The Advanced Cloud Computing course is an exploration of cloud computing. In this course, students explore cloud computing services, applications, and use cases. Students study 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 using innovative technologies.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) demonstrate and explain positive workplace behaviors that enhance employability and job advancement such as regular attendance, promptness, attention to proper attire, maintenance of a clean and safe work environment, appropriate voice, and pride in work;

(B) demonstrate and explain positive personal qualities such as flexibility, open-mindedness, initiative, listening attentively to speakers, and willingness to learn new knowledge and skills;

(C) describe and demonstrate effective reading and writing skills;

(D) use critical-thinking skills to solve cloud computing problems; and

(E) demonstrate and explain leadership skills and how to function effectively as a team member.

(2) The student understands the impact of cloud computing technology and compares the major services offered by cloud computing providers. The student is expected to:

(A) describe the benefits and risks of cloud computing and the reasons for switching from on-premises computing to cloud computing;

(B) identify and describe the major types of cloud computing;

(C) generate sample cloud usage plans for a business case study, including a description of how each of the services can be used to improve the business;

(D) explain the purpose of a region, availability zone, and edge location; and

(E) compare the major services offered by cloud computing providers.

(3) The student demonstrates how to store and share content in the cloud. The student is expected to:

(A) identify features and functions of commonly used cloud services;

(B) locate and use common services found in cloud computing consoles;

(C) analyze how cloud services are used in real-world industries;

(D) explain the functions of a domain name system (DNS);

(E) create an object storage bucket;

(F) explain benefits and uses of a content delivery network;

(G) configure web content distribution via edge locations and attach it to a website;

(H) identify the benefits, features, and use cases of different types of block storage;

(I) analyze a use case and recommend the best type of virtual storage for the particular situation;

(J) create a block storage volume or physical record;

(K) attach a block storage volume to a virtual computing instance; and

(L) create a virtual computing instance that hosts a simple website.

(4) The student applies cloud security best practices in relation to identity and access management (IAM). The student is expected to:

(A) identify best practices for IAM;

(B) analyze the cultural and societal impacts of cloud security;

(C) differentiate between a role, user, and policy in cloud security;

(D) identify and use a process to resolve vulnerabilities in a web server;

(E) describe cloud security best practices and explain steps to fix security lapses;

(F) identify the best cloud security service for a given scenario;

(G) demonstrate the use of an IAM system to set up a text alert event; and

(H) compare monitoring and logging services.

(5) The student describes when to use various databases, the benefits of caching data, and how to build a virtual private cloud (VPC). The student is expected to:

(A) compare online transactional processing and online analytical processing;

(B) describe the benefits of caching data;

(C) explain and demonstrate how a load balancer is attached to a webpage;

(D) describe features and benefits of load balancing;

(E) evaluate the performance of a load balancer;

(F) create an application using a platform as a service (PaaS); and

(G) demonstrate the use of a template infrastructure as code to build a VPC.

(6) The student understands the landscape of emerging technologies in the cloud. The student is expected to:

(A) define machine learning and discuss its impacts on society, business, and technology;

(B) identify potential use cases for emerging technology in the cloud;

(C) assess value propositions of using cloud technology;

(D) identify cloud services that can analyze and protect data and manage networks;

(E) define blockchain technology and explain its benefits;

(F) explain the infrastructure of cloud development kits or services; and

(G) demonstrate the use of a software development framework to model and provision a cloud application.

(7) The student resolves common security alerts, diagrams instance states and transitions, and explains how to choose the most cost-efficient instance type. The student is expected to:

(A) describe the shared responsibility security model;

(B) identify security responsibility for cloud resources;

(C) analyze how the shared security model accounts for common threats to the cloud computing model;

(D) identify the steps required to resolve an automated security alert;

(E) describe the six instance states, including pending, running, stopping, stopped, shutting down, and terminated;

(F) identify and diagram the transitions between instance states from launch to termination;

(G) explain instance usage billing for each instance state; and

(H) determine the most cost-efficient instance state for a given situation.

(8) The student differentiates between dynamic and static websites. The student is expected to:

(A) describe and demonstrate the process for setting up a static website;

(B) compare static and dynamic websites;

(C) create a content delivery network distribution to increase the speed of a website;

(D) demonstrate the process to launch a dynamic web server;

(E) create a serverless compute function using a serverless compute console;

(F) describe the main functions of auto scaling;

(G) create a launch template and an auto scaling group; and

(H) develop a plan for monitoring an auto scaling instance or group.

(9) The student demonstrates the benefits and risks of using big data. The student is expected to:

(A) define big data and identify use cases for it within various industries;

(B) identify and evaluate the benefits and risks of big data;

(C) explain how blockchain ensures the validity and immutability of transactions, particularly in the cloud; and

(D) evaluate the benefits and risks of blockchain business applications.

§127.690. Foundations of User Experience (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 9-12. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

(3) In Foundations of User Experience (UX), students analyze and assess current trends in a 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 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. The knowledge and skills acquired from this course enable students to identify real-world problems through research and data-driven investigation and to design solutions while participating in collaborative problem solving. Students are introduced to agile practices and methodologies to develop skills to take solutions from conceptual sketch to digital designs using professional software tools. Students explore how to improve the quality of user interactions and perceptions of products, experiences, and any related services.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills in the IT field with a focus in the area of UX. The student is expected to:

(A) identify job opportunities in UX and accompanying job duties and tasks;

(B) describe and use effective verbal and nonverbal communication skills;

(C) create resumes and portfolios for UX professions;

(D) use critical-thinking skills and creativity to present a solution to a user problem; and

(E) work collaboratively in a team to devise and present an efficiency or enhancement solution to a user issue within a given timeline, while incorporating empathy methodology, agile, and design principles.

(2) The student applies professional communications strategies. The student is expected to:

(A) revise presentations for audience, purpose, situation, and intent;

(B) interpret and clearly communicate information, data, and observations;

(C) apply active listening skills to obtain and clarify information;

(D) identify multiple viewpoints of potential diverse users; and

(E) define and exhibit public relations skills that are used by UX designers.

(3) The student describes the field of UX and common elements in user-centered design. The student is expected to:

(A) analyze the current trends and challenges of the UX field;

(B) analyze and describe the diversity of roles and career opportunities across the UX field;

(C) define terminology associated with UX, including user, user experience, human-centered design, design thinking, persona, user journey, empathy map, mind maps, roadmaps, wireframes, prototypes, and portfolios;

(D) identify and explain the differences between relevant, friendly, and useful experience design;

(E) identify and explain the connection between psychology and behavior with regard to usability;

(F) explain the components of the design thinking methodology for ideation, iteration, co-creation, development, and execution; and

(G) explain how UX design affects everyday lives.

(4) The student discusses and applies the legal and ethical practices that UX designers follow when working with technology, designs, and clients. The student is expected to:

(A) identify and explain ethical use of technology;

(B) explain intellectual property laws, including copyright, trademarks, and patents, and consequences of violating each type of law;

(C) identify violations of intellectual property laws;

(D) explain the consequences of plagiarism; and

(E) demonstrate ethical use of online resources, including using proper citations and avoiding plagiarism.

(5) The student identifies and demonstrates introductory observation and research methods. The student is expected to:

(A) describe the difference between qualitative and quantitative data;

(B) conduct user interviews to gather insights into what users think about a site, an application, a product, or a process;

(C) organize ideas and user data using software tools;

(D) analyze and draw conclusions from qualitative user data collection;

(E) observe and document how users perform tasks through task analysis observations;

(F) define affinity and explain the benefits of affinity and customer journey maps;

(G) use data summaries from user interviews to create personas; and

(H) create a report or presentation, including user interview and observation data summaries, data analysis, and additional findings, for a target audience.

(6) The student applies an understanding of psychological principles used in user-centered design. The student is expected to:

(A) identify and define design principles;

(B) describe how visceral reactions inform the creation of a positive user experience;

(C) select colors to influence human behavior, the human mind, and reactions toward an intended outcome;

(D) explain recognition and scanning patterns and their importance in user-centered design;

(E) define Hick's Law and Weber's Law and explain their impact on UX design decisions;

(F) describe sensory adaptation phenomenon and perceptual set; and

(G) explain the stages of human information processing, including sensing, perceiving, decision-making, and acting.

(7) The student creates effective, accessible, usable, and meaningful solutions for the end user by using UX design principles. The student is expected to:

(A) identify end-user problems and needs in real-world environments;

(B) identify principles of accessibility such as perceivable, operable, understandable, and robust (POUR);

(C) identify and discuss the differences and connections between UX Design, Visual Design, and User Interaction in regard to usability;

(D) communicate potential solutions and ideas with a storytelling approach;

(E) sketch and refine designs within wire-framing and prototypes; and

(F) implement iterations for a design solution using structured testing protocols.

(8) The student collaborates with others to apply UX project management methods. The student is expected to:

(A) identify the relationship between UX research and design-thinking methods; and

(B) explain three different stages and roles of UX project management methods such as agile methods.

(9) The student applies UX design practices and uses technology to create digital assets. The student is expected to:

(A) use design elements such as typeface, color, shape, texture, space, and form to create a visual narrative;

(B) implement design principles such as unity, harmony, balance, scale, novelty, hierarchy, alignment, and contrast to create visual narratives;

(C) identify and explain common elements of Hyper Text Markup Language (HTML) such as tags, style sheets, and hyperlinks;

(D) apply UX design techniques in order to:

(i) create effective user interfaces for browser-based, native, and hybrid mobile applications;

(ii) demonstrate proper use of vector and raster-based design software;

(iii) explain the difference between back-end and front-end development in UX; and

(iv) create a web page containing links, graphics, and text using appropriate design principles;

(E) demonstrate basic sketching skills;

(F) create wireframes using design software;

(G) explain how design fidelity, from sketch to wireframe to prototype to visuals, aligns with and supports agile methodology; and

(H) produce digital assets.

§127.691. Advanced User Experience Design (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. Students shall be awarded one credit for successful completion of this course. This course is recommended for students in Grades 10-12. Required prerequisite course: Foundations of User Experience.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, digital interactions, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

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

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills in the IT field with a focus in the area of UX. The student is expected to:

(A) identify job opportunities in UX and individual skills and abilities needed to apply;

(B) describe and use effective interpersonal and communication skills;

(C) identify and practice the skills associated with at least one UX professional certification;

(D) create a resume and portfolio for a UX position; and

(E) demonstrate adaptability and flexibility by adjusting project outcomes from peer-review and critique.

(2) The student understands and demonstrates legal and ethical procedures for UX designers as they apply to the use of information technology. The student is expected to:

(A) identify intellectual property violations within given scenarios; and

(B) formulate and communicate visually, orally, or in writing the ramifications and consequences of plagiarism and copyright infringement within a business context.

(3) The student connects and applies UX design conceptual foundations with real-world scenarios. The student is expected to use proper terms and professional language for UX design context, both orally and in written form.

(4) The student uses different options of project management to produce a successful UX design. The student is expected to:

(A) identify different stages of the UX design process, including research, identification of problem, ideation, prototyping, and testing, and apply these stages to refine or create products;

(B) test partial products during the UX design process and analyze results to inform the refinement phase;

(C) explain the conceptual design, content strategy, and ways to get feedback from various users and stakeholders in the project; and

(D) demonstrate effective time-management and planning to complete project tasks.

(5) The student collects and interprets data through the use of UX tools and protocols. The student is expected to:

(A) create templates for questionnaires, data collection, and summary reports;

(B) analyze data and create a summary of project conclusions that include insights into affordances and constraints of the project design;

(C) distinguish differences in qualitative research methods such as user interviews, ethnography, field studies, focus groups, and usability testing; and

(D) identify and use quantitative methods such as A/B testing, card sorting, heat maps, analytics, and user surveys.

(6) The student creates and analyzes prototypes for UX design products. The student is expected to:

(A) identify a UX problem and list potential solutions;

(B) evaluate potential solutions and create an action plan to address a problem based on desired features and requirements for a UX design product;

(C) create a presentable content strategy and develop conceptual designs and symbolic messages for a UX design prototype;

(D) generate possible solutions with ideation methods such as unstructured discussion, storyboards, brainstorming, role playing, game storming, mind mapping, teamwork games, and sketching;

(E) refine and select ideas for prototyping with a people-centered rationale for the decision;

(F) create low-fidelity prototypes, including sketches, paper models, and click-through prototypes; and

(G) create mockups and high-fidelity prototypes, including digital and physical versions.

(7) The student structures solutions while applying UX design principles. The student is expected to:

(A) explain how the connected layouts, blocks of content, visual designs, and navigation requirements enhance user experience;

(B) explain how the distinguishing of channels and formats during website development impacts usability across different devices;

(C) develop and implement design activities for co-creation, peer-review, and collaborative feedback;

(D) test and evaluate navigation experiences and compare results with current competitors; and

(E) incorporate best practices for references, including adding the designer's voice and signature.

(8) The student describes best practices and plans for a usability test. The student is expected to:

(A) create a usability test plan that includes cognitive, perceptual, emotional, and cultural information about users, data collection requirements, and user testing methods;

(B) execute testing methodologies and collect data for analysis purposes; and

(C) present conclusions and recommendations that apply design principles, communication, and creative skills.

§127.695. Information Technology Troubleshooting (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisites: Principles of Information Technology and Computer Maintenance/Lab. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology (IT) Career Cluster focuses on building linkages in IT occupations for entry-level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

(3) The Informational Technology 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 learn and use proven troubleshooting methods and apply those in a collaborative workplace setting. Students 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 enables students to use IT resources and data safely, ethically, and within legal guidelines. Students work within a service level model that helps them to interpret, clarify, and diagnose issues with hardware, software, and networking.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) describe the benefits of effective time management and explain how to manage the use of one's time efficiently;

(B) describe and demonstrate the behaviors of an effective team member;

(C) explain the importance of emotional intelligence in the role of an IT support specialist;

(D) describe and apply strategies to resolve conflicts;

(E) identify and employ active listening skills, including paraphrasing and asking questions for clarification;

(F) communicate effectively orally and in writing when communicating with others, including team members, clients/customers, and others;

(G) identify and apply best practices for email communications;

(H) interpret technical language, documents, and diagrams and translate them into lay terminology;

(I) demonstrate the use of proper grammar and spelling and capture complete thoughts in communications and documentation; and

(J) investigate and discuss potential IT pathways for IT support specialists.

(2) The student develops and models customer-service skills. The student is expected to:

(A) identify and model the characteristics of excellent customer service;

(B) list and demonstrate the steps for opening and greeting a contact;

(C) explain the benefits of using a client's name;

(D) identify habits and situations to avoid when interacting with a client;

(E) explain the importance of keeping clients informed of status changes;

(F) list and demonstrate the steps for putting a client on hold or transferring a call;

(G) identify and demonstrate techniques and strategies for handling difficult calls and situations; and

(H) document all client communications and outcomes clearly and appropriately.

(3) The student applies procedures for various support interaction types. The student is expected to:

(A) describe the primary responsibilities and skills of an IT support specialist and how to deliver consistent, quality service;

(B) explain and demonstrate safety procedures for unpacking, handling, and repacking replacement parts;

(C) describe when to use various support delivery methods and technologies such as in-person, email, phone, web, and remote access;

(D) demonstrate the use of various support delivery models, including in-person, email, phone, web, and remote access technologies, to troubleshoot an issue; and

(E) describe the purpose and value of the security management process and the IT support specialist's role in that process.

(4) The student implements proven troubleshooting methods and strategies within the context of a service level model. The student is expected to:

(A) implement and explain a troubleshooting process for diagnosing issues with hardware, software, and the network;

(B) explain the importance of clearly documenting progress throughout the troubleshooting process;

(C) describe activities common to help desk service level model and incident management processes;

(D) interpret and clarify different types of incidents, problems, and events submitted in the help desk service model or trouble ticketing system;

(E) describe an operational level agreement (OLA) and the role of the IT support specialist in an OLA;

(F) describe what is meant by escalation and the reasons an incident may be escalated;

(G) identify and apply relevant system updates for supported devices; and

(H) describe service and support center metrics, including a service level target and the IT support specialist's role in monitoring and reviewing data related to these metrics.

(5) The student describes and applies best practices for the safe, ethical, and legal use of resources and information. The student is expected to:

(A) demonstrate and describe positive digital citizenship and acceptable use policy when using digital resources;

(B) describe best practices for creating passwords such as increasing password length and password complexity, enforcing password blacklists, resetting passwords, limiting password entry attempts, and using multi-factor authentication;

(C) examine, describe, and demonstrate the use of guidelines for using media, information, and applications protected by copyright;

(D) compare and explain copyright, fair use, public domain, and Creative Commons licensing;

(E) identify and apply licensing guidelines for software, media, and other resources;

(F) explain the importance and uses of encryption;

(G) describe and demonstrate best practices for handling confidential information;

(H) analyze cyber threats and social engineering vulnerabilities and discuss ways to prevent them;

(I) describe various types of security policies and summarize the importance of physical security and logical security measures;

(J) explain the importance of reporting security compromises such as addressing prohibited content and activity; and

(K) identify and demonstrate appropriate data destruction and disposal methods relevant to a given scenario.

(6) The student applies foundational knowledge and skills for the installation, configuration, operation, and maintenance of desktops and workstations. The student is expected to:

(A) explain the procedure used to install and configure motherboards, central processing units (CPUs), and add-on cards relevant to a given scenario such as a custom personal computer configuration to meet customer specifications;

(B) describe how to implement security best practices to secure a workstation, including software-based computer protection tools such as software firewalls, antivirus software, and anti-spyware;

(C) demonstrate how to identify symptoms or error codes, including no power, no POST, no BOOT, and no video, that indicate device issues and explain how to troubleshoot symptoms or error codes;

(D) describe the process used to install, troubleshoot, and replace random-access memory (RAM) types and data storage;

(E) describe how to troubleshoot, clean, repair, or replace internal components, including heat sink units and thermal paste, exhaust vents and fans, power supply units, power adapters, batteries, wireless elements, and wireless wide area network (WWAN) components;

(F) explain the importance of conducting periodic maintenance, including both physical and electronic cleaning, disk checks, routine reboots, data dumps, and testing; and

(G) describe and demonstrate how to prevent, detect, and remove malware using appropriate tools and methods.

(7) The student applies foundational knowledge and skills about the installation, configuration, operation, and maintenance of operating systems (OS) and software. The student is expected to:

(A) describe and demonstrate the use of OS features and tools relevant to given scenarios;

(B) describe and demonstrate the use of OS utilities relevant to given scenarios;

(C) execute OS command-line tools such as ipconfig, netstat, dir, nbtstat;

(D) troubleshoot and document OS problems relevant to a given scenario;

(E) demonstrate how to use features and tools of various operating systems properly;

(F) troubleshoot and document problems in various operating systems; and

(G) explain database concepts and the purpose of a database.

(8) The student installs, configures, operates, maintains, and troubleshoots issues related to peripheral devices relevant to a given scenario. The student is expected to:

(A) explain and demonstrate how to install, configure, maintain, and troubleshoot storage devices;

(B) explain and demonstrate how to install, configure, maintain, and troubleshoot printers, copiers, and scanners, including small office home office (SOHO) multifunction devices and printers;

(C) explain and demonstrate how to install, configure, maintain, and troubleshoot video projectors and video displays; and

(D) explain and demonstrate how to install, configure, maintain, and troubleshoot multimedia devices such as sound cards, speakers, microphones, and webcams.

(9) The student monitors current issues related to the installation, configuration, operation, and maintenance of laptops, tablets, and other mobile devices, including internet of things (IoT) devices. The student is expected to:

(A) explain and demonstrate how to install and configure laptop and netbook hardware to meet customer specifications;

(B) explain and demonstrate how to install components within the display of a laptop;

(C) explain and demonstrate how to connect and configure accessories and ports of mobile devices;

(D) analyze and apply methods used to secure mobile devices;

(E) configure mobile device network connectivity and application support;

(F) demonstrate proper methods to perform mobile device synchronization such as synchronizing information to a laptop or desktop computer; and

(G) explain and demonstrate how to troubleshoot issues relevant to mobile devices, OS, and applications.

(10) The student troubleshoots issues with wired and wireless networks and cloud computing resources. The student is expected to:

(A) explain and demonstrate how to install, configure, and secure a wired network;

(B) explain and demonstrate how to install, configure, and secure a wireless network;

(C) compare wireless security protocols and authentication methods;

(D) analyze, describe, and troubleshoot wired and wireless network problems;

(E) demonstrate the use of appropriate networking tools to fix network issues safely;

(F) explain how computing devices such as laptops and cell phones connect and share data;

(G) describe the components of cloud-computing architectures and features of cloud-computing platforms; and

(H) analyze, describe, and troubleshoot cloud computing resources.

§127.696. Engineering Applications of Computer Science Principles (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 9-12. Prerequisite: Algebra I. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialists and network analysts.

(3) Engineering Applications of Computer Science Principles teaches rigorous engineering design practices, engineering habits of mind, and the foundational tools of computer science. Students apply core computer science principles to solve engineering design challenges that cannot be solved without such knowledge and skills. Students use a variety of computer software and hardware applications to complete projects.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) cooperate, contribute, and collaborate as a member of a group to attain agreement and achieve a collective outcome;

(B) present written and oral communication in a clear, concise, and effective manner;

(C) demonstrate time-management skills in prioritizing tasks, following schedules, and performing goal-relevant activities in a way that produces efficient results;

(D) identify tasks and complete tasks with the highest standards to ensure quality products and services; and

(E) analyze cost savings by using a simulation to run experiments before committing more resources.

(2) The student applies concepts of critical thinking and problem solving to engineering applications in computer science. The student is expected to:

(A) identify, analyze, and discuss elements of an engineering problem to develop creative and innovative solutions;

(B) identify, analyze, and discuss the elements and structure of a programming problem to develop creative and innovative solutions;

(C) identify and discuss pertinent information from a customer and existing program for solving a problem;

(D) compare and discuss alternatives to a solution using a variety of problem-solving and critical-thinking skills; and

(E) conduct research to gather technical information necessary for decision making.

(3) The student conducts computer science and engineering laboratory activities using safe and environmentally appropriate practices. The student is expected to:

(A) identify and demonstrate safe practices during hands-on cutting and building activities during computer science and engineering laboratory activities;

(B) identify and demonstrate safe use and storage of electrical components; and

(C) identify and demonstrate appropriate use and conservation of resources, including disposal, reuse, or recycling of materials.

(4) The student applies ethical considerations in designing solutions. The student is expected to:

(A) define and evaluate constraints pertaining to a problem;

(B) identify safety considerations in designing engineering solutions with respect to the system, engineer, and user; and

(C) investigate and explain the importance and application of relevant legal and ethical concepts in computer science such as intellectual property, use of open-source software, attribution, patents, and trademarks.

(5) The student demonstrates an understanding of the structured methods used to collect and analyze information about customer needs. The student is expected to:

(A) analyze information provided by the customer to identify customer needs;

(B) create a process flow diagram based on customer needs to generate ideas for potential user actions, product functions, and design opportunities;

(C) develop a flowchart for a program using the results of a process flow diagram;

(D) create a target specifications table;

(E) identify and describe similar existing solutions; and

(F) construct a functional model based on customer needs to generate ideas for potential user actions, product functions, and design opportunities.

(6) The student develops a user interface and supplemental instructions. The student is expected to:

(A) identify essential tasks to be completed by the user;

(B) identify points of potential confusion or unexpected input by the user;

(C) design a software or user interface that clearly communicates to the user how to complete desired tasks;

(D) develop supplemental user instructions to inform the user of items that cannot be incorporated into an interface such as how to start the program or frequently asked questions;

(E) test a program and the program instructions with an individual who is not familiar with the project;

(F) evaluate and discuss feedback and results from new user testing;

(G) improve and refine a program and the program instructions based on feedback and results of testing; and

(H) re-test a program and the program instructions as necessary after modifications have been made in response to testing and identify any next steps.

(7) The student systematically reverse engineers a product, examines ways to improve the product, and identifies the type of redesign required to make that improvement. The student is expected to:

(A) write and perform tests, including break testing, for an existing program to determine functionality;

(B) describe unexpected findings from deconstructing existing code;

(C) examine and discuss relevant software libraries to determine their uses and functionality;

(D) construct a flowchart for an existing program;

(E) compare a program's current functionality to the customer's needs;

(F) identify and add missing customer specifications or needs to a program's flowchart;

(G) develop and explain new code that includes customer specifications or improves a product; and

(H) compare and discuss the predicted versus actual functionality of a product to generate ideas for redesign.

(8) The student applies concept generation and selection skills. The student is expected to:

(A) create and explain a black box and functional model of a system;

(B) implement brainstorming, mind mapping, concept sketching, and gallery walk activities to produce new ideas; and

(C) apply concept selection techniques such as a Pugh chart or a weighted decision matrix to design decisions.

(9) The student develops and applies engineering design process skills. The student is expected to:

(A) select and use appropriate tools and techniques to support design activities;

(B) report information about software design solutions in an engineering notebook;

(C) develop, test, and refine programming concepts throughout the development process;

(D) interpret and use an electrical diagram to build a circuit;

(E) create a circuit using a microcontroller, a breadboard, and multiple components;

(F) explain and apply the design process from different starting points by beginning with a baseline design;

(G) use a model or simulation which represents phenomena and mimics real-world events to develop and test hardware;

(H) critique and explain the usefulness and limitations of certain models;

(I) develop a prototype solution; test the prototype solution against requirements, constraints, and specifications; and refine the prototype solution; and

(J) report and describe a product's final design after the prototyping phase.

(10) The student applies mathematics and algorithms in programs. The student is expected to:

(A) apply mathematical concepts from algebra, geometry, trigonometry, and calculus to calculate the angle of a joint;

(B) apply mathematical calculations cyclically in a program using algorithms; and

(C) evaluate and verify algorithms for appropriateness and efficiency.

(11) The student develops computer programs to support design solutions. The student is expected to:

(A) design and explain software interfaces that communicate with hardware;

(B) identify and apply relevant concepts from computer science, science, and mathematics such as functions, electricity, and mechanics; and

(C) employ abstraction in a program by representing numerical sensor readouts distance and brightness ranges in more intuitive variables and functions.

(12) The student develops and applies computer science skills. The student is expected to:

(A) integrate small discrete programs into a larger complete program solution using systems-thinking skills;

(B) use intuitive variable names correctly and add comments to code to improve readability;

(C) employ abstraction in a program by representing images as data arrays and representing numerical tone frequencies as variables;

(D) convert image information into the correct data type necessary for given library functions;

(E) develop an algorithm that includes logic such as "while" and "if" to accept user trackbar input and display image changes in real time;

(F) develop flowcharts, pseudocode, and commented code to document and explain software design solutions;

(G) design software interfaces that communicate with users and hardware;

(H) employ abstraction to program to an interface, treating imported code as a "black box";

(I) employ abstraction by representing a joint as four points in a plane; and

(J) select and apply correct programming vocabulary and programming skills during program development.

(13) The student develops and uses computer programs to process data and information to gain insight and discover connections to support design solutions. The student is expected to:

(A) explain how to organize complex image and video data for processing;

(B) analyze complex data to make decisions and instruct users; and

(C) develop programs that use incoming data and algorithms to create output data, information, and commands.

§127.697. Geographic Information Systems (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisites: Principles of Art, Audio/Video Technology, Principles of Information Technology, Physics for Engineers, or Principles of Applied Engineering. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

(3) The Geographic Information Systems (GIS) course employs an analytic process using industry standard software to find trends and patterns in collected data. Whether collecting data first-hand or from reputable websites, GIS aims to use scientific methods to find solutions to various problems and issues.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) produce effective written and oral communication;

(B) describe and demonstrate appropriate verbal and nonverbal communication skills;

(C) describe employers' expectations, appropriate work habits, and good citizenship skills;

(D) identify career development and opportunities in the GIS industry and related industries;

(E) identify and apply competencies related to resources, information, and systems of operation in the geographical information technology industry;

(F) explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;

(G) identify and explain the appropriate use of types of personal protective equipment used in the GIS industry; and

(H) explain and give examples of safety and health training requirements specified by standard setting organizations.

(2) The student demonstrates knowledge and appropriate use of computer hardware components and software programs and examines how hardware and software are interrelated. The student is expected to:

(A) use operating systems, software applications, and communication and networking components appropriately;

(B) compare and appropriately use various input, processing, output, and primary/secondary storage devices;

(C) evaluate and select software based on quality, appropriateness, effectiveness, and efficiency; and

(D) solve digital file format and cross platform connectivity compatibility issues.

(3) The student uses data input skills. The student is expected to:

(A) incorporate into a product and use a variety of input devices such as keyboard, scanner, or mouse appropriately; and

(B) use digital keyboarding standards for the input of data.

(4) The student demonstrates knowledge and understanding of what GIS is and the use of GIS technology in different career fields. The student is expected to:

(A) identify historical and contemporary developments in GIS;

(B) describe the basic components of GIS; and

(C) identify appropriate application of GIS technologies in different career fields.

(5) The student demonstrates knowledge and appropriate use of database software. The student is expected to:

(A) design and construct a relational database from a geographic data model using a database software;

(B) use joins, hyperlinks, and relational linking appropriately within a database;

(C) convert data into a data depiction using classifications; and

(D) transfer data from different sources into a database for storage and retrieval.

(6) The student demonstrates knowledge and appropriate use of spatial databases and sources. The student is expected to:

(A) identify and use appropriately various spatial databases and sources such as digital terrain models, digital orthophoto quadrangles, geographic databases, land use and land cover data, digital imagery, hydrographic spatial data, and demographic data; and

(B) describe and demonstrate appropriate use of spatial analysis.

(7) The student demonstrates knowledge and appropriate use of GIS software. The student is expected to:

(A) determine the appropriate software tool from GIS to use for a given task or project;

(B) create queries and spatial queries for finding features, borders, centroids, and networks and determining distance, length, and surface measurements and shapes;

(C) describe characteristics of maps and spatial data; and

(D) identify and use geographical scales, coordinates, and specific map projections.

(8) The student demonstrates knowledge and appropriate use of GIS data collection devices. The student is expected to:

(A) plan and conduct supervised GIS and Global Positioning System (GPS) experiences;

(B) initialize and prepare a GPS receiver for data collection;

(C) collect geographical coordinates from a GPS receiver; and

(D) transfer data from a GPS device to a personal computer.

(9) The student acquires electronic information in a variety of formats. The student is expected to:

(A) collect electronic information in various formats, including text, audio, video, and graphics; and

(B) gather authentic data from a variety of electronic sources to use for individual and group GIS projects.

(10) The student uses appropriate computer-based productivity tools to create and modify solutions to problems. The student is expected to:

(A) explain project management guidelines for designing and developing GIS projects; and

(B) design solutions for a project using visual organizers such as flowcharts or schematic drawings.

(11) The student produces a product using a variety of media. The student is expected to:

(A) publish information in a variety of formats, including hard copies and digital formats; and

(B) prepare a presentation of GIS information using graphs, charts, maps, and presentation software.

(12) The student examines GIS maps, reports, and graphs. The student is expected to:

(A) explain industry-standard legends used in GIS;

(B) describe symbols, scaling, and other map elements used in GIS;

(C) generate GIS reports and graphs; and

(D) create maps using a variety of map display types such as choropleth, heat maps, dot density maps, topographic maps, or graduated symbols maps.

§127.698. Raster-Based Geographic Information Systems (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Geographic Information Systems. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

(3) In Raster-Based Geographic Information Systems (GIS), students study local problems; acquire information, including images or aerial photographs; process the acquired data; and merge the acquired data with vector data. Students plan, conduct, and present solutions for locally based problems.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) produce effective written and oral communication;

(B) describe and demonstrate appropriate verbal and nonverbal communication skills;

(C) describe and demonstrate various workplace expectations, including proper work attire and professional conduct;

(D) describe time-management skills, including prioritizing tasks, following schedules, and tending to goal-relevant activities to optimizes efficiency and results;

(E) explain the importance of punctuality, dependability, reliability, and responsibility in reporting for duty and performing assigned tasks as directed;

(F) explain and discuss the responsibilities of workers and employers to promote safety and health in the workplace and the rights of workers to a secure workplace;

(G) identify and explain the appropriate use of types of personal protective equipment used in the GIS industry; and

(H) explain and give examples of safety and health training requirements specified by standard setting organizations.

(2) The student demonstrates knowledge of the GIS field and related careers. The student is expected to:

(A) identify employment and career opportunities in GIS-related fields;

(B) identify and explore career preparation learning experiences, including job shadowing, mentoring, apprenticeship training, and preparation programs;

(C) identify industry certifications for GIS-related careers, including careers related to raster-based GIS; and

(D) discuss and analyze ethical issues related to GIS and technology and incorporate proper ethics in submitted projects.

(3) The student explores various roles in team projects. The student is expected to:

(A) explain the importance of teamwork in the field of GIS;

(B) describe principles of effective teamwork, including collaboration and conflict resolution; and

(C) explain common characteristics of strong team leaders and team members.

(4) The student investigates the history and use of aerial photography. The student is expected to:

(A) explain fundamental principles of cameras and lenses as they pertain to GIS and aerial photography;

(B) research and explain the history of aerial photography, including aerial platforms;

(C) explain various uses of aerial photography;

(D) compare vertical and oblique aerial photography; and

(E) identify cities, bridges, shorelines, roads and other important features in aerial photos.

(5) The student develops an understanding of electromagnetic and thermal radiation. The student is expected to:

(A) explain how forms of radiation propagate through space and interact with matter;

(B) research and describe the behavior of waves, including refraction, scattering, absorption, and reflection, in relation to radiation;

(C) describe the properties and laws of thermal radiation;

(D) compare the particle and wave models of electromagnetic energy;

(E) differentiate maps based on electromagnetic versus thermal radiation imagery; and

(F) evaluate whether electromagnetic or thermal radiation imagery is appropriate based on the conditions.

(6) The student explores active and passive microwave remote sensing. The student is expected to:

(A) compare active and passive microwave remote sensing;

(B) explain geographic characteristics, including surface roughness, moisture content, vegetation, backscatter and biomass, and urban structures, detected by remote sensing images; and

(C) provide a detailed analysis of radar images.

(7) The student learns the functions and applications of the tools, equipment, and materials used in GIS and raster-based analysis. The student is expected to:

(A) describe how to use raster-based software;

(B) download spatial data and raster images and re-project the data and images to match the Digital Orthophoto Quadrangle (DOQ) or Digital Orthophoto Quarter Quadrangle (DOQQ);

(C) identify remote sensing equipment and describe the difference between the Global Positioning System (GPS) and the Global Navigation Satellite System (GLONASS);

(D) describe GPS measurements and perform measurements with handheld GPS devices using GPS or GLONASS systems; and

(E) compare the advantages, disadvantages, and limitations of remote or unmanned sensing.

(8) The student uses scientific practices in imagery analysis. The student is expected to:

(A) plan and implement investigative procedures, including asking questions, formulating testable hypotheses, and selecting, handling, and maintaining appropriate equipment and technology;

(B) collect GIS data;

(C) organize, analyze, evaluate, make inferences, and predict trends from GIS data; and

(D) communicate valid conclusions using appropriate GIS vocabulary, supportive maps, summaries, oral reports, and technology-based reports.

(9) The student uses project-management skills to research and analyze locally based problems. The student is expected to:

(A) identify and collect data necessary to evaluate a local problem, including defining the problem and identifying locations of the concern;

(B) develop a plan and project schedule for completion of a project developed to address a local concern using raster-based GIS technology;

(C) create a GIS map to illustrate a problem using remote sensing images gathered from sites such as the National Aeronautics and Space Administration, National Oceanic and Atmospheric Administrations, and United States Geological Survey;

(D) evaluate GIS map features to identify solutions to a problem;

(E) develop solutions to minimize, reverse, or solve problem using raster-based GIS technology; and

(F) organize and present findings related to a local problem in a final report or portfolio with data and solutions generated using raster-based GIS technology.

§127.699. Spatial Technology and Remote Sensing (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisites: Geographic Information Systems and Raster-Based Geographic Information Systems. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Information Technology career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from software developer and programmer to cybersecurity specialist and network analyst.

(3) In Spatial Technology and Remote Sensing, students receive instruction in industry standard geospatial extension software and geospatial tools, including global positioning systems (GPS), and training in project management and problem solving related to geographic information systems (GIS).

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

(A) produce effective written and oral communication;

(B) describe and demonstrate effective verbal and nonverbal communication skills;

(C) describe workplace expectations, including appropriate work attire and professional conduct;

(D) describe and demonstrate principles of effective teamwork, including collaboration and conflict resolution;

(E) describe and demonstrate effective use of time-management skills, including prioritizing tasks, following schedules, and tending to goal-relevant activities to optimize efficiency and results;

(F) explain the importance of punctuality, dependability, reliability, and responsibility in reporting for duty and performing assigned tasks with little or no direction; and

(G) identify consequences and appropriate actions related to discrimination, harassment, and inequality in the workplace.

(2) The student demonstrates knowledge of the GIS field and GIS-related careers. The student is expected to:

(A) identify employment and career opportunities in spatial technology and remote sensing related GIS fields;

(B) describe and explore career preparation learning experiences, including job shadowing, mentoring, apprenticeship training, and preparation programs;

(C) identify industry certifications for GIS-related careers, including careers that use or benefit from spatial technology; and

(D) analyze and discuss ethical issues related to the field of spatial technology and remote sensing technology and spatial technology and remote sensing technology projects.

(3) The student applies basic GIS software knowledge and skills to explore the use of various geographic projections in GIS software. The student is expected to:

(A) identify and use Mercator map projection;

(B) identify and use Albers conic map projection; and

(C) research and explain the evolution of and need for different map projections.

(4) The student explores the application of GPS technology. The student is expected to:

(A) define and use data terminology related to GPS;

(B) identify and use appropriately GPS receiver components;

(C) describe various applications of GPS coordinates such as locating fire hydrants, extinguishers, lighting, and parking lots; and

(D) compare the accuracy of GPS coordinates from different receivers such as smartphones, tablets, and GPS handheld devices.

(5) The student demonstrates knowledge and understanding of the types and components of unmanned remote sensing platforms. The student is expected to:

(A) identify major components of aerial, terrestrial, and submersible remote sensing platforms;

(B) determine the most appropriate remote sensing platform to use based on various conditions;

(C) differentiate the types of sensing systems used by each type of platform, including active, passive, spectrometer, radar, LiDAR, scatter meter, and laser altimeter platforms; and

(D) compare situations in which different unmanned remote sensing platforms and sensing systems might be used.

(6) The student demonstrates skills related to GIS data analysis. The student is expected to:

(A) evaluate findings and potential problems using GIS data;

(B) create models that represent collected GIS data;

(C) create, query, map, and analyze cell-based raster data; and

(D) analyze density, distance, and proximity of various data points using spatial analyst tools.

(7) The student analyzes geospatial socioeconomic data to create three-dimensional maps to demonstrate findings. The student is expected to:

(A) identify key sources of and gather and organize geospatial socioeconomic data;

(B) plan, organize, and create thematic maps;

(C) convert two-dimensional themes to a three-dimensional map to demonstrate features, distributions, and themes; and

(D) interpret, draw conclusions about, and justify findings related to geospatial socioeconomic data.

(8) The student uses spatial technology to develop and analyze a location map. The student is expected to:

(A) identify and collect data using GPS and unmanned systems and identify the boundaries and topography of a location;

(B) analyze how the location of a community impacts resources and hardships such as jobs or traffic in the community;

(C) create a map of a location that includes buildings and facilities, adjacent streets, and transportation sites using GIS software; and

(D) develop a map that includes categories for a facility's features such as restrooms, spaces allocated for core activities, emergency equipment, and excavation routes.

(9) The student documents spatial technology knowledge and skills. The student is expected to:

(A) create a spatial technology and remote sensing portfolio that includes attainment of technical skill competencies and samples of work such as location maps and spatial technology and remote sensing-based reports; and

(B) present a portfolio to peers or interested stakeholders.

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STATUTORY AUTHORITY. The new section is proposed under Texas Education Code (TEC), §7.102(c)(4), which requires the State Board of Education (SBOE) to establish curriculum and graduation requirements; TEC, §28.002(a), which identifies the subjects of the required curriculum; TEC, §28.002(c), which requires the SBOE to identify by rule the essential knowledge and skills of each subject in the required curriculum that all students should be able to demonstrate and that will be used in evaluating instructional materials and addressed on the state assessment instruments; TEC, §28.002(n), which permits the SBOE by rule to develop and implement a plan designed to incorporate foundation curriculum requirements into the career and technical education (CTE) curriculum; TEC, §28.002(o), which requires the SBOE to determine that at least 50% of the approved CTE courses are cost effective for a school district to implement; TEC, §28.025(a), which requires the SBOE to determine by rule the curriculum requirements for the foundation high school graduation program that are consistent with the required curriculum under TEC, §28.002; and TEC, §28.025(b-17), which requires the SBOE to adopt rules to ensure that a student may comply with the curriculum requirements under TEC, §28.025(b-1)(6), by successfully completing an advanced CTE course, including a course that may lead to an industry-recognized credential or certificate or an associate degree.

CROSS REFERENCE TO STATUTE. The new section implements Texas Education Code, §§7.102(c)(4); 28.002(a), (c), (n), and (o); and 28.025(a) and (b-17).

<rule>

§127.773. Legal Research and Writing (One Credit), Adopted 2025.

(a) Implementation. The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.

(b) General requirements. This course is recommended for students in Grades 10-12. Recommended prerequisite: Court Systems and Practices. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

(1) Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

(2) The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services.

(3) Legal Research and Writing provides an introduction to 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).

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

(5) Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(d) Knowledge and skills.

(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to achieve business and industry employability skills standards such as attendance, on-time arrival, meeting deadlines, working toward personal and team goals every day, and ethical use of technology.

(2) The student conducts legal research. The student is expected to:

(A) plan a legal research strategy;

(B) access print and online research materials to find and analyze case law;

(C) describe the difference between mandatory and persuasive authority;

(D) research mandatory and persuasive case history using online databases such as Lexis-Nexis;

(E) explain how to shepardize case law;

(F) critique other's legal writing(s) to determine whether cited case law and other legal sources were correctly referenced and relied upon for precedential holdings;

(G) evaluate and apply concepts found in Bluebook citation rules to one's writing.

(3) The student prepares legal arguments. The student is expected to:

(A) read and analyze case law;

(B) read and analyze case procedural history;

(C) apply legal precedent to current legal issues; and

(D) develop arguments supported by case law research.

(4) The student understands and prepares legal documents. The student is expected to:

(A) use and interpret legal reference documents such as the Bluebook to follow and apply requirements for legal writing and citations;

(B) prepare legal briefs that include standard elements, including an introduction and table of authorities;

(C) prepare memorandums that follow a standard legal format; and

(D) prepare other legal documents such as demand letters and pleadings.

(5) The student studies and analyzes U.S. Constitutional law. The student is expected to:

(A) analyze the relationship between the U.S. Constitution, Common Law, and state and local law(s);

(B) analyze the legal, social, and historical implications of court decisions affecting the interpretation of the U.S. Constitution;

(C) predict possible outcomes of future cases and frame arguments in ways that are likely to garner the support of the judiciary;

(D) critique cases related to U.S. Constitutional law and other current legal issues such free exercise clause, establishment clause, due process, and equal protection; and

(E) critique cases related to current legal issues.

(6) The student participates in a class moot court simulation. The student is expected to:

(A) research case law on a current legal issue;

(B) read and evaluate appellant, respondent, and amici briefs associated with the chosen case;

(C) write an appellate brief; and

(D) prepare an oral argument and respond to questions during the presentation of the argument.