ADOPTED RULES

Adopted rules include new rules, amendments to existing rules, and repeals of existing rules. A rule adopted by a state agency takes effect 20 days after the date on which it is filed with the Secretary of State unless a later date is required by statute or specified in the rule (Government Code, §2001.036). If a rule is adopted without change to the text of the proposed rule, then the *Texas Register* does not republish the rule text here. If a rule is adopted with change to the text of the proposed rule, then the final rule text is included here. The final rule text will appear in the Texas Administrative Code on the effective date.

TITLE 1. ADMINISTRATION

PART 4. OFFICE OF THE SECRETARY OF STATE

CHAPTER 107. REGISTRATION OF VISION SUPPORT ORGANIZATIONS

The Office of the Secretary of State (Office) adopts new Chapter 107, §§107.1 - 107.5, concerning registration of vision support organizations (VSOs). The Office adopts these rules to implement the new registration requirements for VSOs in Senate Bill 820, enacted by the 88th Legislature, Regular Session, codified at Chapter 74 of the Texas Business and Commerce Code (SB 820).

Sections 107.1 - 107.5 are adopted without changes to the proposed text as published in the June 21, 2024, issue of the *Texas Register* (49 TexReg 4533) and will not be republished.

BACKGROUND INFORMATION AND JUSTIFICATION

The adoption implements SB 820 (88th Legislature, Regular Session), which establishes a required occupational registration for VSOs in Chapter 74 of the Texas Business and Commerce Code. The bill took effect on September 1, 2023.

As enacted by SB 820, Texas Business and Commerce Code §74.002 requires a VSO (as defined in Texas Business and Commerce Code §74.001(3)) to register annually with the Office. Texas Business and Commerce Code §74.004(a) identifies the information that must be included in the VSO's registration filed with the Office. Texas Business and Commerce Code §74.005(c) directs a VSO to file a corrected registration semiannually as necessary. Texas Business and Commerce Code §74.004(b) specifies that a registration and each corrected registration must be accompanied by a fee in an amount set by the Office.

The purpose of these new rules under Chapter 107 (Registration of Vision Support Organizations) is to provide information regarding the procedures for VSO registration with the Office, in accordance with SB 820.

COMMENTS

The 30-day comment period ended on July 21, 2024. During this period, the Office received one comment regarding the proposed rules from the National Association of Retail Optical Companies. A summary of the comment relating to the proposed rules and the Office's response follows.

Comment: The commenter suggested revising proposed §107.4(a) to provide that a correction filing is not necessary for the second half of a calendar year if the VSO timely filed a renewal application under proposed §107.3(b). The commenter stated that the correction filing seemed unnecessarily duplicative in such a circumstance and would force the VSO to incur added work and cost.

Response: The Office declines to revise §107.4(a) as suggested. As reflected in Chapter 74 of the Texas Business and Commerce Code and the Office's proposed rules, a statement of correction and a renewal registration are two separate actions that serve different purposes. A registered VSO satisfies the requirement in Texas Business and Commerce Code §74.005(c) to file a corrected registration on a semiannual basis by timely submitting a statement of correction as provided by proposed §107.4. Proposed §107.4(c) sets at the end of each semiannual period (i.e., June 30 and December 31) a forty-five day window to submit a statement of correction that is intended to afford a VSO adequate time to provide a complete and accurate corrected registration. By timely filing a statement of correction, a VSO updates the contents of its immediately preceding registration, whether initial or previously renewed. Conversely, a renewal registration simply continues an existing registration with information current at that time and is typically due by January 31 of each year under Texas Business and Commerce Code §74.005. Changes to the information provided in a registration on file must be made with a statement of correction and cannot be effectuated through a renewal application. The timely filing of a renewal registration does not absolve a VSO of also correcting its registration in accordance with Chapter 74 of the Texas Business and Commerce Code and the Office's proposed rules, despite the potential for the correction to be filed after the renewal. Furthermore, the commenter's suggested revision presumes that the information is unchanged between the second half of a year and the time of filing the renewal application, which may not necessarily be the case in all circumstances.

SUBCHAPTER A. DEFINITIONS

1 TAC §107.1

STATUTORY AUTHORITY

The new rules are adopted as authorized by Texas Government Code §2001.004(1) and Texas Business and Commerce Code §74.004(b). Texas Government Code §2001.004(1) requires a state agency to adopt rules of practice stating the nature and requirements of formal and informal procedures. Texas Business and Commerce Code §74.004(b) directs the Office to set the applicable VSO filing fees.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 22, 2024.

TRD-202403874

Adam Bitter
General Counsel
Office of the Secretary of State
Effective date: September 11, 2024
Proposal publication date: June 21, 2024
For further information, please call: (512) 475-2813

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SUBCHAPTER B. REGISTRATION AND RENEWAL OF VISION SUPPORT ORGANIZATIONS

1 TAC §107.2, §107.3

STATUTORY AUTHORITY

The adopted new rules are authorized by Texas Government Code §2001.004(1) and Texas Business and Commerce Code §74.004(b). Texas Government Code §2001.004(1) requires a state agency to adopt rules of practice stating the nature and requirements of formal and informal procedures. Texas Business and Commerce Code §74.004(b) directs the Office to set the applicable VSO filing fees.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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SUBCHAPTER C. STATEMENT OF CORRECTION

1 TAC §107.4

STATUTORY AUTHORITY

The adopted new rules are authorized by Texas Government Code §2001.004(1) and Texas Business and Commerce Code §74.004(b). Texas Government Code §2001.004(1) requires a state agency to adopt rules of practice stating the nature and requirements of formal and informal procedures. Texas Business and Commerce Code §74.004(b) directs the Office to set the applicable VSO filing fees.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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SUBCHAPTER D. FILING FEES

1 TAC §107.5

STATUTORY AUTHORITY

The adopted new rules are authorized by Texas Government Code §2001.004(1) and Texas Business and Commerce Code §74.004(b). Texas Government Code §2001.004(1) requires a state agency to adopt rules of practice stating the nature and requirements of formal and informal procedures. Texas Business and Commerce Code §74.004(b) directs the Office to set the applicable VSO filing fees.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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PART 15. TEXAS HEALTH AND HUMAN SERVICES COMMISSION

CHAPTER 355. REIMBURSEMENT RATES

The Texas Health and Human Services Commission (HHSC) adopts amendments to §355.304, concerning Direct Care Staff Spending Requirement on or after September 1, 2023; §355.306, concerning Cost Finding Methodology before September 1, 2025; §355.307, concerning Reimbursement Setting Methodology before September 1, 2025; and §355.308, concerning Direct Care Staff Rate Component before September 1, 2025; repeal of §355.309, concerning Performance-based Add-on Payment Methodology; and §355.314, concerning Supplemental Payments to Non-State Government-Owned Nursing Facilities; and adopts new §355.318, concerning Reimbursement Setting Methodology for Nursing Facilities on or after September 1, 2025; and §355.320, concerning Nursing Care Staff Rate Enhancement Program for Nursing Facilities on or after September 1, 2025.

The amendments to §§355.304, 355.306, 355.307, 355.308; the repeal of §355.309 and §355.314; and the new §355.318 are adopted without changes to the proposed text as published in the May 3, 2024, issue of the *Texas Register* (49 TexReg 2859) These rules will not be republished.

New §355.320 is adopted with changes to the proposed text as published in the May 3, 2024, issue of the *Texas Register* (49 TexReg 2859). This rule will be republished.

BACKGROUND AND JUSTIFICATION

The amendments, new rules, and repeals are necessary to implement the 2024-25 General Appropriations Act (GAA), House Bill 1, 88th Legislature, Regular Session, 2023 (Article II, HHSC, Rider 25). Rider 25 provides appropriations for HHSC to "develop and implement a Texas version of the Patient Driven Payment Model (PDPM) methodology for the reimbursement of long-term stay nursing facility services in the Medicaid program to achieve improved care for long-term stay nursing facility services, excluding services provided by a pediatric care facility or any state-owned facilities."

The adoption amends §355.304, concerning Direct Care Staff Spending Requirement on or after September 1, 2023, to specify how the spending requirement will operate under PDPM Long-Term Care (LTC). The adoption amends the title of §355.306 to "Cost Finding Methodology before September 1, 2025," and revises the rule text to replace "Rate Analysis Department" with "Provider Finance Department." The title of §355.307 is amended to "Reimbursement Setting Methodology before September 1, 2025," and the title of §355.308 is amended to "Direct Care Staff Rate Component before September 1, 2025." The revised titles clarify that the rules are in effect until September 1, 2025, when the PDPM LTC methodology is implemented. The adoption repeals §355.309, concerning Performance-based Add-on Payment Methodology, and §355.314, concerning Supplemental Payments to Non-State Government-Owned Nursing Facilities, as these rules are no longer applicable to nursing facility reimbursement. Finally, the adoption adds new rules §355.318, concerning Reimbursement Setting Methodology for Nursing Facilities on or after September 1, 2025, and §355.320, concerning Nursing Care Staff Rate Enhancement Program for Nursing Facilities on or after September 1, 2025. The new rules operationalize the rider requirements, enabling HHSC to implement PDPM LTC.

COMMENTS

The 31-day comment period ended June 3, 2024.

During this period, HHSC received comments regarding the proposed rules from 16 commenters, including the following organizations: Ambassadors Group, Centex Continuing Care Network, Creative Solutions Health Care, Focused Post Acute, Fundamental Administrative Services, Gulf Coast LTC Partners, Long Term Care Facilities Council, Nexion Health Management, Priority Management, Regency Integrated Health Services, Senior Living Properties, StoneGate Senior Living, Summit LTC Management, The Ensign Group, The Independent Coalition of Nursing Home Providers, and Texas Healthcare Association. A summary of comments relating to the rules and HHSC's responses follows.

Comment: Several commenters recommended a change to proposed §355.318(d)(1), suggesting that HHSC add minimum data set (MDS) coordinator and feeding assistant expenses to the nursing rate component, as these roles should be appropriately reflected in the reimbursement methodology.

Response: HHSC disagrees and declines to revise the rule. Compensation for MDS coordinators who are registered nurses or licensed vocational nurses is included in the nursing component; therefore, modification of the rule is not necessary. HHSC disagrees that compensation for feeding assistants should be included in the nursing component, because feeding assistants do not provide nursing care to residents. These costs are more relevant to the non-case mix component.

Comment: Several commenters requested that the proposed rates under PDPM LTC be proportional to the methodological rate components established under §355.318.

Response: HHSC appreciates the comment related to the proposed rates for nursing facilities under PDPM LTC. However, the rate adoption process for nursing facility rates proposed to be effective on September 1, 2025, is outside the scope of this rule proposal. No revisions were made to the rule.

Comment: Several commenters requested that HHSC update methodological rates on a biennial basis using the most recent cost reports to ensure that rates accurately reflect current costs and practices, thereby promoting financial stability and quality care. Commenters suggested that HHSC modify the PDPM LTC methodology to reflect any changes the Centers for Medicare & Medicaid Services (CMS) makes to the methodology for Medicare skilled nursing facility services.

Response: HHSC appreciates this comment but declines to revise the rule. HHSC has an ongoing biennial fee review process under which HHSC will review nursing facility daily rates on a biennial basis. The purpose of the biennial fee review is to evaluate the appropriateness of established methodologies and methodological rates.

Comment: Several commenters recommend that HHSC create a fourth subarea of the non-case mix component within §355.318(d) for environmental services costs, which would include operations costs of compensation and benefits for laundry, housekeeping, and maintenance staff, as well as related operations supply costs for laundry and housekeeping supplies, and building repair and maintenance costs.

Response: HHSC disagrees and declines to revise the rule. The purpose of the subareas in §355.318 is to clarify how the current rate components for general administration and operations, dietary and fixed capital assets under the Resource Utilization Groups, Version III (RUG-III) methodology are being transitioned into the non-case mix component under PDPM LTC. HHSC can provide information on how various costs factor into the PDPM LTC methodological rates upon request but does not believe an additional subarea is warranted.

Comment: Several commenters requested the elimination of the Nursing Care Staff Rate Enhancement Program in §355.320 because the spending requirement duplicates the requirement established in §355.304. Furthermore, commenters requested: 1) if the program is not eliminated, HHSC allow for a revised enrollment process so program funds to participating providers could be "level-set" at the time the changes to the program proposed in §355.320 become effective, and 2) the participation levels of all facilities in the state be set to zero so each facility has the opportunity to elect a new participation level, subject to funds allocated to this specific program.

Response: HHSC disagrees and declines to revise the rule. HHSC is preparing an evaluation prior to the 89th Texas Legislature regarding the Direct Care Staff Enhancement Program in accordance with Rider 30(d) of the 2024-25 GAA, House Bill 1, 88th Legislature, Regular Session, 2023 (Article II, HHSC, Rider 30). Rider 30(d) requires HHSC to evaluate the rate enhancement programs paid under Medicaid to providers to in-

crease reimbursements for direct care and attendant care services. HHSC will report on "certain financial information regarding rate enhancement programs, including, but not limited to, the funding impact, by provider type and service, of the operation of the rate enhancement programs, the percentage of providers and services that participate in the programs, the efficacy of the programs in recruiting and retaining the workforce necessary to deliver services, and the cost of participation to providers for complying with the program requirements." HHSC will defer to legislative consideration regarding the continuation of the rate enhancement programs. Any change to open enrollment for the rate enhancement program is outside the scope of this rule proposal.

Comment: Several commenters pointed out that §355.320(d) discusses reporting requirements as they relate to participating families. It appears that (d)(2), (3), and (4) are repeated in paragraphs (d)(5), (6), and (7), respectively. They requested these paragraphs be evaluated to determine if all six paragraphs are necessary.

Response: HHSC agrees and deleted paragraphs (5), (6), and (7) in §355.320(d).

Comment: Several commenters pointed out that §355.320(b)(11) indicates facilities that do not submit a staffing and compensation report within 60 days of the end of the rate year will be placed on vendor hold. The rate year is defined in §355.320(b)(9) as the period from September 1 to August 31. However, §355.320(b)(11) also indicates that a staffing and compensation report would include the activities of the provider "from the first day through the last day of the rate year or provider's cost report year." Several commenters requested clarification on when a vendor hold would be placed on a provider for failure to submit a report and if that report would always be based on the "rate year" or if it would be based on either the rate year or the cost reporting year.

Response: HHSC declines to revise the rule. Providers must submit reports to HHSC to be held accountable for their spending requirements under the Direct Care Staff Enhancement Program. While the rate year for purposes of the program is the state fiscal year, HHSC has allowed providers to submit cost reports on the provider's fiscal year or the state fiscal year. For providers who choose to submit cost reports on a fiscal period that does not align with the program rate year, HHSC may end up holding providers accountable for a particular rate year using two different reports. HHSC does not place providers on vendor hold until at least 15 days after the report due date in accordance with 1 TAC §355.111.

Comment: Several commenters expressed concern that the 60-day requirement to submit a report is not feasible, because providers are often not given access to the cost reporting system used to submit reports for one year or longer after the end of a provider's cost reporting period. This issue is especially concerning under circumstances where a provider has undergone a change of ownership. Providers are subject to vendor hold for any payments that would otherwise occur after notice is given to the state for dates of service prior to the change of ownership. These vendor-hold payments are not released to the provider until all cost and/or accountability reports are submitted and examined by the state. Providers are often not given access to the cost reporting system to even begin their final cost report submission for six to nine months after the effective date of the change of ownership, which creates tremendous cash flow issues for the outgoing provider. Commenters requested the reporting rules described in §355.320 add a requirement that the state ensures cost/accountability report access in the case of a change of ownership within 30 days following the effective date of the change of ownership.

Response: HHSC revised §355.320(b)(11) and (e)(2) to clarify that the providers must submit required reports 60 days from notification of the deadline as determined by HHSC rather than the date of their change of ownership or contract termination.

Comment: Multiple commenters recommended that HHSC remove the proposed clause from 355.318(g)(3) "and to exclude entire cost reports from the reimbursement determination database if there is reason to doubt accuracy or allowability of a significant part of the information reported", and to entirely remove proposed §355.318(g)(3)(A)(i)(II).

Response: HHSC disagrees and declines to revise the rule. HHSC must ensure that the data used to calculate the methodological rates is valid.

Comment: Multiple commenters suggested that HHSC should remove all sections listed under §355.318(g)(3)(B) relating to occupancy adjustments and any other references to occupancy adjustments in the proposed rule, as these provisions are burdensome to rural facilities, and occupancy restrictions are not required by CMS.

Response: HHSC disagrees and declines to revise the rule. The purpose of the occupancy adjustment is to ensure the state reimburses administrative and operations costs for empty Medicaid beds. As mentioned above, HHSC will continue to evaluate the appropriateness of the methodology, including impacts on providers, during the regular biennial fee review process.

Comment: Multiple commenters suggested HHSC should eliminate the requirement listed in §355.320(t)(2) and (3) that aggregation be requested unless the election is included in either the cost report or staff accountable report. They further suggested that aggregation should be automatic with the option for a provider to "opt out" rather than "opt in." Requiring providers to submit an aggregation request annually is administratively burdensome and unnecessary. Automating the aggregation process would reduce paperwork and administrative overhead, allowing providers to focus more on direct patient care.

Response: HHSC disagrees and declines to revise the rule. Aggregation occurs when the provider completes the cost or accountability report by selecting a check box in Step 2 of the report. HHSC allows aggregation as a benefit to providers who are unable to separate business components in their operations. However, aggregation may not be appropriate for all providers.

Comment: One commenter noted their comment was outside the scope of this rule proposal but requested that HHSC endeavor to minimize Long Term Care Medicaid Information (LTCMI) data collection to only the information not available on the MDS.

Response: HHSC agrees this comment is outside of the rule proposal. This comment was shared with agency colleagues who administer the LTCMI for their consideration.

Comment: One commenter suggested that similar spending requirements as outlined in §355.320(u) should apply to hospitals.

Response: This comment is outside the scope of this rule proposal.

HHSC made minor editorial revisions to §355.320 to correct grammar and punctuation.

SUBCHAPTER C. REIMBURSEMENT METHODOLOGY FOR NURSING FACILITIES

1 TAC §§355.304, 355.306 - 355.308, 355.318, 355.320

STATUTORY AUTHORITY

The amendments and new sections are adopted under Texas Government Code §531.033, which authorizes the Executive Commissioner of HHSC to adopt rules necessary to carry out HHSC's duties; Texas Human Resources Code §32.021 and Texas Government Code §531.021(a), which provide HHSC with the authority to administer the federal medical assistance (Medicaid) program in Texas; and Texas Government Code §531.021(b-1), which establishes HHSC as the agency responsible for adopting reasonable rules governing the determination of fees, charges, and rates for Medicaid payments under Texas Human Resources Code Chapter 32.

§355.320. Nursing Care Staff Rate Enhancement Program for Nursing Facilities on or after September 1, 2025.

(a) Introduction. The Texas Health and Human Services Commission (HHSC) establishes the Nursing Care Staff Rate Enhancement Program for Nursing Facilities on or after September 1, 2025. The Nursing Care Staff Rate Enhancement Program for Nursing Facilities established under this section will be implemented pending implementation of the Patient Driven Payment Model (PDPM) for Long-Term Care (LTC), as specified in §355.318 of this subchapter (relating to Reimbursement Setting Methodology for Nursing Facilities on or after September 1, 2025).

(b) Definitions. The following words and terms, when used in this section, have the following meanings unless the context clearly indicates otherwise.

(1) Combined entity--Combined entities consist of one or more commonly owned corporations and one or more limited partnerships, where the general partner is controlled by the same person as the commonly owned corporation.

(2) Commonly owned corporations--Commonly owned corporations are two or more corporations where five or fewer identical persons who are individuals, estates, or trusts control greater than 50 percent of the total voting power in each corporation.

(3) Control--The entity has greater than 50 percent ownership.

(4) Enrollment contract amendment--An acceptable enrollment contract amendment is defined as a legible document requesting a change in enrollment status that has been completed according to instructions, signed by an authorized representative per the HHSC signature authority designation form applicable to the provider's contract or ownership type, and received by HHSC within 30 days of HHSC's notification to the facility that an enrollment contract amendment must be submitted.

(A) An initial enrollment contract amendment is required from each facility choosing to participate in the Nursing Care Staff Rate Enhancement Program.

(B) Participating and nonparticipating facilities may request to modify their enrollment status (i.e., a nonparticipant can request to become a participant, a participant can request to become a nonparticipant, or a participant can request to change its enhancement level) during any open enrollment period.

(C) Nonparticipants and participants requesting to increase their enrollment levels will be limited to increases of three or fewer enhancement levels during any single open enrollment period unless HHSC waives such limits.

(D) Requests to modify a facility's enrollment status during an open enrollment period must be received by HHSC by the last day of the open enrollment period as per paragraph (8) of this subsection.

(i) If the last day of the open enrollment period falls on a weekend, national holiday, or state holiday, then the first business day following the last day of the open enrollment period is the final day the enrollment contract amendment will be accepted.

(ii) An enrollment contract amendment that is not received by the stated deadline will not be accepted.

(iii) A facility from which HHSC has not received an acceptable request to modify its enrollment by the last day of the open enrollment period will continue at the level of participation in effect during the open enrollment period, within available funds. The facility will continue at that level of enrollment until the facility notifies HHSC following subsection (n) of this section that it no longer wishes to participate, or until the facility's enrollment is limited according to subsection (g) of this section.

(E) If HHSC determines that funds are not available to continue participation at the level in effect during the open enrollment period, facilities will be notified as per subsection (v) of this section.

(5) Entity--An entity is a parent company, sole member, individual, limited partnership, or group of limited partnerships controlled by the same general partner.

(6) Nursing care staff base rate--The nursing care staff base rate is equal to the adopted nursing rate component as specified in §355.318 of this subchapter.

(7) Nursing care staff cost center--The nursing care staff cost center is equal to the PDPM LTC nursing rate component as specified in §355.318 of this subchapter.

(8) Open enrollment--Open enrollment begins on the first day of July and ends on the thirty-first day of July, preceding the rate year for which payments are being determined. HHSC notifies providers of open enrollment via email sent to an authorized representative per the signature authority designation form applicable to the provider's contract or ownership type. Requests to modify a provider's enrollment status during an open enrollment period must be received by HHSC by the last day of the open enrollment period through HHSC's enrollment portal or another method designated by HHSC. If the last day of open enrollment is on a weekend day, state holiday, or national holiday, the next business day will be considered the last day requests will be accepted. If open enrollment has been postponed or canceled, HHSC will notify providers by email before the first day of July. Should conditions warrant, HHSC may conduct additional enrollment periods during a rate year.

(9) Rate year--The standard rate year begins on the first day of September and ends on the last day of August of the following year.

(10) Responsible entity--The contracted provider, owner, or legal entity that received the recouped revenue is responsible for the repayment of any recoupment amount.

(11) Staffing and compensation report--A staffing and compensation report is a report reflecting the provider's activities while delivering contracted services from the first day through the last day of the rate year or provider's cost report year while participating

in the Nursing Care Staff Rate Enhancement Program. Staffing and compensation reports and cost reports functioning as staffing and compensation reports will include any information required by HHSC to implement the Nursing Care Staff Rate Enhancement Program. Staffing and compensation reports must be submitted annually or as specified in subsection (d) of this section. Cost and accountability reports requested by HHSC are considered staffing and compensation reports, and preparers must complete mandatory training requirements per §355.102(d) of this subchapter (relating to General Principles of Allowable and Unallowable Costs). Staffing and compensation reports will be used as the basis for determining compliance with the spending requirements and recoupment amounts as described in subsection (k) of this section. Participating facilities failing to submit an acceptable annual staffing and compensation report within 60 days of notification of the due date for the report as determined by HHSC will be placed on vendor hold until an acceptable report is received and processed by HHSC.

(c) Enrollment for new facilities. For purposes of this section, for each rate year, a new facility is defined as a facility delivering its first day of service to a Medicaid recipient after the first day of the open enrollment period, as defined in subsection (b)(8) of this section. Facilities that underwent an ownership change are not considered new facilities. New facilities will receive the nursing rate component as determined in §355.318 of this subchapter with no enhancements. For new facilities specifying their desire to participate in an acceptable enrollment contract amendment, the nursing rate component is adjusted as specified in subsection (j) of this section, effective on the first day of the month following receipt by HHSC of the acceptable enrollment contract amendment. If the granting of newly requested enhancements was limited as per subsection (g) of this section during the most recent enrollment, enrollment for new facilities will be subject to that same limitation.

(d) Reporting requirements.

(1) All participating facilities will provide HHSC, in a method specified by HHSC, an annual staffing and compensation report reflecting the activities of the facility while delivering contracted services from the first day through the last day of the rate year.

(2) When a participating facility changes ownership, the prior owner must submit a staffing and compensation report covering the period from the beginning of the rate year to the date recognized by HHSC or its designee as the ownership-change effective date. This report will be used as the basis for determining any recoupment amounts as described in subsection (k) of this section. The new owner will be required to submit a staffing and compensation report covering the period from the day after the date recognized by HHSC or its designee as the ownership change effective date to the end of the rate year.

(3) Participating facilities whose contracts are terminated either voluntarily or involuntarily must submit a staffing and compensation report covering the period from the beginning of the rate year to the date recognized by HHSC or its designee as the contract termination date. This report will be used as the basis for determining any recoupment amounts as described in subsection (k) of this section.

(4) Participating facilities who voluntarily withdraw from participation as per subsection (n) of this section must submit a staffing and compensation report within 60 days of the due date of the report as determined by HHSC, covering the period from the beginning of the rate year to the date of withdrawal as determined by HHSC. This report will be used as the basis for determining any recoupment amounts as described in subsection (k) of this section.

(5) For new facilities, as defined in subsection (c) of this section, the reporting period will begin with the effective date of participation in enhancement.

(6) Existing facilities that become participants in the enhancement as a result of the open enrollment process described in subsection (b)(8) of this section on any day other than the first day of their fiscal year are required to submit a staffing and compensation report with a reporting period that begins on their first day of participation in the enhancement and ends on the last day of the facility's fiscal year. This report will be used as the basis for determining any recoupment amounts as described in subsection (k) of this section.

(7) A participating provider that is required to submit a staffing and compensation report under this paragraph will be excused from the requirement to submit a report if the provider did not provide any billable services to Medicaid recipients during the reporting period.

(8) Reports must be received before the date the provider is notified of compliance with spending requirements for the report in question as per subsection (k) of this section.

(9) HHSC may require other staffing and compensation reports from all facilities as needed.

(e) Vendor hold. HHSC or its designee will place on hold the vendor payments for any participating facility that does not submit a timely report as described in subsection (d) of this section. This vendor hold will remain in effect until HHSC receives an acceptable report.

(1) Participating facilities that do not submit an acceptable report completed in compliance with all applicable rules and instructions within 60 days of the due dates described in this subsection or, for cost reports, the due dates described in §355.105(b) of this chapter (relating to General Reporting and Documentation Requirements, Methods, and Procedures), will become nonparticipants retroactive to the first day of the reporting period in question and will be subject to immediate recoupment of funds related to participation paid to the facility for services provided during the reporting period in question. These facilities will remain nonparticipants, and recouped funds will not be restored until they submit an acceptable report and repay to HHSC or its designee funds identified for recoupment from subsection (k) of this section. If an acceptable report is not received within 365 days of the due date, the recoupment will become permanent, and if all funds associated with participation during the reporting period in question have been recouped by HHSC or its designee, the vendor hold associated with the report will be released.

(2) Participating facilities with an ownership change or contract termination that do not submit an acceptable report completed in accordance with all applicable rules and instructions within 60 days of notification of the due date for the report as determined by HHSC will become nonparticipants retroactive to the first day of the reporting period in question. These facilities will be subject to an immediate recoupment of funds related to participation paid to the facility for services provided during the reporting period in question. These facilities will remain nonparticipants, and recouped funds will not be restored until they submit an acceptable report and repay to HHSC or its designee funds identified for recoupment from subsection (k) of this section. If an acceptable report is not received within 365 days of the change of ownership or contract termination date, the recoupment will become permanent, and if all funds associated with participation during the reporting period in question have been recouped by HHSC or its designee, the vendor hold associated with the report will be released.

(f) Completion of Reports. All staffing and compensation reports must be completed in compliance with the provisions of

§§355.102 - 355.105 of this chapter (relating to General Principles of Allowable and Unallowable Costs; Specifications for Allowable and Unallowable Costs; Revenues; and General Reporting and Documentation Requirements, Methods, and Procedures, respectively) and may be reviewed or audited in accordance with §355.106 of this chapter (relating to Basic Objectives and Criteria for Audit and Desk Review of Cost Reports). All staffing and compensation reports must be completed by preparers who have attended the required nursing facility cost report training as per §355.102(d) of this chapter.

(g) Enrollment limitations. A facility will not be enrolled in the Nursing Care Staff Rate Enhancement Program at a level higher than the level it achieved on its most recently available audited staffing and compensation report. HHSC will notify a facility of its enrollment limitations (if any) before the first day of the open enrollment period.

(1) Notification of enrollment limitations. The enrollment limitation level is indicated in the State of Texas Automated Information Reporting System (STAIRS), the online application for submitting cost and accountability reports. STAIRS will generate an email to the entity contact, indicating that the facility's enrollment limitation level is available for review. The entity contact is the provider's authorized representative per the signature authority designation form applicable to the provider's contract or ownership type.

(2) Enrollment after a limitation. At no time will a facility be allowed to enroll in the enhancement program at a level higher than its current level of enrollment plus three additional levels unless otherwise instructed by HHSC.

(3) New owners after a change of ownership. Enhancement levels for a new owner after a change of ownership will be determined according to subsection (s) of this section. A new owner will not be subject to enrollment limitations based on the prior owner's performance. This exemption from enrollment limitations does not apply in cases where HHSC or its designee has approved a successor-liability-agreement that transfers responsibility from the former owner to the new owner.

(4) New facilities. A new facility's enrollment will be determined according to subsection (c) of this section.

(h) Determination of nursing care staff component enhancements. HHSC will determine a per diem add-on payment for each nursing rate component enhancement level using data from sources such as cost reports, surveys, or other relevant sources and considering the quality of care, labor market conditions, economic factors, and budget constraints. The nursing rate component enhancement add-ons will be determined on a per-unit-of-service basis. Add-on payments may vary by enhancement level.

(i) Granting of nursing staff rate enhancements. HHSC divides all requested enhancements, after applying any enrollment limitations from subsection (g) of this section, into two groups: pre-existing enhancements that facilities request to carry over from the prior year and newly requested enhancements. Newly requested enhancements may be enhancements requested by facilities that were nonparticipants in the prior year or by facilities that were participants in the prior year, desiring to be granted additional enhancements. Using the process described herein, HHSC first determines the distribution of carry-over enhancements. If HHSC determines that funds are not available to carry over some or all pre-existing enhancements, facilities will be notified as per subsection (v) of this section. If funds are available after the distribution of carry-over enhancements, HHSC then determines the distribution of newly requested enhancements. HHSC may not distribute newly requested enhancements to facilities owing funds identified for recoupment from subsection (k) of this section.

(1) HHSC determines projected Medicaid units of service for facilities requesting each enhancement option and multiplies this number by the rate add-on associated with that enhancement option as determined in subsection (h) of this section.

(2) HHSC compares the sum of the products from paragraph (1) of this subsection to available funds:

(A) if the product is less than or equal to available funds, all requested enhancements are granted; or

(B) if the product is greater than available funds, enhancements are granted beginning with the lowest level of enhancement and granting each successive level of enhancement until requested enhancements are granted within available funds. Based on an examination of existing staffing levels and staffing needs, HHSC may grant certain enhancement options priority for distribution.

(3) Notification of granting of enhancements. Participating facilities are notified of the status of their request for rate enhancements in a manner determined by HHSC.

(4) In cases where more than one enhanced rate level is in effect during the reporting period, the spending requirement will be based on the weighted average enhanced rate level in effect during the reporting period calculated as follows.

(A) Multiply the first enhanced rate level in effect during the reporting period by the most recently available reliable Medicaid days of service utilization data for the time period the first enhanced rate level was in effect.

(B) Multiply the second enhanced rate level in effect during the reporting period by the most recently available reliable Medicaid days of service utilization data for the time period the second enhanced rate level was in effect.

(C) Sum the products from subparagraphs (A) and (B) of this paragraph.

(D) Divide the sum from subparagraph (C) of this paragraph by the sum of the most recently available reliable Medicaid days of service utilization data for the entire reporting period used in subparagraphs (A) and (B) of this paragraph.

(j) Determine each participating facility's total nursing rate component. Each participating facility's total nursing rate component will be equal to the nursing care staff base rate as defined in subsection (b)(6) of this section, plus any add-on payments associated with staffing enhancements selected by and awarded to the facility during open enrollment. HHSC will determine a per diem add-on payment for each enhanced staffing level informed by analysis of the most recently available reliable data relating to staff compensation levels and available appropriations for the program as specified in subsection (h) of this section.

(k) Spending requirements for participants. Participating facilities are subject to a nursing care staff spending requirement with recoupment calculated as follows.

(1) Effective September 1, 2023, HHSC will complete calculations associated with nursing care rate increases and spending requirements in compliance with §355.304 of this subchapter (relating to Direct Care Staff Spending Requirement on or after September 1, 2023).

(2) At the end of the rate year, a spending floor will be calculated by multiplying accrued Medicaid fee-for-service and managed care nursing care staff revenues by 0.70.

(3) Accrued allowable Medicaid nursing care staff fee-for-service expenses for the rate year will be compared to the spending floor from paragraph (2) of this subsection. HHSC or its designee will recoup the difference between the spending floor and accrued allowable Medicaid nursing care staff fee-for-service expenses from facilities whose Medicaid nursing care staff spending is less than their spending floor.

(4) At no time will a participating facility's nursing care rates after spending recoupment be less than the nursing care staff base rates.

(l) Dietary and Fixed Capital Mitigation. Recoupment of funds described in subsection (k) of this section may be mitigated by high dietary and fixed capital expenses as follows.

(1) Calculate dietary cost deficit. At the end of the facility's rate year, accrued Medicaid dietary per diem revenues will be compared to accrued, allowable Medicaid dietary per diem costs. If costs are greater than revenues, the dietary per diem cost deficit will be equal to the difference between accrued, allowable Medicaid dietary per diem costs and accrued Medicaid dietary per diem revenues. If costs are less than revenues, the dietary cost deficit will be equal to zero.

(2) Calculate dietary revenue surplus. At the end of the facility's rate, accrued Medicaid dietary per diem revenues will be compared to accrued, allowable Medicaid dietary per diem costs. If revenues are greater than costs, the dietary per diem revenue surplus will be equal to the difference between accrued Medicaid dietary per diem revenues and accrued, allowable Medicaid dietary per diem costs. If revenues are less than costs, the dietary revenue surplus will be equal to zero.

(3) Calculate fixed capital cost deficit. At the end of the facility's rate year, accrued Medicaid fixed capital asset per diem revenues will be compared to accrued, allowable Medicaid fixed capital asset per diem costs. Allowable fixed capital asset costs are defined in §355.318(d)(4)(C) of this subchapter. If costs are greater than revenues, the fixed capital cost per diem deficit will be equal to the difference between accrued, allowable Medicaid fixed capital per diem costs and accrued Medicaid fixed capital per diem revenues. If costs are less than revenues, the fixed capital cost deficit will be equal to zero. For purposes of this paragraph, fixed capital per diem costs of facilities with occupancy rates below 85 percent are adjusted to the cost per diem the facility would have accrued had it maintained an 85 percent occupancy rate throughout the rate year.

(4) Calculate fixed capital revenue surplus. At the end of the facility's rate year, accrued Medicaid fixed capital asset per diem revenues will be compared to accrued, allowable Medicaid fixed capital asset per diem costs. Allowable fixed capital asset costs are defined in §355.318(d)(4)(C) of this subchapter. If revenues are greater than costs, the fixed capital revenue per diem surplus will be equal to the difference between accrued Medicaid fixed capital per diem revenues and accrued, allowable Medicaid fixed capital per diem costs. If revenues are less than costs, the fixed capital revenue surplus will be equal to zero. For purposes of this paragraph, fixed capital per diem costs of facilities with occupancy rates below 85 percent are adjusted to the cost per diem the facility would have accrued had it maintained an 85 percent occupancy rate throughout the rate year.

(5) Mitigation of a dietary per diem cost deficit. Facilities with a dietary per diem cost deficit will have their dietary per diem cost deficit reduced by their fixed capital per diem revenue surplus, if any. Any remaining dietary per diem cost deficit will be capped at $2.00 per diem.

(6) Mitigation of a fixed capital cost per diem deficit. Facilities with a fixed capital cost per diem deficit will have their fixed capital cost per diem deficit reduced by their dietary revenue per diem surplus, if any. Any remaining fixed capital per diem cost deficit will be capped at $2.00 per diem.

(7) Recoupment calculation. Each facility's recoupment, as calculated in subsection (k) of this section, will be reduced by the sum of that facility's dietary per diem cost deficit, as calculated in paragraph (5) of this subsection, and its fixed capital per diem cost deficit as calculated in paragraph (6) of this subsection.

(m) Adjusting spending requirements. Facilities that determine that they will not be able to meet their spending requirements from subsection (k) of this section may request a reduction in their spending requirements and associated rate add-on. These requests will be effective on the first day of the month following approval of the request.

(n) Voluntary withdrawal. Facilities wishing to withdraw from participation must notify HHSC in writing by certified mail, and the request must be signed by an authorized representative as designated per the HHSC signature authority designation form applicable to the provider's contract or ownership type. Facilities voluntarily withdrawing must remain nonparticipants for the remainder of the rate year. The participation end date for facilities voluntarily withdrawing from the program will be effective on the date of the withdrawal, as determined by HHSC.

(o) Notification of recoupment based on annual staffing and compensation report or cost report. The estimated amount to be recouped is indicated in STAIRS. STAIRS will generate an email to the entity contact, indicating that the facility's estimated recoupment is available for review. If HHSC's subsequent review of the staffing and compensation report results in report adjustments that change the amount to be repaid to HHSC or its designee, the facility's entity contact will be notified by email that the adjustments and the adjusted amount to be repaid are available in STAIRS for review. HHSC or its designee will recoup any amount owed from a facility's vendor payments following the date of the initial or subsequent notification.

(p) Change of ownership and contract terminations.

(1) Facilities required to submit a staffing and compensation report due to a change of ownership or contract termination as described in subsection (d) of this section will have funds held as per 26 TAC §554.210 (relating to Change of Ownership and Notice of Changes) until HHSC receives an acceptable staffing and compensation report and funds identified for recoupment from subsection (k) of this section are repaid to HHSC or its designee. Informal reviews and formal appeals relating to these reports are governed by §355.110 of this chapter(relating to Informal Reviews and Formal Appeals). HHSC or its designee will recoup any amount owed from the facility's vendor payments that are being held. In cases where funds identified for recoupment cannot be repaid from the held vendor payments, the responsible entity, as defined in subsection (b)(10) of this section, will be jointly and severally liable for any additional payment due to HHSC or its designee. Failure to repay the amount due or submit an acceptable payment plan within 60 days of notification will result in the recoupment of the owed funds from other Medicaid contracts controlled by the responsible entity, placement of a vendor hold on all Medicaid contracts controlled by the responsible entity and will bar the responsible entity from receiving any new contracts with HHSC or its designees until repayment is made in full. The responsible entity for these contracts will be notified as described in subsection (o) of this section before the recoupment of owed funds, placement of vendor hold, and barring of new contracts.

(2) Participation in the Nursing Care Staff Rate Enhancement Program transfers to the new owner as defined in 26 TAC §554.210 when there is a change of ownership. The new owner is responsible for the reporting requirements in subsection (d) of this section for any reporting period days occurring after the change. If the change of ownership occurs during an open enrollment period as defined in subsection (b)(8) of this section, then the owner recognized by HHSC or its designee on the last day of the enrollment period may request to modify the enrollment status of the facility.

(q) Failure to document staff spending. Undocumented nursing care staff and contract labor compensation costs will be disallowed and will not be used in the determination of nursing care staff costs per unit of service.

(r) Appeals. The subject matter of informal reviews and formal appeals is limited as per §355.110(a)(3) of this chapter.

(s) Contract cancellations. If a facility's Medicaid contract is canceled before the first day of an open enrollment period as defined in subsection (b)(8) of this section, and the facility is not granted a new contract until after the last day of the open enrollment period, participation in the Nursing Care Staff Rate Enhancement Program as it existed before the cancellation date of the facility's contract will be reinstated when the facility is granted a new contract. The contract must be under the same ownership, and reinstatement is subject to the availability of funding. Any enrollment limitations from subsection (g) of this section that would have applied to the canceled contract will apply to the new contract.

(t) Determination of compliance with spending requirements in the aggregate.

(1) Aggregation. For an entity, commonly owned corporation, or combined entity that controls more than one participating nursing facility contract, compliance with the spending requirements detailed in subsection (k) of this section can be determined in the aggregate for all participating nursing facility contracts controlled by the entity, commonly owned corporations, or combined entity at the end of the rate year, the effective date of the change of ownership of its last participating contract, or the effective date of the termination of its last participating contract rather than requiring each contract to meet its spending requirement individually. Corporations that do not meet the definitions under subsection (b) of this section are not eligible for aggregation to meet spending requirements.

(2) Aggregation Request. To exercise aggregation, the entity, combined entity, or commonly owned corporations must submit an aggregation request in a manner prescribed by HHSC when each staffing and compensation report is submitted. In limited partnerships in which the same single general partner controls all the limited partnerships, the single general partner must make this request. Other such aggregation requests will be reviewed on a case-by-case basis.

(3) Frequency of Aggregation Requests. The entity, combined entity, or commonly owned corporation must submit a separate request for aggregation for each reporting period.

(4) Ownership changes or terminations. Nursing facility contracts that change ownership or terminate, effective after the end of the applicable reporting period but before the determination of compliance with spending requirements as per subsection (k) of this section, are excluded from all aggregate spending calculations. These contracts' compliance with spending requirements will be determined on an individual basis, and the costs and revenues will not be included in the aggregate spending calculation.

(u) Medicaid Swing Bed Program for Rural Hospitals. When a rural hospital participating in the Medicaid swing bed program furnishes nursing care to a Medicaid recipient under 26 TAC §554.2326 (relating to Medicaid Swing Bed Program for Rural Hospitals), HHSC or its designee pays the hospital using the same procedures, the same case-mix methodology, and the same PDPM LTC rates that HHSC authorizes for reimbursing nursing facilities receiving the nursing rate component with no enhancement levels. These hospitals are not subject to the staffing and spending requirements detailed in this section.

(v) Notification of lack of available funds. If HHSC determines that funds are not available to continue participation for facilities from which it has not received an acceptable request to modify their enrollment by the last day of an enrollment period as per subsection (b)(8) of this section or to fund carry-over enhancements as per subsection (i) of this section, HHSC will notify providers in a manner determined by HHSC that such funds are not available.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 23, 2024

TRD-202403906
Karen Ray
Chief Counsel
Texas Health and Human Services Commission
Effective date: September 12, 2024
Proposal publication date: May 3, 2024
For further information, please call: (737) 867-7817

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1 TAC §355.309, §355.314

STATUTORY AUTHORITY

The repeals are adopted under Texas Government Code §531.033, which authorizes the Executive Commissioner of HHSC to adopt rules necessary to carry out HHSC's duties; Texas Human Resources Code §32.021 and Texas Government Code §531.021(a), which provide HHSC with the authority to administer the federal medical assistance (Medicaid) program in Texas; and Texas Government Code §531.021(b-1), which establishes HHSC as the agency responsible for adopting reasonable rules governing the determination of fees, charges, and rates for Medicaid payments under Texas Human Resources Code Chapter 32.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Karen Ray
Chief Counsel
Texas Health and Human Services Commission
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Proposal publication date: May 3, 2024
For further information, please call: (737) 867-7817

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TITLE 19. EDUCATION

PART 2. TEXAS EDUCATION AGENCY

CHAPTER 97. PLANNING AND ACCOUNTABILITY
SUBCHAPTER EE. ACCREDITATION STATUS, STANDARDS, AND SANCTIONS
DIVISION 1. STATUS, STANDARDS, AND SANCTIONS

19 TAC §§97.1055, 97.1057, 97.1059, 97.1067, 97.1069, 97.1073

The Texas Education Agency (TEA) adopts amendments to §§97.1055, 97.1057, 97.1059, 97.1067, 97.1069, and 97.1073, concerning accreditation status, standards, and sanctions. The amendments are adopted without changes to the proposed text as published in the May 24, 2024 issue of the *Texas Register* (49 TexReg 3689) and will not be republished. The adopted amendments establish that a superintendent appointed in conjunction with a board of managers assumes office immediately upon appointment and update cross references to statute and other administrative rules.

REASONED JUSTIFICATION: The adopted amendments to §97.1055 and §97.1059 update the references to the title of 19 TAC Chapter 157, Hearings and Appeals, Subchapter EE, which was changed from "Informal Review, Formal Review, and Review by State Office of Administrative Hearings" to "Informal Review, Hearing Following Investigation, and Review by State Office of Administrative Hearings" effective April 6, 2022.

Adopted changes to §97.1055 also update the references to 19 TAC §97.1005, Results Driven Accountability, which was repealed and incorporated into 19 TAC §97.1001, Accountability Rating System, effective November 14, 2023.

The adopted amendment to §97.1057 updates statutory references to align with House Bill 3, 86th Texas Legislature, 2019, which transferred and redesignated Texas Education Code (TEC), §42.258, to TEC, §48.272. The adopted amendment also updates a cross reference to 19 TAC §100.1023, Intervention Based on Charter Violations, which is proposed to be renumbered to 19 TAC §100.1045.

The adopted amendments to §97.1067 and §97.1069 update statutory references to align with Senate Bill 1488, 85th Texas Legislature, Regular Session, 2017, which transferred and redesignated TEC, §39.107, to TEC, §§39A.152-39A.159, and transferred and redesignated TEC, §39.108, to TEC, §39A.901.

The adopted amendment to §97.1073 establishes that a superintendent appointed in conjunction with a board of managers assumes office immediately upon appointment to clarify when the appointed superintendents take on their responsibilities.

SUMMARY OF COMMENTS AND AGENCY RESPONSES: The public comment period on the proposal began May 24, 2024, and ended June 24, 2024. No public comments were received.

STATUTORY AUTHORITY. The amendments are adopted under Texas Education Code, (TEC), §39.051, which requires the commissioner of education to determine accreditation statuses; TEC, §39.052, which establishes the requirements for the commissioner to consider when determining accreditation statuses; TEC, §39A.152, which establishes eligibility requirements an entity to be an alternative manager of a campus; TEC, §39A.153, which establishes requirements for contracting with an alternative managing entity; TEC, §39A.154, which allows the commissioner to require a district to extend a contract with a management entity; TEC, §39A.155, which establishes requirements for evaluating the performance of a management entity; TEC, §39A.156, which establishes the conditions under which a management contract must be cancelled; TEC, §39A.157, which establishes requirements for returning the management of a school district back to the board of trustees; TEC, §39A.158, which establishes that campuses operated by a managing entity are still subject to TEC, Chapters 39 and 39A; TEC, §39A.159, which establishes that the funding for a campus operated by a managing entity may not be less than other campuses in the same district; TEC, §39A.202, which requires the commissioner to appoint a district superintendent when appointing a board of managers; and TEC, §39A.901, which requires the commissioner to annually review the performance of school district or campus undergoing interventions, sanctions, or alternative management to determine appropriate actions.

CROSS REFERENCE TO STATUTE. The amendments implement Texas Education Code, §§39.051, 39.052, 39A.152-39A.159, 39A.202, and 39A.901.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 21, 2024.

TRD-202403848
Cristina De La Fuente-Valadez
Director, Rulemaking
Texas Education Agency
Effective date: September 10, 2024
Proposal publication date: May 24, 2024
For further information, please call: (512) 475-1497

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CHAPTER 127. TEXAS ESSENTIAL KNOWLEDGE AND SKILLS FOR CAREER DEVELOPMENT AND CAREER AND TECHNICAL EDUCATION

The State Board of Education (SBOE) adopts new §§127.30, 127.45 - 127.58, 127.86, 127.87, 127.795, 127.796, 127.887 - 127.890, and 127.920, concerning Texas Essential Knowledge and Skills (TEKS) for career development and career and technical education (CTE). Sections 127.30, 127.45 - 127.58, 127.795, 127.889, 127.890, and 127.920 were adopted with changes to the proposed text as published in the March 1, 2024 issue of the *Texas Register* (49 TexReg 1185) and will be republished. Sections 127.86, 127.87, 127.796, 127.887, and 127.888 were adopted without changes to the proposed text as published in the March 1, 2024 issue of the *Texas Register* (49 TexReg 1185) and will not be republished. The new sections update and add new TEKS for courses in the agribusiness, animal science, plant science, and aviation maintenance programs of study as well as update TEKS for two science, technology, engineering, and mathematics (STEM) courses that may satisfy science graduation requirements to ensure the content of the courses remains current and supports relevant and meaningful programs of study.

REASONED JUSTIFICATION: In accordance with statutory requirements that the SBOE identify by rule the essential knowledge and skills of each subject in the required curriculum, the

SBOE follows a board-approved cycle to review and revise the essential knowledge and skills for each subject.

During the November 2022 meeting, the SBOE approved a timeline for the review of CTE courses for 2022-2025. Also at the meeting, the SBOE approved a specific process to be used in the review and revision of the CTE TEKS. The CTE-specific process largely follows the process for TEKS review for other subject areas but was adjusted to account for differences specific to CTE. The 2022-2025 CTE cycle identified two reviews, beginning with the winter 2023 review of a small group of courses in career preparation and entrepreneurship. An abbreviated version of the new CTE TEKS review process was used for the winter 2023 review. The second review in the 2022-2025 CTE TEKS review cycle began in summer 2023. The complete CTE TEKS review process was used for the summer 2023 CTE TEKS review.

Applications to serve on the summer 2023 CTE TEKS review work groups were collected by the Texas Education Agency (TEA) from February through July 2023. TEA staff provided SBOE members with batches of applications for approval to serve on a CTE work group in April and May 2023. Work groups were convened to develop recommendations for the CTE courses in May, June, August, and September 2023.

The adoption ensures the standards for agribusiness, animal science, plant science, aviation maintenance, and STEM courses that may satisfy science graduation requirements remain current and support relevant and meaningful programs of study. A discussion item regarding proposed revisions to the TEKS for these courses was presented to the Committee of the Full Board at the November 2023 SBOE meeting. The work groups met for a final time in November-December 2023 to address feedback from the SBOE and others and to finalize their recommendations for the new standards.

Adopted new TEKS for 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 were approved for first reading and filing authorization at the January-February 2024 SBOE meeting.

The following changes were made since approved for first reading and filing authorization.

The student expectations in §§127.30(d)(1)(E), 127.45(d)(1)(E), 127.48(d)(1)(E), 127.49(d)(1)(E), 127.50(d)(1)(E), and 127.55(d)(1)(E) were amended to read, "describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy."

The student expectations in §§127.46(d)(1)(E), 127.47(d)(1)(E), 127.51(d)(1)(E), 127.52(d)(1)(E), 127.53(d)(1)(E), 127.54(d)(1)(E), 127.56(d)(1)(E), 127.57(d)(1)(E), and 127.58(d)(1)(E) were replaced with new student expectations to read, "describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy."

The student expectation in §127.46(d)(4)(B) was amended by adding "domestic and" before "global context."

A new student expectation was added in §127.58(d)(18)(C) to read, "explain growing plants without soil (hydroponic techniques)."

A new student expectation was added in §127.58(d)(18)(D) to read, "evaluate advantages and disadvantages of hydroponics."

The course title for §127.795 changed from Applied Physics and Engineering (One Credit), Adopted 2024 to Physics for Engineering (One Credit), Adopted 2024.

The student expectation in §127.889(d)(6)(C) was amended by adding the term "foreign object debris" to clarify the meaning of the acronym "FOD."

The student expectation in §127.889(d)(20)(H) was amended by replacing the acronym "FOD" with the terms "foreign object debris" and "foreign object damage."

A new student expectation was added in §127.890(d)(18)(E) to read, "identify cotter pin requirements and techniques."

A new student expectation was added in §127.890(d)(19)(C) to read, "install cotter pins on hardware such as nuts and bolts."

The student expectation in §127.890(d)(20)(J) was amended by adding the acronym "FOD" after the term "foreign object damage."

The student expectation in §127.890(d)(21)(A) was amended by adding the acronym "FOD" after the term "foreign object damage."

The SBOE approved the new sections for first reading and filing authorization at its February 2, 2024 meeting and for second reading and final adoption at its April 12, 2024 meeting.

In accordance with Texas Education Code, §7.102(f), the SBOE approved the new sections for adoption by a vote of two-thirds of its members to specify an effective date earlier than the beginning of the 2024-2025 school year. The earlier effective date will enable districts to begin preparing for implementation of the revised agriculture, food, and natural resources; aviation maintenance; and STEM TEKS. The effective date is 20 days after filing as adopted with the Texas Register.

SUMMARY OF COMMENTS AND RESPONSES: The public comment period on the proposal began March 1, 2024, and ended at 5:00 p.m. on April 1, 2024. The SBOE also provided an opportunity for registered oral and written comments at its April 2024 meeting in accordance with the SBOE board operating policies and procedures. Following is a summary of the public comments received and corresponding responses.

Comment. One teacher suggested that §127.30, Principles of Agriculture, Food, and Natural Resources, should be a required prerequisite instead of a recommended prerequisite for courses in the agriculture, food, and natural resources (AFNR) career cluster.

Response. The SBOE disagrees and has determined that the Principles of Agriculture, Food, and Natural Resources course is appropriate as a recommended prerequisite for courses in the AFNR career cluster as proposed.

Comment. One teacher stated that §127.50, Small Animal Management, should be increased from one-half credit to one credit.

Response. The SBOE disagrees and has determined that one credit is the appropriate amount of credit for the Small Animal Management course as proposed.

Comment. One community member suggested adding a student expectation about corrosion control under the knowledge and skills statement §127.888(d)(2), relating to Aircraft Airframe Technology.

Response. The SBOE disagrees and has determined that corrosion control is sufficiently addressed in the knowledge and skills statements in §127.890(d)(22) and (23), relating to Aircraft Maintenance Technology, which is a prerequisite for Aircraft Airframe Technology.

Comment. One community member suggested adding a student expectation on the importance of an electrical ground path under the knowledge and skills statement in §127.888(d)(12) or (22), relating to Aircraft Airframe Technology.

Response. The SBOE disagrees and has determined that the importance of an electrical ground path is sufficiently addressed under the student expectation in §127.890(d)(6)(A), relating to Aircraft Maintenance Technology, which is a prerequisite for Aircraft Airframe Technology.

Comment. One community member suggested adding a student expectation on how to read a multimeter and troubleshoot wire shorts and intermediate faults under the knowledge and skills statement in §127.888(d)(22), relating to Aircraft Airframe Technology.

Response. The SBOE disagrees and has determined that how to read a multimeter and troubleshoot wire shorts and intermediate faults are sufficiently addressed in the student expectation in §127.890(d)(7)(A), relating to Aircraft Maintenance Technology, which is a prerequisite for Aircraft Airframe Technology.

Comment. One community member suggested adding a student expectation on the use of a torque wrench, safety wire, and cotter pin to the Aircraft Airframe Technology course.

Response. The SBOE disagrees that the use of a torque wrench and safety wire are necessary. Both are sufficiently covered in the student expectations in §127.890(d)(16)(C), (18)(G), and (19)(D), relating to Aircraft Maintenance Technology. However, the SBOE agrees that it is important to include information on cotter pins and took action to add new §127.890(d)(18)(E) to read, "identify cotter pin requirements and techniques" and new §127.890(d)(19)(C) to read, "install cotter pins on hardware such as nuts and bolts."

Comment. One community member expressed concern that the amount of credit students would earn for the proposed new CTE courses in aviation maintenance may not be sufficient considering the research and skill application required in the courses.

Response. The SBOE disagrees and has determined that the amount of credit for the aviation maintenance courses is appropriate as proposed.

Comment. One community member asked if the student expectations under §127.887(d)(2), Introduction to Aircraft Technology, include discussion of dangerous good shipping.

Response. The SBOE provides the following clarification. Student expectations under §127.887(d)(2), Introduction to Aircraft Technology, do not explicitly include dangerous good shipping because the topic is not included in the airman certification standards for aviation maintenance.

Comment. One community member asked if the student expectations under §127.887(c)(4) include discussion of salary potential.

Response. The SBOE provides the following clarification. Student expectations in §127.887(c)(4), Introduction to Aircraft Technology, do not address the topic of salary potential. However, salary potential is appropriately included in the student expectation in §127.920(d)(1)(H), relating to Advanced Transportation Systems Laboratory.

Comment. One community member asked if the student expectation in §127.887(d)(2)(C), relating to Introduction to Aircraft Technology, is referencing paper or electronic research.

Response. The SBOE provides the following clarification. Section 127.887(d)(2)(C) does not specify paper or electronic research; therefore, the mode of research may be determined by the classroom teacher or local education agency.

Comment. One administrator expressed agreement with the proposed revisions to the CTE TEKS.

Response. The SBOE agrees and took action to adopt the proposed new CTE TEKS as amended.

Comment. One community member expressed support for the proposed new CTE TEKS in aviation maintenance.

Response. The SBOE agrees and took action to adopt the proposed new CTE TEKS in aviation maintenance as amended.

SUBCHAPTER C. AGRICULTURE, FOOD, AND NATURAL RESOURCES

19 TAC §§127.30, 127.45 - 127.58, 127.86, 127.87

STATUTORY AUTHORITY. The new sections are adopted 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(j), which allows the SBOE by rule to require laboratory instruction in secondary science courses and require a specific amount or percentage of time in a secondary science course that must be laboratory instruction; 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 the TEC, §28.002; and TEC, §28.025(b-2)(2), which requires the SBOE to allow a student by rule to comply with the curriculum requirements for the third and fourth mathematics credits under TEC, §28.025(b-1)(2), or the third and fourth science credits under TEC, §28.025(b-1)(3), by successfully completing a CTE course designated by the SBOE as containing substantially similar and rigorous content.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), and (j); and 28.025(a) and (b-2)(2).

§127.30. Principles of Agriculture, Food, and Natural Resources (One Credit), Adopted 2024.

(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 Agriculture, Food, and Natural Resources Career Cluster focuses on the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products and resources.

(3) In Principles of Agriculture, Food, and Natural Resources, students explore major areas of agriculture, food, and natural resources, including organizations, agribusiness leadership and communications, plant science, animal science, food science and technology, agricultural technology and mechanical systems, and environmental and natural resources. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, 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 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) identify career development, education, and entrepreneurship opportunities in agriculture, food, and natural resources;

(B) identify and demonstrate interpersonal, problem-solving, and critical-thinking skills in agriculture, food, and natural resources;

(C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;

(D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;

(E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and

(F) identify training, education, and certification requirements for occupational choices in agriculture, food, and natural resources.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student understands the agriculture industry in Texas and the United States. The student is expected to:

(A) identify top agricultural commodities, exports, and imports in Texas and the United States; and

(B) identify regions of commodity production such as regions that produce livestock, corn, wheat, dairy products, and cotton and explain the correlation between the region and the commodity.

(5) The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:

(A) define agriculture and identify the sectors of the agriculture industry;

(B) analyze the impact agriculture, food, and natural resources have on society;

(C) identify and explain significant historical and current events that have impacted the agriculture industry;

(D) identify issues that may impact agriculture, food, and natural resources systems, including related domestic and global systems, now and in the future;

(E) identify and discuss major innovations in the fields of agriculture, food, and natural resources;

(F) describe how emerging technologies such as online mapping systems, drones, and robotics impact agriculture, food, and natural resources; and

(G) compare how different issues such as biotechnology, employment, safety, environmental, and animal welfare issues impact agriculture, food, and natural resources industries.

(6) The student understands opportunities for leadership development in student organizations within agriculture, food, and natural resources. The student is expected to:

(A) describe the history, structure, and development of and opportunities in student organizations in the agriculture, food, and natural resources career cluster;

(B) develop and demonstrate leadership and personal growth skills and collaborate with others to accomplish organizational goals and objectives; and

(C) demonstrate use of parliamentary procedures when conducting meetings.

(7) The student identifies opportunities for involvement in professional agricultural organizations. The student is expected to:

(A) discuss the role of agricultural organizations in formulating public policy;

(B) develop strategies for effective participation in agricultural organizations; and

(C) identify and discuss the purpose of various professional agricultural organizations.

(8) The student demonstrates skills related to agribusiness, leadership, and communications. The student is expected to:

(A) demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations;

(B) identify and demonstrate effective customer service skills, including appropriate listening techniques and responses; and

(C) explain the impact of marketing and advertising on the agricultural industry.

(9) The student applies a scientific process to agriculture, food, and natural resources topics. The student is expected to:

(A) identify and select an important agricultural issue, question, or principle;

(B) develop and test a hypothesis for the selected issue, question, or principle;

(C) collect and analyze data for the selected agricultural issue, question, or principle; and

(D) present findings and conclusions based on research performed using scientific practices.

(10) The student applies problem-solving, mathematical, and organizational skills to maintain financial or logistical records. The student is expected to:

(A) identify the components of and develop a formal business plan for an agricultural enterprise; and

(B) develop, maintain, and analyze records for an agricultural enterprise.

(11) The student develops technical knowledge and skills related to plant and soil systems. The student is expected to:

(A) define plant and soil science and analyze the relevance of horticulture, agronomy, forestry, and floriculture;

(B) identify the components and properties of soils;

(C) describe the basic structure and functions of plant parts;

(D) identify and use techniques for plant germination, growth, and development; and

(E) identify and use tools, equipment, and personal protective equipment common to plant and soil systems.

(12) The student develops technical knowledge and skills related to animal systems. The student is expected to:

(A) define animal science and analyze the relevance of animal selection, production, and marketing in the industry;

(B) analyze the roles and how animals benefit the agriculture industry;

(C) identify basic external anatomy of animals in agriculture;

(D) identify and classify breeds of livestock; and

(E) identify and use tools, equipment, and proper handling techniques related to animal systems.

(13) The student describes the principles of food products and processing systems. The student is expected to:

(A) identify food products and processing systems;

(B) identify emerging technologies and trends in domestic and global food production;

(C) compare various food labels;

(D) discuss current issues in food production; and

(E) identify and use tools, equipment, and personal protective equipment common to food products and processing systems.

(14) The student safely performs skills related to agricultural technology and mechanical systems. The student is expected to:

(A) identify the major disciplines of agricultural technology and mechanical systems;

(B) demonstrate basic measuring practices with accuracy;

(C) create a bill of materials and a technical drawing for a proposed agricultural engineering project;

(D) identify common building tools, materials, and fasteners; and

(E) identify and use tools, equipment, and personal protective equipment common to agricultural technology and mechanical systems.

(15) The student explains the principles of environmental and natural resources. The student is expected to:

(A) identify natural resources of economic importance to Texas agriculture;

(B) explain the relationship between agriculture and environmental and natural resources;

(C) identify and describe regulations and governmental programs related to environmental and natural resources, including water regulations, pesticide usage, and hunting and fishing laws;

(D) identify and compare alternative energy sources that stem from or impact environmental and natural resources; and

(E) identify and compare energy and water conservation methods.

§127.45. Professional Standards and Communication in Agribusiness (One Credit), Adopted 2024.

(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 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Professional Standards and Communication in Agribusiness focuses on leadership, communication, employer-employee relations, and problem solving as they relate to agribusiness. To prepare for careers in agribusiness systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to leadership development and communications in agriculture, and develop knowledge and skills regarding agricultural career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

(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) identify career development, education, and entrepreneurship opportunities in the field of agribusiness;

(B) identify and demonstrate interpersonal, problem-solving, and critical-thinking skills used in agriculture, food, and natural resources industries;

(C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;

(D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;

(E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and

(F) identify training, education, and certification requirements for occupational choices.

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

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

(B) apply proper record-keeping skills as they relate to the supervised agricultural experience program.

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student analyzes the professional development skills needed to be an effective leader in agribusiness. The student is expected to:

(A) describe the importance of positive self-concept, social skills, and maintaining a professional image;

(B) analyze various leadership styles;

(C) prepare a professional resume, letters of interest, employment applications, and follow-up communications related to the hiring process; and

(D) explain the interpersonal skills needed to work cooperatively with others.

(5) The student evaluates employer and employee responsibilities for occupations in agriculture, food, and natural resources. The student is expected to:

(A) identify and discuss work-related and agribusiness-related ethics;

(B) identify and practice job interview skills; and

(C) outline complaint and appeal processes in the workplace.

(6) The student communicates effectively through various mediums with groups and individuals. The student is expected to:

(A) describe elements of effective communication such as accuracy, relevance, rhetoric, and organization in informal, group discussions; formal presentations; and business-related, technical communication;

(B) describe how the style and content of spoken language varies in different contexts and can influence the listener's understanding;

(C) evaluate elements of oral presentations such as delivery, vocabulary, length, and purpose;

(D) modify presentations based on audience;

(E) identify elements of appropriate professional communications in agribusiness such as correct usage of grammar and punctuation;

(F) explain the importance of communicating factual and unbiased data and information obtained from reliable sources;

(G) identify and demonstrate effective nonverbal communication skills and listening strategies; and

(H) analyze and discuss the importance of relationships and organization for effective communication within groups.

(7) The student understands the dynamics of group collaboration. The student is expected to:

(A) explain the significance of personal and group goals;

(B) apply various leadership traits to solve problems when leading a group;

(C) discuss the importance of time management and teamwork;

(D) outline the steps in the decision-making and problem-solving processes; and

(E) demonstrate an understanding of parliamentary procedures by conducting or actively participating in a meeting.

(8) The student applies principles of design in visual media as they relate to agriculture. The student is expected to:

(A) explain the purpose of visual media;

(B) identify principles of design for visual media;

(C) create designs such as web design or print design for a targeted purpose in agribusiness; and

(D) interpret, evaluate, and justify artistic decisions in visual media related to agribusiness.

(9) The student demonstrates journalistic writing in agriculture. The student is expected to:

(A) differentiate between news, feature, and opinion writing;

(B) identify different forms of journalistic writing such as feature story, press release, and editorials; and

(C) create different forms of journalistic writing for a topic in agribusiness using the drafting process, including layout, selection, revisions, and editing.

(10) The student identifies new media being used in agriculture. The student is expected to:

(A) identify effective use of emerging technology in agricultural communications;

(B) propose a media campaign for an agricultural product or business;

(C) distinguish between appropriate and inappropriate uses of media; and

(D) identify key concepts related to digital citizenship and demonstrate appropriate use of technology for the workplace.

(11) The student examines media laws and ethics related to agricultural communications. The student is expected to:

(A) define free speech, free press, defamation, and libel within communications;

(B) identify and explain media laws applicable to various agricultural communications;

(C) identify and discuss ethical considerations related to media; and

(D) evaluate and practice safe, legal, and responsible use of communication technologies.

(12) The student examines crisis management and risk communication in agricultural communications. The student is expected to:

(A) differentiate between crisis and risk communication;

(B) create an outline for a crisis communication plan in agriculture; and

(C) analyze communication techniques, relevant communication networks, and organization communication strategies before, during, and after a crisis.

§127.46. Agribusiness Management and Marketing (One Credit), Adopted 2024.

(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 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Agribusiness Management and Marketing is designed to provide a foundation to agribusiness management and the free enterprise system. Instruction includes the use of economic principles such as supply and demand, budgeting, record keeping, finance, risk management, business law, marketing, and careers in agribusiness. To prepare for careers in agribusiness systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to agribusiness marketing and management and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

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

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student recognizes and explains roles within organizations, inter-organizational systems, and the larger environment. The student is expected to:

(A) identify how organizational systems affect performance and the quality of products and services related to agriculture, food, and natural resources;

(B) research and describe the domestic and global context of agricultural industries and careers;

(C) describe the nature and types of agribusiness organizations; and

(D) identify the sectors of agribusiness such as production, processing, and distribution.

(5) The student examines critical aspects of career opportunities in one or more agriculture, food, and natural resources careers. The student is expected to:

(A) research job descriptions for one or more careers in agriculture, food, and natural resources and analyze labor market trends for the selected career(s); and

(B) identify educational and credentialing requirements for one or more careers in agriculture, food, and natural resources.

(6) The student defines and examines agribusiness management and marketing and its importance to agriculture and the economy. The student is expected to:

(A) describe different roles and functions of management and leadership in agribusiness;

(B) analyze the impact of management and marketing on the production, processing, and distribution of agricultural products;

(C) identify key economic principles of free enterprise;

(D) explain the impact of key economic principles in agribusiness;

(E) analyze the economic opportunities of agribusiness in a selected market or region; and

(F) identify how agribusiness management and marketing impact consumer and market trends.

(7) The student explains the importance of maintaining records and budgeting in agribusiness. The student is expected to:

(A) maintain and analyze agribusiness records such as payroll, employee benefits, inventories, financial statements, and balance sheets to make informed business decisions;

(B) research and identify loan and financing opportunities in agribusiness;

(C) compare methods of capital resource acquisition as it pertains to agriculture; and

(D) apply a cost-benefit analysis to a budget for an agricultural business.

(8) The student describes issues related to government policy and seeks opportunities to eliminate barriers for all stakeholders. The student is expected to:

(A) analyze methods of decision making;

(B) identify and examine the effects of government policies and regulations in making management decisions;

(C) describe the role of human resources in ensuring equality in the workplace;

(D) identify employee rights and laws pertaining to the workplace; and

(E) identify the rights and responsibilities of land and property ownership such as uses, taxes, wills, and liabilities.

(9) The student describes the marketing of agricultural products. The student is expected to:

(A) describe the purpose and importance of marketing agricultural products;

(B) develop a marketing plan for an agricultural business or product;

(C) compare various agribusiness markets and influence factors;

(D) identify methods used in agriculture for managing risk; and

(E) identify and analyze trends in agricultural commodity markets.

(10) The student understands the efficiency aspects of agribusiness management. The student is expected to:

(A) develop agricultural management and financial documents using management software or information technology;

(B) identify components of and develop an agribusiness entrepreneurial plan;

(C) identify components of and develop an agribusiness financial management plan; and

(D) create and present an agriculture business proposal.

§127.47. Agricultural Leadership, Research, and Communications (One Credit), Adopted 2024.

(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. Prerequisite: one credit from the courses in the Agriculture, Food, and Natural Resources Career Cluster. Recommended prerequisite: 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 production, processing, marketing, distribution,

financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Agricultural Leadership, Research, and Communications focuses on challenging students to use higher level thinking skills, develop leadership abilities, and develop and communicate agricultural positions effectively with all stakeholders. To prepare for careers in agriculture, food, and natural resources, students must attain academic knowledge and skills, acquire technical knowledge and skills related to the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and applying technologies 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 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) 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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student researches the qualities and characteristics of effective leaders within the agricultural industry. The student is expected to:

(A) identify past agricultural leaders, explain contributions made by these leaders, and define the impact of their contributions on the agricultural industry;

(B) compare characteristics of effective leaders and explain how these traits enabled them to enact meaningful change; and

(C) analyze and present the leadership skills of a leader in the field of agriculture.

(5) The student describes organizational leadership structures at the local, state, and national levels. The student is expected to:

(A) identify agricultural or governmental leadership positions at the local, state, and national levels;

(B) explain how individuals in leadership positions and their decisions impact the agricultural industry;

(C) explain the processes by which laws, regulations, and policies are developed at the local, state, and national levels; and

(D) evaluate a recent law affecting agriculture, food, and natural resources and analyze the impact of that law on local agriculture.

(6) The student develops skills needed to participate effectively in an organizational meeting. The student is expected to:

(A) describe parliamentary laws, motions, and other procedures;

(B) apply parliamentary procedures to conduct organizational meetings;

(C) debate and discuss issues in a clear, concise, and professional manner;

(D) serve as presiding officer over an actual or mock organizational meeting; and

(E) analyze an organizational meeting such as a chapter, a district, an area, or a state meeting or a local board meeting and make recommendations to increase the meeting's overall efficiency and effectiveness.

(7) The student demonstrates an agriculture-related technical skill to stakeholders. The student is expected to:

(A) examine the components of an effective skills demonstration and create a list of essential characteristics;

(B) identify an agricultural skill, develop detailed instructions for performing that skill, and demonstrate the skill with proficiency;

(C) analyze the performance of a pre-identified skill and make recommendations to increase the performance for overall efficiency and effectiveness; and

(D) explain the relevance of real-world applications for the demonstration process.

(8) The student asks questions, identifies problems, and conducts investigations to answer questions in agriculture. The student is expected to:

(A) explain the importance of using scientific processes;

(B) ask questions and define problems based on observations or data;

(C) collect, organize, and analyze quantitative and qualitative data; and

(D) present findings and conclusions based on research performed using scientific processes.

(9) The student examines the use of logic in debate and analysis of current issues impacting the agricultural community. The student is expected to:

(A) identify the rules and responsibilities of the affirmative and negative positions in a debate;

(B) construct logical affirmative and negative cases in a debate using a variety of approaches; and

(C) present an argument free of logical fallacies on a current agricultural issue.

(10) The student examines an agricultural topic to develop an advocacy communication plan. The student is expected to:

(A) identify and research controversial areas of agriculture;

(B) identify and analyze all sides of a controversial agricultural issue;

(C) develop an advocacy communication plan that addresses both supporting and opposing arguments; and

(D) present the advocacy communication plan to an audience.

(11) The student presents and communicates agricultural information using various media. The student is expected to:

(A) identify historical and current media outlets;

(B) research and write agricultural articles for publication in print media outlets;

(C) develop and record scripts for radio broadcasts or podcast productions to effectively communicate agricultural information using technology;

(D) develop scripts for video broadcasts and communicate agricultural information effectively using a video broadcast;

(E) examine and critique various media platforms; and

(F) communicate agricultural information in a responsible, professional manner via media.

(12) The student communicates agricultural information by means of presentations to groups of various sizes. The student is expected to:

(A) select appropriate tone, language, and content for an intended audience;

(B) plan, develop, and deliver effective presentations; and

(C) critique agricultural presentations given by self or others for structure, transitions, evidence, and details.

(13) The student evaluates and critiques agricultural informational resources. The student is expected to:

(A) identify processes used in the evaluation of a variety of agricultural resources;

(B) evaluate agricultural resources for credibility, bias, and accuracy;

(C) evaluate and compare agricultural resources and make professional decisions using reliable research resources; and

(D) explain and defend decisions made in the evaluation of agricultural resources.

(14) The student understands the importance of agricultural education. The student is expected to:

(A) identify and examine historical and present-day agricultural education;

(B) identify and research individuals, governmental agencies, and advocacy groups that are responsible for agricultural information dissemination and education; and

(C) explain the importance of agricultural education.

§127.48. Equine Science (One-Half Credit), Adopted 2024.

(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 Agriculture, Food, and Natural Resources. Students shall be awarded one-half 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) In Equine Science, students acquire knowledge and skills related to the equine industry. Equine Science may address topics related to horses, donkeys, and mules. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to equine systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

(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) identify career development, education, and entrepreneurship opportunities in the field of equine science;

(B) identify and demonstrate interpersonal, problem-solving, and critical-thinking skills used in equine science;

(C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;

(D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;

(E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and

(F) identify training, education, and certification requirements for occupational choices.

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

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

(B) use appropriate record-keeping skills as they relate to the supervised agricultural experience program.

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student analyzes the history, domestication, and selection of equine. The student is expected to:

(A) research and describe the history and evolution of equine;

(B) describe the impacts of equine industries such as racing, rodeos, equestrian therapy, and the global food market; and

(C) evaluate and select equine breeds based on purpose and conformation.

(5) The student explains the anatomy and physiology of equine. The student is expected to:

(A) explain the function of the skeletal, muscular, respiratory, reproductive, digestive, and circulatory systems of equine;

(B) identify and interpret ranges for healthy equine vital signs; and

(C) compare normal and abnormal behavior of equine such as emotional and physical.

(6) The student determines the nutritional requirements of equine. The student is expected to:

(A) compare the equine digestive system to the digestive systems of other species;

(B) identify and describe sources of nutrients and classes of feed for equine;

(C) identify and research vitamins, minerals, and feed additives for equine;

(D) formulate feed rations based on the nutritional requirements of equine; and

(E) identify and discuss equine feeding practices, grazing practices, and feed quality issues.

(7) The student understands how equine are affected by diseases and pests. The student is expected to:

(A) identify and describe how bacteria, fungi, viruses, genetics, and nutrition affect equine health;

(B) identify signs, symptoms, and prevention of equine diseases;

(C) identify parasites of equine and explain the signs, symptoms, treatment, and prevention of equine parasites; and

(D) discuss methods of administering equine medications and calculating dosage.

(8) The student analyzes the management of equine. The student is expected to:

(A) identify tools and equipment for grooming, riding, and training equine and select the appropriate tools or equipment for such tasks and purposes;

(B) identify tools and equipment for safe handling and restraining of equine and select the appropriate tools or equipment for such tasks and purposes;

(C) identify types and essential features of equine facilities such as housing, performance, veterinary, and reproduction facilities;

(D) explain the procedures for breeding equine and caring for foals in accordance with industry standards;

(E) explain and demonstrate methods of identifying ownership of equine, including branding and tattooing;

(F) discuss effective equine management strategies such as financial planning, complying with governmental regulations, and interpreting performance data; and

(G) explain methods of maintaining equine health and soundness such as hoof care and dental health.

(9) The student discusses issues affecting the equine industry. The student is expected to:

(A) describe biotechnology issues related to the equine industry;

(B) research and explain animal welfare policy pertaining to equine industries such as racing, rodeos, equestrian therapy, the global food market, and pharmaceutical research; and

(C) research and explain governmental regulations, environmental regulations, or current events that affect the equine industry.

§127.49. Livestock and Poultry Production (One Credit), Adopted 2024.

(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. Prerequisite: a minimum of two credits with at least one course in a Level 2 or higher course from the Agriculture, Food, and Natural Resources Career Cluster. Recommended prerequi-

site: 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) In Livestock and Poultry Production, students acquire knowledge and skills related to the livestock and poultry production industry. Livestock and Poultry Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire knowledge and skills related to livestock and poultry systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer 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 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) identify career development, education, and entrepreneurship opportunities in the field of livestock and poultry production;

(B) identify and demonstrate interpersonal, problem-solving, and critical-thinking skills used in livestock and poultry production;

(C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;

(D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;

(E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and

(F) identify training, education, and certification requirements for occupational choices.

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

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

(B) use appropriate record-keeping skills as they relate to the supervised agricultural experience program.

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student analyzes the history, domestication, and selection of livestock and poultry. The student is expected to:

(A) research and describe the history, domestication, and evolution of livestock and poultry species;

(B) describe the impacts other industries such as entertainment, recreation and leisure, and exhibition of animals have on the livestock and poultry industry; and

(C) evaluate and select livestock and poultry breeds based on purpose and conformation.

(5) The student explains the anatomy and physiology of livestock and poultry species. The student is expected to:

(A) identify and explain the skeletal, muscular, respiratory, and circulatory systems of livestock and poultry;

(B) identify and interpret ranges for healthy livestock and poultry vital signs; and

(C) compare normal and abnormal behavior of livestock and poultry.

(6) The student determines nutritional requirements of livestock and poultry. The student is expected to:

(A) describe and compare the digestive systems of ruminant and non-ruminant animals;

(B) identify sources of nutrients and classes of feed for livestock and poultry;

(C) identify vitamins, minerals, and feed additives for livestock and poultry;

(D) formulate feed rations based on nutritional needs and economic factors for livestock and poultry;

(E) research and discuss feeding practices and feed quality issues for livestock and poultry;

(F) identify forage plants used for livestock grazing; and

(G) research and explain livestock and poultry grazing practices such as rotational grazing and deferred grazing.

(7) The student explains livestock and poultry genetics and reproduction. The student is expected to:

(A) describe and compare the reproductive systems of various livestock and poultry;

(B) identify and explain livestock and poultry breeding systems such as grading up, crossbreeding, linebreeding, and inbreeding;

(C) use Expected Progeny Differences (EPDs) to evaluate livestock production;

(D) research and explain current and emerging technologies in livestock and poultry reproduction such as cloning, embryo transfer, in vitro fertilization, and artificial insemination;

(E) use Punnett squares to predict phenotypes and genotypes of livestock offspring; and

(F) explain the relationship between body condition scores and reproductive efficiency for livestock and poultry.

(8) The student understands how livestock and poultry are affected by pests and diseases. The student is expected to:

(A) identify and describe how bacteria, fungi, viruses, genetics, and nutrition affect livestock and poultry health;

(B) identify signs, symptoms, and prevention of livestock and poultry diseases;

(C) identify parasites and explain the signs, symptoms, treatment, and prevention of livestock and poultry parasites; and

(D) calculate dosage and identify administration methods of livestock and poultry medications.

(9) The student analyzes the management skills needed for livestock and poultry production. The student is expected to:

(A) identify tools and equipment for safe handling and restraining of livestock and poultry and select the appropriate tools or equipment for such tasks and purposes;

(B) identify types and essential features of facilities for livestock and poultry such as housing, veterinary, and reproduction facilities;

(C) evaluate and describe industry practices such as dehorning, castrating, docking, and vaccinating and sire, dam, and newborn care to maximize the efficiency of livestock and poultry;

(D) explain and demonstrate methods of identifying ownership of livestock and poultry such as branding, ear tagging, ear notching, wing bands, and tattooing; and

(E) explain the use of technology such as aircraft, robotics, and smart irrigation in modern livestock and poultry production.

(10) The student examines the interrelationship of the factors impacting livestock and poultry production operations. The student is expected to:

(A) research and explain livestock and poultry biosecurity and waste management practices;

(B) create an effective financial management plan for a livestock and poultry production operation;

(C) analyze and discuss environmental regulations, governmental regulations, and animal welfare policies related to livestock and poultry production;

(D) analyze the United States Department of Agriculture (USDA) standards and guidelines for organic livestock and poultry production;

(E) analyze and describe the interrelationship between grain markets and the livestock and poultry industry;

(F) assess the impact of the United States livestock and poultry industry on world commodity markets;

(G) use charts, tables, data, or graphs to evaluate the efficiency of livestock and poultry production; and

(H) develop and present a livestock or poultry operation plan that includes health, reproduction, nutrition, and management practices necessary for maximum efficiency.

§127.50. Small Animal Management (One-Half Credit), Adopted 2024.

(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 Agriculture, Food, and Natural Resources. Students shall be awarded one-half 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) In Small Animal Management, students acquire knowledge and skills related to the small animal management industry. Small Animal Management may address topics related to small animals such as dogs and cats, rabbits, pocket pets, amphibians, reptiles, and birds. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to small animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings.

(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) identify career development, education, and entrepreneurship opportunities in the field of small animal management;

(B) identify and demonstrate interpersonal, problem solving, and critical thinking skills used in small animal management;

(C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;

(D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;

(E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and

(F) identify training, education, and certification requirements for occupational choices.

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

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

(B) use appropriate record-keeping skills as they relate to the supervised agricultural experience program.

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student analyzes the history, domestication, and importance of small animal ownership. The student is expected to:

(A) research and explain the history, domestication, and purpose of small animals;

(B) identify and discuss the influence small animals have on society;

(C) describe the economic impact of the small animal industry;

(D) describe the responsibilities and benefits of small animal ownership;

(E) explain services small animals provide to society such as medical, support, research, and working; and

(F) research and discuss the environmental and governmental regulations related to small animal ownership.

(5) The student understands the hazards associated with working in the small animal industry. The student is expected to:

(A) explain and demonstrate safe practices, including the proper use of personal protective equipment (PPE), when working with small animals;

(B) identify zoonotic diseases that can be transmitted by small animals;

(C) describe sanitation methods used to prevent the spread of disease in small animals; and

(D) locate, interpret, and implement safety data sheets (SDS) for handling chemicals.

(6) The student evaluates current topics in small animal rights and animal welfare. The student is expected to:

(A) analyze current issues in animal rights and animal welfare;

(B) research and report important persons, organizations, and groups involved in the animal rights movement; and

(C) create and discuss a historical timeline of major legislation related to animal welfare.

(7) The student explains anatomy and physiology of small animals. The student is expected to:

(A) identify and explain the skeletal, muscular, respiratory, reproductive, digestive, and circulatory systems for each species studied;

(B) identify and interpret ranges for healthy small animal vital signs; and

(C) compare normal and abnormal behavior of small animals.

(8) The student analyzes the care and management skills for a variety of small animals. The student is expected to:

(A) identify and discuss the impact physical characteristics have on the management practices for each species studied;

(B) identify and compare the breeds and types of each species studied;

(C) discuss the ownership identification methods, habitat, housing, and equipment needs for each species studied;

(D) identify nutritional requirements for each species studied;

(E) explain health maintenance for each species studied, including prevention and control of diseases and parasites;

(F) describe and practice methods of handling for each species studied;

(G) discuss basic grooming procedures for each species studied; and

(H) identify copulation, gestation, parturition, and weaning practices for each species studied.

(9) The student examines the interrelationship of the factors impacting small animal ownership. The student is expected to:

(A) develop and present a small animal ownership plan that includes health, reproduction, nutrition, and management practices; and

(B) research and create a financial plan for small animal operation or ownership.

§127.51. Veterinary Science (One Credit), Adopted 2024.

(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. Prerequisite: Equine Science, Small Animal Management, or Livestock Production. 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Veterinary Science covers topics relating to veterinary practices, including practices for large and small animal species. To

prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills and technologies in a variety of settings.

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

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

(B) use appropriate record-keeping skills as they relate to the supervised agricultural experience program.

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student understands safety and health practices associated with working in veterinary medicine. The student is expected to:

(A) explain the importance of safe practices such as handling, restraint, and proper use of tools and equipment when working with animals;

(B) identify and discuss transmission and prevention of zoonotic diseases in large and small animal species;

(C) describe sanitation methods to prevent the spread of pathogens and maintain asepsis in sterile environments;

(D) locate, interpret, and implement safety data sheets (SDS) for handling chemicals;

(E) demonstrate and explain safe usage of clinical tools and equipment; and

(F) perform proper disposal of sharps and biohazards.

(5) The student understands current topics, professional ethics, and laws that relate to veterinary medicine. The student is expected to:

(A) research and discuss historical events, trends, and issues that have impacted veterinary medicine;

(B) analyze topics related to veterinary medical ethics, including animal rights and animal welfare; and

(C) explain policies and procedures in veterinary medicine that reflect local, state, and federal laws.

(6) The student evaluates effective management approaches and marketing strategies to determine their importance to the success of veterinary practices such as clinics and hospitals. The student is expected to:

(A) describe how the human-animal bond impacts veterinary practices when working with clients and their animals;

(B) identify and demonstrate skills needed to communicate effectively with clients and veterinary professionals;

(C) identify marketing strategies and explain how marketing affects the success of a veterinary practice; and

(D) research and discuss how electronic technology such as computer programs, medical records, hospital-to-hospital communication, and tablets is used in a veterinary practice.

(7) The student communicates the importance of medical terminology, evaluates veterinary terms to discover their meanings, and demonstrates the ability to use terms correctly. The student is expected to:

(A) analyze Greek and Latin prefixes, suffixes, and roots to determine the meaning of veterinary terms;

(B) identify, pronounce, and spell veterinary terms appropriately; and

(C) use directional anatomy terms appropriately for large and small animal species.

(8) The student understands proper animal handling as it relates to characteristics and behavior. The student is expected to:

(A) identify animal breeds according to characteristics;

(B) identify and compare normal and abnormal behavior within and among various animal species; and

(C) identify and discuss correct handling and restraint protocols for large and small animal species such as muzzling, lateral recumbency, sternal recumbency, jugular venipuncture, and haltering.

(9) The student explains anatomy and physiology of animals. The student is expected to:

(A) identify the parts and functions of the skeletal, muscular, respiratory, circulatory, digestive, endocrine, and nervous systems for large and small animal species; and

(B) describe the interrelationships among animal body systems.

(10) The student determines the importance of animal nutrition in maintaining a healthy animal. The student is expected to:

(A) identify sources of nutrients and classes of feeds for large and small animal species;

(B) identify feed additives for large and small animal species and describe how additives affect the food supply;

(C) analyze dietary needs and feed-quality issues for large and small animal species and their effect on feeding practices; and

(D) research and compare the nutritional value of feeds such as prescription, commercial, homemade, fad, and raw diets for large and small animal species.

(11) The student evaluates an animal's health during a clinical examination. The student is expected to:

(A) describe the characteristics and signs of a healthy and an unhealthy animal;

(B) identify ranges for healthy vital signs for large and small animal species such as temperature, pulse, respiration, hydration, and capillary refill time;

(C) demonstrate the proper procedures for obtaining vital signs for large and small animal species and interpret vital sign measurements to determine the health of the animal;

(D) describe effects of age, stress, and environmental factors on vital signs of animals;

(E) explain procedures for physical examinations for large and small animal species;

(F) explain the anatomical regional approach to assess an animal's health;

(G) apply mathematical skills to calculate weight and linear body measurement for large and small animal species and to convert between measurement systems; and

(H) analyze tables, charts, and graphs to interpret large and small animal patient and clinical data.

(12) The student analyzes how diseases and parasites affect animal health. The student is expected to:

(A) describe the process of immunity and disease transmission for large and small animal species;

(B) identify and describe pathogens for large and small animal species and the diseases they cause;

(C) describe the effects that diseases have on various body systems for large and small animal species;

(D) identify parasites for large and small animal species using common and scientific names;

(E) describe life cycles of parasites found in large and small animal species;

(F) explain how parasites found in large and small animal species are transmitted and explain the effects on the host;

(G) describe parasitic diagnostic procedures for large and small animal species; and

(H) describe treatment protocols for parasites found in large and small animal species.

(13) The student examines various aspects of veterinary laboratory procedures. The student is expected to:

(A) explain the procedures used in collecting, handling, and preparing fecal, blood, and urine specimens for large and small animal species;

(B) explain veterinary procedures used in examining fecal, blood, and urine specimens; and

(C) analyze and compare normal and abnormal results obtained in veterinary laboratory procedures.

(14) The student analyzes technical veterinary procedures and skills. The student is expected to:

(A) explain the care, maintenance, and use of equipment and instruments found in veterinary practices;

(B) interpret and prepare a veterinary medical record, adhering to client and patient confidentiality;

(C) explain and demonstrate routine animal care skills such as administering medications, nail trimming, bathing, dipping, grooming, ear cleaning, expressing anal sacs, dental care, placing a tail tie, and ownership identification methods;

(D) explain and demonstrate therapeutic care for large and small animal species such as patient observation, maintaining and administering fluids, applying and removing bandages, removing sutures, caring for open wounds, and providing hydrotherapy physical therapy;

(E) describe emergency protocols and first aid procedures for large and small animal species, including cardiopulmonary resuscitation, control of bleeding, and signs of shock; and

(F) research and compare veterinary care of specialty patients, including newborns, orphans, geriatric animals, recumbent animals, and animals with disabilities.

(15) The student identifies and discusses surgical-assisting procedures and skills. The student is expected to:

(A) explain the veterinary protocol for pre-surgical and post-surgical care of a patient;

(B) identify tools and equipment used in veterinary surgical procedures;

(C) describe methods used in the preparation, sterilization, and opening of surgery packs; and

(D) describe veterinary surgical procedures such as spaying, castration, dehorning, docking, dental prophylaxis, and tooth extraction.

(16) The student identifies imaging equipment and understands how to safely operate and maintain equipment. The student is expected to:

(A) research and explain the parts and function of imaging equipment such as an ultrasonograph, endoscope, electrocardiograph, and radiograph;

(B) explain safety, maintenance, and operation procedures of imaging equipment;

(C) demonstrate patient restraint and positioning methods used for imaging purposes of large and small animal species; and

(D) differentiate between the images from various imaging equipment.

(17) The student identifies veterinary pharmacology procedures and skills. The student is expected to:

(A) identify veterinary medications according to their classification, schedule, form, routes of administration, and methods of administration;

(B) explain handling, storage, distribution, protocols, and laws for veterinary medications, including controlled substances;

(C) calculate dosage for large and small animal species using factors such as concentration of drug, weight of animal, and prescribed dosage;

(D) prepare a veterinary prescription label with identifiers that are required by the United States Food and Drug Administration;

(E) identify and explain the equipment and instruments used to safely administer medications for large and small animal species; and

(F) research and present emerging trends in veterinary pharmacology such as internet pharmacies, herbal supplements, organic labeling, and extra-label and off-label use of medications.

§127.52. Advanced Animal Science (One Credit), Adopted 2024.

(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. Prerequisites: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production. Recommended prerequisite: Veterinary Science. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement. 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of animal production, including canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorpha production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

(4) Nature of science. Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.

(5) Scientific hypotheses and theories. Students are expected to know that:

(A) hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions are incorporated into theories; and

(B) scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well established and highly reliable explanations, but they may be subject to change as new areas of science and new technologies are developed.

(6) Scientific inquiry. Scientific inquiry is the planned and deliberate investigation of the natural world using scientific and engineering practices. Scientific methods of investigation are descriptive, comparative, or experimental. The method chosen should be appropriate to the question being asked. Student learning for different types of investigations include descriptive investigations, which involve collecting data and recording observations without making comparisons; comparative investigations, which involve collecting data with variables that are manipulated to compare results; and experimental investigations, which involve processes similar to comparative investigations but in which a control is identified.

(A) Scientific practices. Students should be able to ask questions, plan and conduct investigations to answer questions, and explain phenomena using appropriate tools and models.

(B) Engineering practices. Students should be able to identify problems and design solutions using appropriate tools and models.

(7) Science and social ethics. Scientific decision making is a way of answering questions about the natural world involving its own set of ethical standards about how the process of science should be carried out. Students should be able to distinguish between scientific decision-making methods (scientific methods) and ethical and social decisions that involve science (the application of scientific information).

(8) Science consists of recurring themes and making connections between overarching concepts. Recurring themes include systems, models, and patterns. All systems have basic properties that can be described in space, time, energy, and matter. Change and constancy occur in systems as patterns and can be observed, measured, and modeled. These patterns help to make predictions that can be scientifically tested, while models allow for boundary specification and provide tools for understanding the ideas presented. Students should analyze a system in terms of its components and how these components relate to each other, to the whole, and to the external environment.

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

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

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

(2) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;

(B) apply scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;

(C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;

(D) use appropriate tools such as dissection equipment, standard laboratory glassware, microscopes, various prepared slides, measuring devices, micropipettors, hand lenses, thermometers, hot plates, laboratory notebook, timing devices, cameras, Petri dishes, laboratory incubators, models, diagrams, and samples of biological specimens, syringes, needles, scalpels, microscopes slides, cover slips, artificial insemination equipment, and drench gun;

(E) collect quantitative data using the International System of Units (SI) and qualitative data as evidence;

(F) organize quantitative and qualitative data using calculators, computers, software, laboratory notebook, recordkeeping system, and reliable sources;

(G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems; and

(H) distinguish between scientific hypotheses, theories, and laws.

(3) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:

(A) identify advantages and limitations of models such as their size, scale, properties, and materials;

(B) analyze data by identifying significant statistical features, patterns, sources of error, and limitations;

(C) use mathematical calculations to assess quantitative relationships in data; and

(D) evaluate experimental and engineering designs.

(4) Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:

(A) develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;

(B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and

(C) engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.

(5) Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:

(A) analyze, evaluate, and critique scientific explanations and solutions by using empirical evidence, logical reasoning, and experimental and observational testing so as to encourage critical thinking by the student;

(B) relate the impact of past and current research on scientific thought and society, including research methodology, cost-benefit analysis, and contributions of diverse scientists as related to the content; and

(C) research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field in order to investigate STEM careers.

(6) The student develops a supervised agricultural experience program. The student is expected to:

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

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

(7) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(8) The student analyzes the history, domestication, and evaluation of animals, including canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs. The student is expected to:

(A) research and describe the history, including evolution, domestication, and introduction of species to countries, of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(B) analyze and describe how changes in the global food market impact the animal production industry; and

(C) evaluate breeds of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorph based on purpose and conformation.

(9) The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:

(A) compare cells to show specialization of structure and function;

(B) explain cell division, including mitosis and meiosis;

(C) explain cell differentiation in the development of tissues and organs; and

(D) identify and explain the biological levels of organization in animals.

(10) The student examines and compares anatomy and physiology in animals. The student is expected to:

(A) compare the external anatomy of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(B) identify the anatomical structures and physiological functions of the skeletal, muscular, circulatory, genitourinary, respiratory, nervous, immune, and endocrine systems of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs; and

(C) investigate and describe the interrelationship among animal body systems.

(11) The student understands the anatomical structures and physiological functions of the digestive system to determine nutritional requirements of ruminant and non-ruminant animals. The student is expected to:

(A) describe the structures and functions of the digestive systems of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(B) identify and describe sources of nutrients and classes of feeds for canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(C) identify and describe the feed additives and supplements used to meet the nutritional requirements of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(D) formulate rations based on different nutritional requirements, including age, gestation, lactation, sex, and purpose, for canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(E) analyze feeding practices in relation to nutritional requirements, including age, gestation, lactation, sex, and purpose, for canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(F) analyze feed quality issues and determine their effect on the health of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(G) research and compare the nutritional value of feeds for all species discussed;

(H) identify forage plants used for livestock grazing and analyze the protein levels of each; and

(I) research grazing practices such as rotational grazing and deferred grazing and explain the advantages and disadvantages of each using the scientific and engineering design process.

(12) The student understands the principles of molecular genetics and heredity. The student is expected to:

(A) explain Mendel's laws of inheritance and predict genotypes and phenotypes of offspring using a Punnett square;

(B) use a Punnett square and assign alleles to justify genotype and phenotype predictions;

(C) identify the parts of the nucleotide and differentiate between the nucleotides found in deoxyribonucleic acid (DNA) and ribonucleic acid (RNA); and

(D) explain the functions of DNA and RNA.

(13) The student applies the principles of reproduction and breeding to animal improvement. The student is expected to:

(A) describe and compare reproductive anatomy of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(B) analyze and compare reproductive cycles and phases of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(C) correlate the reproductive cycles and phases to animal behavior;

(D) research breeding systems, including grading up, crossbreeding, linebreeding, and inbreeding, and explain the advantages and disadvantages of each using the scientific and engineering design process; and

(E) research breeding methods, including embryo transfer, artificial insemination, and natural mating, and explain the advantages and disadvantages of each using the scientific and engineering design process.

(14) The student analyzes how diseases and parasites affect animal health. The student is expected to:

(A) examine how factors such as geographic location, age, genetic composition, and inherited diseases influence the health of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(B) describe the process of immunity and disease transmission of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(C) identify and describe pathogens and the diseases they cause in canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(D) describe the effects that diseases have on various body systems of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(E) research and explain the methods of prevention and control for diseases of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(F) identify parasites of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs using common and scientific names;

(G) describe the life cycles of various parasites and relate them to animal health issues;

(H) explain how parasites are transmitted and the effect they have on canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;

(I) conduct or simulate parasite diagnostic tests; and

(J) explain the methods of prevention, control, and treatment of parasites of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs.

(15) The student discusses livestock market readiness and harvesting methods. The student is expected to:

(A) explain the stages of animal growth and development and how they relate to market readiness;

(B) evaluate market class and grades of livestock;

(C) compare harvesting methods for various species using the scientific and engineering design process;

(D) research and describe federal and state meat inspection standards such as safety, hygiene, and quality control standards;

(E) identify wholesale and retail cuts of meat and correlate to major muscle groups; and

(F) research animal by-products and explain their impact on society.

(16) The student explores methods of marketing animals and animal products. The student is expected to:

(A) compare various methods of animal marketing such as auction, contract sales, private treaty, internet sales, value-based, and exhibition of various animals;

(B) describe methods of marketing animal products such as farmers market, direct sales, wholesale, and retail;

(C) research and evaluate the effectiveness of various strategies and campaigns to market animal products based on consumption patterns and consumer preferences; and

(D) research and evaluate the effectiveness of various labeling options to market animal products such as organic, farm-raised, hormone-free, cage-free, grass-fed, antibiotic-free, and non-GMO labels based on consumption patterns and consumer preferences.

(17) The student demonstrates an understanding of policies and current issues in animal science. The student is expected to:

(A) investigate and discuss the use of biotechnology and biosecurity in the animal science industry;

(B) identify governmental regulations and policies such as environmental and animal welfare and research the impacts on animal production; and

(C) identify and research a current issue in scientific animal agriculture and design a protocol to address the issue using the scientific and engineering design process.

§127.53. Floral Design (One Credit), Adopted 2024.

(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. Recommended prerequisite: Principles of Agriculture, Food, and Natural Resources. This course satisfies the fine arts graduation requirement. 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Floral Design is designed to develop students' ability to identify and demonstrate the elements and principles of floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students develop respect for the traditions of and appreciation for the contributions of diverse cultures. Students respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

(4) Floral Design follows the four basic fine arts strands of foundations: observation and perception; creative expression; historical and cultural relevance; and critical evaluation and response to provide broad, unifying structures for organizing the knowledge and skills students are expected to acquire. Each strand is of equal value and may be presented in any order throughout the year. Students rely on personal observations and perceptions, which are developed through increasing visual literacy and sensitivity to surroundings, communities, memories, imaginings, and life experiences as sources for thinking about, planning, and creating original floral art. Students communicate their thoughts and ideas with innovation and creativity. Through floral design, students challenge their imaginations, foster critical thinking, collaborate with others, and build reflective skills. While exercising meaningful problem-solving skills, students develop the lifelong ability to make informed judgments.

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

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

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student identifies elements and principles of design in floral art in both historical and current contexts. The student is expected to:

(A) identify the historical trends and characteristics of floral art as they relate to current industry practices;

(B) identify design elements in floral art, including color, texture, form, line, space, pattern, size, and fragrance;

(C) identify design principles in floral art, including rhythm, balance, proportion, dominance, contrast, harmony, and unity;

(D) identify the ancillary concepts of design principles such as emphasis, focal area, repetition, transition, opposition, and variation; and

(E) compare the forms and functions of flowers and foliage, including form, mass, line, and filler.

(5) The student demonstrates elements and principles through the creation of floral designs using flowers and plants. The student is expected to:

(A) create and evaluate floral arrangements using cut flowers, including arrangements using bud vases, and round, symmetrical, and asymmetrical designs;

(B) create and evaluate floral designs using permanent botanicals such as homecoming mums;

(C) design and create corsages and boutonnieres;

(D) create floral designs for specific holidays and cultural occasions such as weddings and funerals; and

(E) create interiorscapes using the elements and principles of floral design.

(6) The student makes informed judgments about personal designs and the designs of others. The student is expected to:

(A) interpret, evaluate, and justify artistic decisions in the design of personal arrangements;

(B) evaluate and appraise floral designs;

(C) construct a physical or electronic portfolio of personal floral artwork to provide evidence of learning; and

(D) interpret and evaluate design elements and principles in floral arrangements of others.

(7) The student demonstrates contemporary designs and creativity in the floral industry by developing floral design skills. The student is expected to:

(A) identify and classify specialty floral items for a variety of occasions;

(B) create specialty designs to expand artistic expression;

(C) apply proper wiring and taping techniques to materials used in the floral industry; and

(D) demonstrate safe and proper usage of floral design tools.

(8) The student recognizes the current industry practices of floral enterprises. The student is expected to:

(A) identify and classify flowers, foliage, and plants used in floral design;

(B) use temperature, preservatives, and cutting techniques to extend the vase life of floral materials;

(C) identify and describe how tools, chemicals, and equipment are used in floral design and describe safe handling practices;

(D) analyze the needs of indoor plants such as fertilizer, light, pruning, and water based on the condition of the plant;

(E) identify common pests and diseases that affect the floral industry; and

(F) identify management techniques of pests and diseases in the floral industry, including the safe use of pesticides.

(9) The student recognizes current business management practices of floral enterprises. The student is expected to:

(A) create cost-effective floral designs;

(B) apply pricing strategies and order-processing skills to meet various budgets and needs; and

(C) describe packaging, distribution, and setup logistics in the floral industry.

(10) The student understands botany and physiology and how they relate to floral design and interiorscapes. The student is expected to:

(A) analyze the structure and functions of indoor plants used in the floral industry; and

(B) identify the structure and functions of flowers used in the floral industry.

§127.54. Horticultural Science (One Credit), Adopted 2024.

(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. Prerequisites: at least one credit in a course from the Agriculture, Food, and Natural Resources Career Cluster. Recommended prerequisite: 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) In Horticultural Science, students develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural industry systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills 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 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) identify career and entrepreneurship opportunities in the field of plant science and develop a plan for obtaining the education, training, and certifications required;

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student understands the history and progression of the horticulture industry. The student is expected to:

(A) trace how relevant historical advancements in the horticulture industry relate to current industry practices;

(B) identify and describe different disciplines of horticulture such as arboriculture, floriculture, olericulture, pomology, viticulture, turf management, and ornamental horticulture;

(C) identify and research emerging technology in the horticulture industry;

(D) identify current trends in the horticulture industry; and

(E) compare types of horticulture industries in the different regions of Texas.

(5) The student identifies plant structures and their functions and needs. The student is expected to:

(A) classify horticultural plants by their common and scientific names;

(B) describe functional differences in plant structures, including roots, stems, flowers, leaves, and fruit;

(C) identify pollination factors affecting plants and trees such as access to pollinators, wind, and hand pollination;

(D) compare monocots and dicots;

(E) analyze environmental needs of plants, including light, water, and nutrients; and

(F) identify the components of a fertilizer label.

(6) The student develops technical knowledge and skills associated with the production of horticultural plants. The student is expected to:

(A) classify horticultural plants based on taxonomy;

(B) identify classifications of plants, including annuals, perennials, biennials, and evergreens, based on growing cycles;

(C) identify horticultural plants based on their physical characteristics;

(D) compare the reproduction of flowering and non-flowering horticultural plants;

(E) select appropriate tools and equipment for production of horticultural plants;

(F) demonstrate safe and appropriate use of tools and equipment; and

(G) identify maintenance practices for hand tools, power tools, and equipment.

(7) The student understands plant propagation techniques and growing methods. The student is expected to:

(A) identify asexual propagation methods for horticultural plants, including cuttings, grafting, budding, layering, and tissue culture;

(B) propagate horticultural plants using asexual methods such as cuttings, grafting, budding, layering, and tissue culture;

(C) manipulate the germination of seeds using various methods such as mechanical scarification, chemical scarification, and heat and cold treatments;

(D) compare various soil-based growing media; and

(E) identify soilless growing methods used in the horticulture industry.

(8) The student manages and controls common pests, diseases, and deficiencies of horticultural plants. The student is expected to:

(A) identify and manage common horticultural pests, diseases, and deficiencies;

(B) identify and manage common weeds that impact horticultural production;

(C) develop a plan for disease control using integrated pest management;

(D) apply proper sanitation methods to prevent the spread of pests;

(E) demonstrate safe and proper practices in selecting, applying, storing, and disposing of chemicals; and

(F) review and explain the parts of a pesticide label.

(9) The student understands the concepts of ornamental plants and landscape design. The student is expected to:

(A) compare landscaping methods that account for environmental variables such as water availability, soil type, light availability, and climate;

(B) identify and select plants, including bedding plants, shrubs, trees, and turf grasses, for landscapes based on United States Department of Agriculture (USDA) hardiness zones;

(C) design a landscape using design elements and principles; and

(D) compare sustainability practices such as planting native plants, water conservation, and irrigation technology used in a landscape.

(10) The student demonstrates business skills used in the horticulture industry. The student is expected to:

(A) identify opportunities for entrepreneurship in the horticulture industry;

(B) identify practices to maintain business relationships;

(C) describe and demonstrate correct procedures for handling customer sales transactions;

(D) calculate pricing to maximize profit for wholesale and retail settings;

(E) develop a plan to market horticultural products and services; and

(F) formulate a budget for a horticultural enterprise.

§127.55. Greenhouse Operation and Production (One Credit), Adopted 2024.

(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 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Greenhouse Operation and Production is designed for students to develop an understanding of greenhouse production techniques and practices. To prepare for careers in horticultural and controlled environment agricultural systems, students must attain academic knowledge and skills, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies 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 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) identify career development, education, and entrepreneurship opportunities in the field of greenhouse operation and production;

(B) identify and demonstrate interpersonal, problem-solving, and critical-thinking skills used in greenhouse operation and production;

(C) describe and demonstrate appropriate personal and occupational safety and health practices for the workplace;

(D) identify employers' legal responsibilities and expectations, including appropriate work habits and ethical conduct;

(E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy; and

(F) identify training, education, and certification requirements for occupational choices.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student understands the history and progress of the greenhouse industry. The student is expected to:

(A) trace the relevant historical advancements in the greenhouse industry such as developments in construction materials and use of technology and describe the impact of these advancements on current industry practices;

(B) research and identify emerging technologies in the greenhouse industry; and

(C) analyze current trends in the greenhouse industry.

(5) The student identifies and investigates different greenhouse structures, interior layout, and construction factors. The student is expected to:

(A) compare greenhouse styles and construction materials;

(B) compare and select greenhouse coverings;

(C) analyze the costs associated with greenhouse construction;

(D) identify factors to consider when constructing a greenhouse such as greenhouse orientation and access to electricity, roads, drainage, water, and plumbing;

(E) identify and describe additional growing structures such as cold frames and hotbeds;

(F) design a layout of essential areas of a greenhouse such as receiving, storage, seedling propagation, crop production, harvest, sanitation, packaging, labeling, and distribution areas;

(G) describe the adaptation of greenhouse concepts to plant production in controlled environments such as indoor vertical farms and freight containers;

(H) differentiate between passive and controlled greenhouses; and

(I) analyze greenhouse operation regulations enacted by regulatory agencies such as the Texas Department of Agriculture, the United States Department of Agriculture, and local agencies.

(6) The student identifies and assesses environmental conditions within the greenhouse. The student is expected to:

(A) describe various environmental factors controlled in the greenhouse;

(B) determine and calculate factors used in heating and cooling a greenhouse;

(C) describe the effects of greenhouse climate conditions such as ventilation, carbon dioxide generation, and humidity on plant growth in the greenhouse;

(D) explore the importance of light characteristics on the production of greenhouse crops; and

(E) compare open and closed environmental systems in the greenhouse such as irrigation, lighting, climate control, carbon dioxide injection, and fertilization.

(7) The student identifies, operates, and maintains greenhouse environmental and mechanical controls. The student is expected to:

(A) explain how to operate and maintain heating, cooling, and ventilation systems in a greenhouse;

(B) explain how to operate and maintain electrical systems in a greenhouse;

(C) explain how to operate and maintain various water systems in a greenhouse;

(D) explain how to operate lighting systems in a greenhouse; and

(E) illustrate and describe the integration of automated control systems such as lighting, cooling, irrigation, fertigation, and carbon dioxide injection.

(8) The student identifies and classifies plants used in greenhouse production. The student is expected to:

(A) classify plants commonly used in greenhouses based on taxonomic systems;

(B) identify and compare plant anatomical structures and functions that are used in plant identification; and

(C) analyze plant classifications based on cropping schedules and market demand for greenhouse crops.

(9) The student identifies and investigates greenhouse crop production factors. The student is expected to:

(A) identify and explain the chemical and physical differences in greenhouse media components;

(B) compare greenhouse growing mixes for factors, including drainage and nutrient-holding capacity;

(C) compare different containers, benches, and production equipment used in greenhouses;

(D) evaluate different methods of watering greenhouse crops based on the type of crop, stage of development, cost-effectiveness, and weather;

(E) analyze the effect of nutrients on greenhouse plant growth;

(F) diagnose common nutrient deficiency symptoms found in greenhouse crops; and

(G) develop fertilization plans that address greenhouse crop needs and environmental impacts.

(10) The student propagates greenhouse crops. The student is expected to:

(A) analyze different methods of propagating greenhouse crops using sexual and asexual propagation methods;

(B) propagate greenhouse crops using sexual and asexual methods;

(C) investigate and explain physiological conditions that affect plant propagation; and

(D) analyze the effects of plant growth regulators on plant growth and development.

(11) The student investigates pest and disease identification and control methods in the greenhouse environment. The student is expected to:

(A) identify and classify common diseases, insects, pathogens, and weeds in the greenhouse;

(B) identify essential components of an integrated pest management plan in controlling an insect, pathogen, or weed problem;

(C) identify appropriate greenhouse pesticide application techniques and equipment; and

(D) analyze pesticide labeling and safety data sheets.

(12) The student performs greenhouse management business procedures. The student is expected to:

(A) identify and develop effective marketing strategies to market greenhouse crops to increase profits;

(B) develop appropriate methods for preparing greenhouse crops for various means of transport;

(C) analyze materials, labor, and administrative costs related to greenhouse production;

(D) analyze methods used to maintain crop quality during marketing and transport; and

(E) prepare a production schedule for a greenhouse crop from establishment to market within a specific timeline.

§127.56. Viticulture (One Credit), Adopted 2024.

(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. Prerequisites: at least one credit in a course from the Agriculture, Food, and Natural Resources Career Cluster. Recommended prerequisite: 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Viticulture is a course designed to provide students with the academic and technical knowledge and skills that are required to pursue a career related to vineyard operations, grape cultivation, and related industries that contribute to the Texas economy. Students in Viticulture develop an understanding of grape production techniques and practices while emphasizing environmental science related to production decisions. To prepare for success, 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 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) identify career and entrepreneurship opportunities for a chosen occupation in the field of viticulture and develop a plan for obtaining the education, training, and certifications required;

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student understands the history and progression of the viticulture industry. The student is expected to:

(A) trace how relevant historical advancements in viticulture relate to current industry practices;

(B) research and identify emerging technology in the viticulture industry; and

(C) identify current trends in the viticulture industry.

(5) The student explains the production cycle and basic physiology of grapevines. The student is expected to:

(A) describe asexual propagation techniques used in the production of domesticated grapes;

(B) identify the major vegetative and reproductive structures of grapevines;

(C) explain the role of rootstock in grapevine production;

(D) describe the annual vegetative growth and reproductive cycle of grapevines;

(E) explain how environmental conditions influence grapevine vegetative and reproductive growth; and

(F) describe the use of training systems in vineyard production.

(6) The student analyzes vineyard design and development. The student is expected to:

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

(B) evaluate the soil and climatic characteristics of a potential vineyard site to determine if it is suitable for vineyard production;

(C) identify and research successful vineyards in other parts of the world with soil and climatic characteristics similar to local conditions; and

(D) develop a vineyard design and installation plan.

(7) The student evaluates technology and practices used for vineyard frost protection. The student is expected to:

(A) describe the environmental conditions that lead to plant cold injury;

(B) identify frost damage in grapevines and effective frost damage mitigation techniques;

(C) differentiate advection and radiation frost events;

(D) evaluate the effectiveness of passive frost protection techniques employed in vineyards;

(E) evaluate the effectiveness of active frost protection techniques employed in vineyards; and

(F) analyze the cost effectiveness of frost protection systems.

(8) The student demonstrates vineyard management techniques. The student is expected to:

(A) identify and demonstrate safe and appropriate usage of vineyard tools;

(B) describe and demonstrate dormant pruning of grapevines to minimize crop loss due to frost;

(C) describe grapevine-training techniques such as spur and cane pruning; and

(D) explain the use of technology in modern vineyard production systems such as drones, robotics, and smart irrigation.

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

(A) identify common insect pests and diseases found in vineyards;

(B) identify common animal pests that are problematic in vineyards;

(C) evaluate the components of integrated pest management used in vineyards;

(D) explain cultural practices for vineyard pest control; and

(E) describe the safe and effective use of pesticides in vineyards, ensuring compliance with federal and state regulations.

(10) The student examines soil properties and soil fertility as they relate to vineyard production systems. The student is expected to:

(A) explain the concepts of soil type, soil texture, and basic soil chemistry;

(B) identify the essential nutrients required by grapevines;

(C) describe the relationship between soil properties and fertility;

(D) calculate the fertilizer needs of grapevines;

(E) develop and present a vineyard fertilization plan; and

(F) identify the practices of organic vineyards related to soil properties and fertility.

(11) The student evaluates water requirements of vineyards and associated climatic factors. The student is expected to:

(A) evaluate grapevine water requirements;

(B) compare grape varieties that thrive in local soil and weather conditions;

(C) analyze the influence of soil properties and climate on vineyard water usage;

(D) describe irrigation strategies used in vineyards;

(E) identify the water resources required for vineyards;

(F) describe methods used to determine soil moisture; and

(G) calculate the irrigation needs of vineyards based on soil and climate.

§127.57. Advanced Floral Design (One Credit), Adopted 2024.

(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. Prerequisite: Floral Design. Recommended prerequisite: 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) In Advanced Floral Design, students gain advanced knowledge and skills specifically needed to enter the workforce as floral designers or as freelance floral event designers, with an emphasis on specialty designs and occasion-specific designs and planning. Students are also prepared to enter postsecondary certification or degree programs in floral design or special events design. Students build on the knowledge base from Floral Design and are introduced to more advanced floral design concepts. In addition, students gain knowledge of the design elements and planning techniques used to produce unique specialty floral designs that support the goals and objectives of an occasion or event.

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

(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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

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

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

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

(3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(4) The student understands advanced floral design elements and principles. The student is expected to:

(A) describe floral materials using advanced botanical terminology;

(B) identify the symbolic meaning of flowers and plants used in floral design such as love, friendship, courage, and innocence;

(C) compare the characteristics of contemporary floral design styles such as abstract, assemblage, asymmetrical, Biedermeier, cascade/waterfall, hedgerow, parallel, synergistic, submerged, topiary, and vegetative;

(D) illustrate ideas for arrangements using contemporary floral design styles from direct observation, experience, and imagination;

(E) identify and explain various basing design techniques, including layering, terracing, pavé, clustering, and pillowing; and

(F) identify and explain advanced focal-emphasis design techniques, including grouping, banding, binding, shadowing, sequencing, framing, zoning, and parallelism.

(5) The student demonstrates advanced design techniques using fresh and permanent floral designs. The student is expected to:

(A) plan and design fresh flower and permanent botanical arrangements using various contemporary design styles such as abstract, assemblage, asymmetrical, Biedermeier, cascade/waterfall, hedgerow, parallel, synergistic, submerged, topiary, and vegetative;

(B) design and evaluate floral designs that exhibit various basing design techniques such as layering, terracing, pavé, clustering, and pillowing; and

(C) design and evaluate floral designs using advanced focal-emphasis design techniques such as grouping, banding, binding, shadowing, sequencing, framing, zoning, and parallelism.

(6) The student describes effective design planning and the processes used to create floral designs for specific occasions and events. The student is expected to:

(A) describe and apply proper planning techniques in floral design;

(B) identify and execute the steps of effective planning used to design floral arrangements for specific occasions such as weddings and funerals;

(C) analyze and discuss contingency factors when planning large-volume floral designs; and

(D) identify effective consultation practices to determine customers' expectations for design, including budget.

(7) The student applies key floral design elements and principles to enhance the experience of specific occasions and events. The student is expected to:

(A) identify floral design terminology used for specific occasions, including weddings and funerals;

(B) apply elements and principles of floral design to wedding and funeral arrangements such as bouquets, boutonnieres, corsages, sprays, and pedestal arrangements;

(C) describe current floral design trends;

(D) use and maintain floral design tools; and

(E) create examples of appropriate occasion-specific floral designs from direct observation, experience, and imagination.

(8) The student demonstrates effective planning of occasion-specific floral designs from the conceptual stage through completion. The student is expected to:

(A) conduct a floral design consultation to gather details, including occasion, budget, formality, and theme;

(B) evaluate and select floral arrangements that achieve the objectives and budget expectations of an occasion;

(C) develop a proposal that showcases floral arrangements appropriate for the selected occasion;

(D) develop a production schedule that allows sufficient time for the design, creation, installation, and disassembly of floral arrangements;

(E) develop a procurement plan to ensure necessary resources are obtained within a specified budget and timeframe; and

(F) implement a floral design plan through completion and evaluate the results of the plan.

(9) The student demonstrates business management and merchandising skills necessary for floral design and freelance floral event design professionals. The student is expected to:

(A) calculate mark-up of floral products and design services;

(B) evaluate the cost-effectiveness and profitability of pricing policies;

(C) develop and negotiate contracts for floral services;

(D) formulate a floral budget, including per-item total costs;

(E) describe and demonstrate proper customer service skills for a floral business;

(F) identify the benefits of establishing business relationships with a variety of vendors such as wedding venues, funeral homes, wholesale florists, and wire services; and

(G) analyze basic marketing principles and procedures used in the floral industry such as displays and advertisements.

(10) The student explains the significance of professional organizations to the floral design industry. The student is expected to:

(A) identify industry-related professional organizations; and

(B) describe the benefits of participating in professional floral organizations and earning industry-based certifications.

§127.58. Advanced Plant and Soil Science (One Credit), Adopted 2024.

(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. Prerequisites: Biology; either Chemistry or Integrated Physics and Chemistry (IPC); Algebra I; Geometry; and either Horticultural Science, Greenhouse Operation and Production, or Floral Design. Recommended prerequisite: Principles of Agriculture, Food, and Natural Resources. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement. 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 production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

(3) Advanced Plant and Soil Science provides a way of learning about the natural world. In this course, students learn how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. To prepare for careers in plant and soil science, students must attain academic knowledge and skills, acquire technical knowledge and skills related to plant and soil science and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

(4) Nature of science. Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.

(5) Scientific hypotheses and theories. Students are expected to know that:

(A) hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions are incorporated into theories; and

(B) scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well established and highly reliable explanations, but they may be subject to change as new areas of science and new technologies are developed.

(6) Scientific inquiry. Scientific inquiry is the planned and deliberate investigation of the natural world using scientific and engineering practices. Scientific methods of investigation are descriptive, comparative, or experimental. The method chosen should be appropriate to the question being asked. Student learning for different types of investigations include descriptive investigations, which involve collecting data and recording observations without making comparisons; comparative investigations, which involve collecting data with variables that are manipulated to compare results; and experimental investigations, which involve processes similar to comparative investigations but in which a control is identified.

(A) Scientific practices. Students should be able to ask questions, plan and conduct investigations to answer questions, and explain phenomena using appropriate tools and models.

(B) Engineering practices. Students should be able to identify problems and design solutions using appropriate tools and models.

(7) Science and social ethics. Scientific decision making is a way of answering questions about the natural world involving its own set of ethical standards about how the process of science should be carried out. Students should be able to distinguish between scientific decision-making methods (scientific methods) and ethical and social decisions that involve science (the application of scientific information).

(8) Science consists of recurring themes and making connections between overarching concepts. Recurring themes include systems, models, and patterns. All systems have basic properties that can be described in space, time, energy, and matter. Change and constancy occur in systems as patterns and can be observed, measured, and modeled. These patterns help to make predictions that can be scientifically tested, while models allow for boundary specification and provide tools for understanding the ideas presented. Students should analyze a system in terms of its components and how these components relate to each other, to the whole, and to the external environment.

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

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

(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 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) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.

(2) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;

(B) apply scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;

(C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;

(D) use appropriate tools such as microscopes, measuring equipment, sensors, plant propagation tools, soil testing kits, and calculators;

(E) collect quantitative data using the International System of Units (SI) and qualitative data as evidence;

(F) organize quantitative and qualitative data using graphs and charts;

(G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems; and

(H) distinguish between scientific hypotheses, theories, and laws.

(3) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:

(A) identify advantages and limitations of models such as their size, scale, properties, and materials;

(B) analyze data by identifying significant statistical features, patterns, sources of error, and limitations;

(C) use mathematical calculations to assess quantitative relationships in data; and

(D) evaluate experimental and engineering designs.

(4) Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:

(A) develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;

(B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and

(C) engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.

(5) Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:

(A) analyze, evaluate, and critique scientific explanations and solutions by using empirical evidence, logical reasoning, and

experimental and observational testing so as to encourage critical thinking by the student;

(B) relate the impact of past and current research on scientific thought and society, including research methodology, cost-benefit analysis, and contributions of diverse scientists as related to the content; and

(C) research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field in order to investigate STEM careers.

(6) The student develops a supervised agricultural experience program. The student is expected to:

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

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

(7) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:

(A) participate in youth agricultural leadership opportunities;

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

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

(8) The student understands interrelationships between plants, soil, and people in historical and current contexts. The student is expected to:

(A) research and document major historical milestones related to plant and soil science in human civilization;

(B) explain how humans have influenced plant selection and how plant selection has influenced civilization's development;

(C) analyze the effect of soil properties on settlement of civilizations and migration; and

(D) investigate and explain how plants have shaped major world economies.

(9) The student identifies how plants grow and how specialized cells, tissues, and organs develop. The student is expected to:

(A) describe the unique structure and function of organelles in plant cells;

(B) explain the growth and division of plant cells;

(C) compare cells from different parts of the plant, including roots, stems, flowers, and leaves, to show specialization of structures and functions; and

(D) illustrate the levels of cellular organization in plants.

(10) The student develops a knowledge of plant anatomy and functions. The student is expected to:

(A) describe the structure and function of plant parts, including roots, stems, leaves, flowers, fruits, and seeds;

(B) compare the anatomy of monocots and dicots;

(C) compare the various propagation methods for plants; and

(D) identify the functions of modified plant structures such as tubers, rhizomes, pseudo stems, and pitchers.

(11) The student develops an understanding of plant physiology and nutrition. The student is expected to:

(A) explain the metabolic process of photosynthesis and cellular respiration;

(B) describe the role of mineral nutrition in the soil for plant development;

(C) identify the essential nutrients in soil; and

(D) describe the role of macronutrients and micronutrients in plants.

(12) The student analyzes soil science as it relates to plant and human activity. The student is expected to:

(A) explain soil formation;

(B) investigate and document the properties of soils, including texture, horizons, structure, color, parent materials, and fertility;

(C) identify and classify soil orders;

(D) explain methods of soil conservation such as crop rotation, mulching, terracing, cover cropping, and contour plowing;

(E) describe the application of soil mechanics to buildings, landscapes, and crop production;

(F) research and explain soil management practices such as tillage trials and sustainable soil management practices;

(G) practice and explain soil evaluations related to experiential activities such as land judging;

(H) evaluate and determine soil health through soil testing; and

(I) analyze concepts of soil ecology.

(13) The student maps the process of soil formation influenced by weathering, including erosion processes due to water, wind, and mechanical factors influenced by climate. The student is expected to:

(A) illustrate the role of weathering in soil formations;

(B) distinguish between chemical weathering and mechanical weathering;

(C) identify geological formations that result from differing weathering processes; and

(D) describe the role of biotic factors in soil formation.

(14) The student explains the relationship of biotic and abiotic factors within habitats and ecosystems and their effects on plant ecology. The student is expected to:

(A) identify and define plant populations, ecosystems, communities, and biomes;

(B) distinguish between native and introduced plants in an ecosystem;

(C) investigate and describe characteristics of native and introduced plants;

(D) make observations and compile data about fluctuations in abiotic cycles;

(E) describe the effects of fluctuations in abiotic cycles on local ecosystems; and

(F) describe potential positive and negative impacts of human activity such as pest control, hydroponics, monoculture planting, and sustainable agriculture on ecosystems.

(15) The student evaluates components of plant science as they relate to crop production and advancements. The student is expected to:

(A) analyze the genetics and evolution of various crops;

(B) identify and classify plants according to taxonomy;

(C) identify characteristics related to seed quality, including mechanical damage, viability, and grade;

(D) identify plant pests and diseases using laboratory equipment such as microscopes, test kits, and technology;

(E) evaluate the effectiveness of plant management practices, including germination tests, plant spacing trials, and fertilizer tests;

(F) analyze trends in crop species and varieties grown locally in Texas and the United States and how trends affect producers and consumers; and

(G) investigate and identify recent advancements in plant and soil science such as biotechnology, artificial intelligence, and drone, infrared, and sensor technologies.

(16) The student describes the relationship between resources within environmental systems. The student is expected to:

(A) summarize and evaluate methods of land use and management;

(B) identify sources, quality, and conservation of water in plant production;

(C) explore and describe conservation practices such as rainwater collection, water-conserving irrigation systems, and use of biofuels;

(D) analyze and evaluate the economic significance and interdependence of components of the environment;

(E) debate the impact of human activity and technology on soil health and plant productivity;

(F) research and summarize the impact of natural disasters on soil health and plant productivity; and

(G) explain how regional changes in the environment may have a global effect.

(17) The student describes the dynamics of soil on watersheds and its effects on plant growth and production. The student is expected to:

(A) identify and record the characteristics of a local watershed such as average annual rainfall, runoff patterns, aquifers, location of water basins, and surface reservoirs; and

(B) analyze the impact of floods, drought, irrigation, urbanization, and industrialization in a watershed.

(18) The student analyzes plant and soil science as it relates to plant and soil relationships affecting the production of food, fiber, and other economic crops. The student is expected to:

(A) explain the importance and interrelationship of soil and plants;

(B) compare soil and plants in agricultural and urban settings;

(C) explain growing plants without soil (hydroponic techniques); and

(D) evaluate advantages and disadvantages of hydroponics.

(19) The student demonstrates skills related to the human, scientific, and technological dimensions of crop production and the resources necessary for producing domesticated plants. The student is expected to:

(A) describe the growth and development of major agricultural crops in Texas such as cotton, corn, sorghum, sugarcane, wheat, and rice;

(B) apply principles of genetics and plant breeding to plant production;

(C) illustrate the development of new crop varieties that are developed over time;

(D) design and conduct investigations to test principles of genetics; and

(E) identify and test alternative growing methods such as hydroponics and aquaponics used in plant production.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Cristina De La Fuente-Valadez
Director, Rulemaking
Texas Education Agency
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For further information, please call: (512) 475-1497

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SUBCHAPTER O. SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

19 TAC §127.795, §127.796

STATUTORY AUTHORITY. The new sections are adopted 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(j), which allows the SBOE by rule to require laboratory instruction in secondary science courses and require a specific amount or percentage of time in a secondary science course that must be laboratory instruction; 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 un-

der the TEC, §28.002; and TEC, §28.025(b-2)(2), which requires the SBOE to allow a student by rule to comply with the curriculum requirements for the third and fourth mathematics credits under TEC, §28.025(b-1)(2), or the third and fourth science credits under TEC, §28.025(b-1)(3), by successfully completing a CTE course designated by the SBOE as containing substantially similar and rigorous content.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), and (j); and 28.025(a) and (b-2)(2).

§127.795. Physics For Engineering (One Credit), Adopted 2024.

(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. Prerequisites: one credit of Algebra I and one credit of Chemistry, Physics, or Integrated Physics and Chemistry. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement. 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 Science, Technology, Engineering, and Mathematics Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services.

(3) In Applied Physics and Engineering, students conduct laboratory and field investigations, use scientific and engineering practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Various systems are described in terms of space, time, energy, and matter. Students study topics, including laws of motion, conservation of energy, momentum, electricity, magnetism, thermodynamics, and characteristics and behavior of waves. Students apply physics concepts and perform laboratory experimentations for at least 40% of instructional time using safe practices.

(4) Nature of science. Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.

(5) Scientific hypotheses and theories. Students are expected to know that:

(A) hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions are incorporated into theories; and

(B) scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well established and highly reliable explanations, but they may be subject to change as new areas of science and new technologies are developed.

(6) Scientific inquiry. Scientific inquiry is the planned and deliberate investigation of the natural world using scientific and engineering practices. Scientific methods of investigation are descriptive, comparative, or experimental. The method chosen should be appropriate to the question being asked. Student learning for different types of investigations include descriptive investigations, which involve collecting data and recording observations without making comparisons; comparative investigations, which involve collecting data with variables that are manipulated to compare results; and experimental investigations, which involve processes similar to comparative investigations but in which a control is identified.

(A) Scientific practices. Students should be able to ask questions, plan and conduct investigations to answer questions, and explain phenomena using appropriate tools and models.

(B) Engineering practices. Students should be able to identify problems and design solutions using appropriate tools and models.

(7) Science and social ethics. Scientific decision making is a way of answering questions about the natural world involving its own set of ethical standards about how the process of science should be carried out. Students should be able to distinguish between scientific decision-making methods (scientific methods) and ethical and social decisions that involve science (the application of scientific information).

(8) Science consists of recurring themes and making connections between overarching concepts. Recurring themes include systems, models, and patterns. All systems have basic properties that can be described in space, time, energy, and matter. Change and constancy occur in systems as patterns and can be observed, measured, and modeled. These patterns help to make predictions that can be scientifically tested, while models allow for boundary specification and provide tools for understanding the ideas presented. Students should analyze a system in terms of its components and how these components relate to each other, to the whole, and to the external environment.

(9) Students are encouraged to participate in extended learning experiences such as career and technical student organizations, other leadership or extracurricular organizations, or practical, hands-on activities or experiences through which a learner interacts with industry professionals in a workplace, which may be an in-person, virtual, or simulated setting. Learners prepare for employment or advancement along a career pathway by completing purposeful tasks that develop academic, technical, and employability skills.

(10) 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 and demonstrate how to dress appropriately, speak politely, and conduct oneself in a manner appropriate for the profession;

(B) describe and demonstrate how to cooperate, contribute, and collaborate as a member of a group in an effort to achieve a positive collective outcome;

(C) present written and oral communication in a clear, concise, and effective manner;

(D) demonstrate time-management skills in prioritizing tasks, following schedules, and performing goal-relevant activities in a way that produces efficient results; and

(E) demonstrate punctuality, dependability, reliability, and responsibility in performing assigned tasks as directed.

(2) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:

(A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;

(B) apply scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;

(C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;

(D) use appropriate tools such as ammeters, balances, ballistic carts or equivalent, batteries, calipers, Celsius thermometers, consumable chemicals, collision apparatus, computers and modeling software, constant velocity cars, data acquisition probes and software, discharge tubes with power supply (H, He, Ne, Ar), dynamics and force demonstration equipment, electroscopes, electrostatic generators, electrostatic kits, friction blocks, graphing technology, hand-held visual spectroscopes, hot plates, iron filings, laser pointers, light bulbs, macrometers, magnets, magnetic compasses, mass sets, metric rulers, meter sticks, models and diagrams, motion detectors, multimeters, optics bench, optics kit, optic lenses, pendulums, photogates, plane mirrors, polarized film, prisms, protractors, resistors, ripple tank with wave generators, rope or string, scientific calculators, simple machines, slinky springs, springs, spring scales, standard laboratory glassware, stopwatches, switches, tuning forks, timing devices, trajectory apparatus, voltmeters, wave motion ropes, wires, or other equipment and materials that will produce the same results;

(E) collect quantitative data using the International System of Units (SI) and qualitative data as evidence;

(F) organize quantitative and qualitative data using notebooks or engineering journals, bar charts, line graphs, scatter plots, data tables, equations, conceptual mathematical relationships, labeled drawings and diagrams, or graphic organizers such as Venn diagrams;

(G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems; and

(H) distinguish between scientific hypotheses, theories, and laws.

(3) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:

(A) identify advantages and limitations of models such as their size, scale, properties, and materials;

(B) analyze data by identifying significant statistical features, patterns, sources of error, and limitations;

(C) use mathematical calculations to assess quantitative relationships in data; and

(D) assess and optimize experimental processes and engineering designs.

(4) Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:

(A) develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;

(B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and

(C) engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.

(5) Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:

(A) analyze, evaluate, and critique scientific explanations and solutions by using empirical evidence, logical reasoning, and experimental and observational testing so as to encourage critical thinking by the student;

(B) relate the impact of past and current research on scientific thought and society, including research methodology, cost-benefit analysis, and contributions of diverse scientists as related to the content; and

(C) research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field in order to investigate STEM careers.

(6) The student thinks critically and creatively to devise a system or process in applying fundamental engineering solutions needed for a project to meet desired needs and specifications within constraints. The student is expected to:

(A) identify an engineering need through collaborative conversation or research;

(B) develop a proposal to execute an engineering solution that includes performance metrics and constraints such as economics, resources, or safety;

(C) analyze an implemented engineering solution and suggest changes to improve the engineering design or process; and

(D) assess the risks or trade-offs and benefits of a design solution such as accessibility, aesthetics, codes, cost, functionality, ethical considerations, or sustainability.

(7) The student uses the scientific and engineering practices to investigate physical concepts and phenomena. The student is expected to:

(A) develop and test hypotheses that can be supported by observational evidence;

(B) compare scientific concepts such as particle or wave behavior or the law of thermodynamics to describe physical phenomena;

(C) design procedures to conduct an investigation;

(D) perform accurate measurement techniques using precision instruments and proper techniques;

(E) identify and quantify causes and effects of uncertainties in measured data;

(F) analyze and interpret data using equations, tables, charts, and graphs to reveal potential patterns, trends, and sources of error; and

(G) communicate conclusions supported through various methods such as laboratory reports, labeled drawings, graphic organizers, journals, summaries, oral reports, or technology-based reports.

(8) The student demonstrates appropriate safety techniques in field and laboratory environments. The student is expected to:

(A) locate and apply safety guidelines as described in various manuals, instructions, or regulations; and

(B) identify hazardous materials and properly dispose of wastes.

(9) The student describes and applies the laws governing motion in a variety of situations. The student is expected to:

(A) generate and interpret relevant equations for one-dimensional motion using graphs and charts;

(B) define scalar and vector quantities;

(C) calculate displacement, distance, speed, velocity, average velocity, frames of reference, acceleration, and average acceleration using one-dimensional equations;

(D) calculate displacement, velocity, average velocity, acceleration, and average acceleration within a frame of reference using graphical vector addition;

(E) use graphs and charts to generate and interpret relevant equations for two-dimensional motion;

(F) explain projectile and circular motion using two-dimensional equations or vectors and apply the concepts to an investigation such as testing a catapult or carousel;

(G) explain Newton's first law of motion and apply the concepts of equilibrium and inertia to investigations using relevant real-world examples such as rockets, satellites, and automobile safety devices;

(H) conduct investigations that include calculations and free body diagrams to observe the effect of forces on objects, including tension, friction, normal force, gravity, centripetal force, and applied force, using the relationship between force, mass, and acceleration as represented by Newton's second law of motion;

(I) conduct or design investigations such as those that involve rockets, tug-of-war, or balloon cars to illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams;

(J) design a model based on Newton's law of universal gravitation between two or more objects to determine the relationships between force, their masses, and the distance between their centers;

(K) design, evaluate, and refine a device that uses the concepts of impulse and conservation of momentum to minimize the net force on objects during collisions such as those that occur during vehicular accidents or sports activities or when a personal electronic device is dropped; and

(L) describe and calculate the mechanical energy of the power generated within, the impulse applied to, and the momentum of a physical system.

(10) The student describes the nature of forces in the physical world. The student is expected to:

(A) use Coulomb's law to predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers;

(B) build models such as generators, motors, and transformers that show how electric, magnetic, and electromagnetic forces and fields work in everyday life;

(C) test a variety of materials to determine conductive or insulative properties based on their electric properties;

(D) design, evaluate, and refine series and parallel circuits using schematics, digital resources, or materials such as switches, wires, resistors, lightbulbs, batteries, multimeters, voltmeters, and ammeters; and

(E) construct series and parallel circuits and use Ohm's Law to calculate current, potential difference, resistance, and power of various real-world series and parallel circuits such as models of in-home wiring, automobile wiring, and simple electrical devices.

(11) The student describes and applies the laws of the conservation of energy. The student is expected to:

(A) describe the transformations among work, potential energy, and kinetic energy using the work-energy theorem;

(B) calculate work, power, kinetic energy, and potential energy;

(C) identify, describe, and give real-world examples of simple machines such as levers, pulleys, wheels axles, wedges, screws, and inclined planes;

(D) calculate the mechanical advantage of simple machines; and

(E) apply the laws of conservation of energy to a physical system using simple machines such as a Rube Goldberg machine.

(12) The student analyzes the concept of thermal energy. The student is expected to:

(A) explain the laws of thermodynamics and how they relate to systems such as engines, heat pumps, refrigeration, solar, and heating and air conditioning;

(B) investigate and demonstrate the movement of thermal energy through various states of matter by convection, conduction, and radiation through environmental and man-made systems; and

(C) design, construct, and test a device or system that either minimizes or maximizes thermal energy consumption and perform a cost-benefit analysis such as comparing materials and energy sources that are renewable and nonrenewable.

(13) The student analyzes the properties of wave motion and optics. The student is expected to:

(A) examine and describe oscillatory motion using pendulums and wave propagation in various types of media;

(B) investigate and analyze characteristics of waves, including period, velocity, frequency, amplitude, and wavelength;

(C) investigate and calculate the relationship between wave speed, frequency, and wavelength;

(D) compare the characteristics and behaviors of transverse waves and longitudinal waves, including electromagnetic waves and sound waves;

(E) describe how the differences in wavelength and frequency within the electromagnetic spectrum impact real-world technologies such as radio, x-rays, and microwaves;

(F) investigate and explain behaviors of waves, including reflection, refraction, diffraction, interference, resonance, polarization, and the Doppler effect; and

(G) describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Texas Education Agency
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SUBCHAPTER P. TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

19 TAC §§127.887 - 127.890, 127.920

STATUTORY AUTHORITY. The new sections are adopted 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(j), which allows the SBOE by rule to require laboratory instruction in secondary science courses and require a specific amount or percentage of time in a secondary science course that must be laboratory instruction; 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 the TEC, §28.002; and TEC, §28.025(b-2)(2), which requires the SBOE to allow a student by rule to comply with the curriculum requirements for the third and fourth mathematics credits under TEC, §28.025(b-1)(2), or the third and fourth science credits under TEC, §28.025(b-1)(3), by successfully completing a CTE course designated by the SBOE as containing substantially similar and rigorous content.

CROSS REFERENCE TO STATUTE. The new sections implement Texas Education Code, §§7.102(c)(4); 28.002(a), (c), and (j); and 28.025(a) and (b-2)(2).

§127.889. Aircraft Powerplant Technology (Two Credits), Adopted 2024.

(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. Prerequisite: Aircraft Maintenance Technology. 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 Transportation, Distribution, and Logistics Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

(3) Aircraft Powerplant Technology is designed to teach the theory of operation of aircraft powerplants and associated maintenance and repair practices of the Federal Aviation Administration (FAA) powerplant curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA Airman Certification Standards. Powerplant maintenance and repair practices include knowledge of the theory, function, diagnosis, and service of powerplants, systems, and components of aircraft. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.

(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.

(6) The FAA uses standard terms with specific expectations for performance. The terms are defined as follows.

(A) Check means to verify proper operation.

(B) Inspect means to examine with or without inspection enhancing tools or equipment.

(C) Overhaul means to disassemble, clean, inspect, repair as necessary, and reassemble.

(D) Repair means to correct a defective condition.

(E) Service means to perform functions that assure continued operation.

(F) Troubleshoot means to analyze and identify malfunctions.

(7) When a student performs an action, such as checking, inspecting, overhauling, repairing, servicing, troubleshooting, and installing in this course, they are to complete all associated tasks. If an action detects a flaw, defect, or discrepancy in an aircraft or component, that finding could trigger another maintenance action. Actions may include documenting findings through logbook entries, maintenance action forms, installation plans, and work orders.

(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 and compare employment opportunities, including entrepreneurship opportunities, and certification requirements for the field of aircraft maintenance;

(B) identify and demonstrate ways to contribute and collaborate as an effective member of a team;

(C) identify individual ethical and legal behavior standards according to professional and regulatory agencies;

(D) research and discuss the impact of the English language proficiency requirements as prescribed by the Federal Aviation Regulations;

(E) identify and explain human factors that may impact health and safety in a worksite as addressed by industry standards;

(F) explain the role of human factors in maintaining health and safety in the workplace and demonstrate personal responsibility to maintain health and safety in the workplace;

(G) identify and explain how employees' personal responsibility attitudes can affect the success and profitability of a workplace;

(H) apply reasoning skills to a variety of simulated workplace situations in order to make ethical decisions;

(I) identify standards of industry related to employee appearance and health habits;

(J) identify and practice effective written and oral communication skills;

(K) identify and practice effective listening skills; and

(L) define and apply FAA standard terms that have specific expectations for performance, including check, inspect, overhaul, repair, service, and troubleshoot.

(2) The student relates academic skills to the requirements of reciprocating engines. The student is expected to:

(A) identify the components and types of reciprocating internal combustion aircraft engines, including inline, opposed, V-type, and radial engines;

(B) explain the operational theory of reciprocating internal combustion aircraft engines, including inline, opposed, V-type, and radial engines;

(C) explain the purpose and methods of reciprocating engine preservation;

(D) explain the purpose and methods of reciprocating engine maintenance and inspection;

(E) locate and explain the procedures for reciprocating engine ground operations;

(F) identify the components and explain the basic operation of diesel engines;

(G) explain the basic operational theory of diesel engines;

(H) research and identify the risks of maintenance that requires moving the propeller;

(I) research and identify the risks of ground operating a reciprocating engine;

(J) research and identify the actions necessary in the event of a reciprocating engine fire; and

(K) research and identify the risks in not using the manufacturer's procedures during maintenance.

(3) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for reciprocating engines, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) perform and document findings from a cylinder assembly inspection;

(B) operate and troubleshoot a reciprocating engine;

(C) install a wrist pin in a piston;

(D) identify the parts of a cylinder and a crankshaft;

(E) identify and inspect bearings found in reciprocating engines; and

(F) inspect and rig cable and push-pull engine controls.

(4) The student relates academic skills to the requirements of turbine engines. The student is expected to:

(A) identify the components and types of turbine engines;

(B) explain the basic operational theory of turbine engines;

(C) explain the purpose and methods of monitoring turbine engine performance;

(D) explain the purpose and methods of turbine engine troubleshooting, maintenance, and inspection;

(E) research and explain the causes of turbine engine performance loss;

(F) explain the basic operational theory of bleed air systems;

(G) explain the purpose and methods of turbine engine preservation;

(H) explain the theory and application of auxiliary power units;

(I) research and identify the risks of turbine engine operation;

(J) research and identify the risks of performing maintenance on a turbine engine;

(K) research and identify the actions necessary in the event of a turbine engine fire; and

(L) research and identify the risks of foreign object damage (FOD) to turbine engines.

(5) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for turbine engines, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify different turbine compressors;

(B) identify different types of turbine engine blades;

(C) identify components of turbine engines;

(D) map airflow direction and pressure changes in turbine engines;

(E) identify and locate the procedures for the adjustment of a fuel control unit;

(F) identify and locate the installation or removal procedures for a turbine engine;

(G) identify damaged turbine engine blades; and

(H) analyze causes for turbine engine performance loss.

(6) The student relates academic skills to the requirements of engine inspection. The student is expected to:

(A) explain the purpose of inspection requirements under 14 Code of Federal Regulations (CFR) Part 43 and 14 CFR Part 91;

(B) explain the purpose and methods of identification of life-limited parts and life-limited parts replacement intervals;

(C) explain the purpose and types of special inspections such as sudden engine stoppage, hard landings, and foreign object debris (FOD) ingestion;

(D) explain the purpose of using FAA-approved data;

(E) explain the importance of compliance with service letters, service bulletins, instructions for continued airworthiness, airworthiness directives (AD), and Type Certificate Data Sheets (TCDS);

(F) explain the purpose of maintenance recordkeeping requirements under 14 CFR Part 43;

(G) explain the purpose of engine component inspection, checking, and servicing;

(H) explain the importance of inspecting engine mounts and mounting hardware;

(I) research and identify the risks of performing a compression test on a reciprocating engine; and

(J) research and identify the risks of performing maintenance on an operating reciprocating engine and a turbine engine.

(7) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine inspection, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) evaluate a powerplant for compliance with FAA-approved or manufacturer data;

(B) perform a powerplant records inspection;

(C) inspect a powerplant for compliance with applicable ADs;

(D) determine powerplant installation eligibility in accordance with the TCDS;

(E) inspect engine controls for proper operation and adjustment;

(F) inspect an aircraft engine accessory for serviceability;

(G) inspect engine records for time or cycles on life-limited parts;

(H) perform an engine start and inspect engine operational parameters; and

(I) inspect an engine mount to determine serviceability.

(8) The student relates academic skills to the requirements of engine instrument systems. The student is expected to:

(A) identify the components of engine instrument systems, including fuel flow, temperature, engine speed, pressure, torque meter, engine pressure ratio (EPR), engine indicating and crew alerting system (EICAS), and electronic centralized aircraft monitor (ECAM);

(B) explain the operational theory of engine instrument systems, including fuel flow, temperature, engine speed, pressure, torque meter, EPR, EICAS, and ECAM;

(C) describe the types of annunciator indicators and the functions of annunciator indicating systems;

(D) define the meaning of annunciator indicating system warning, caution, and advisory lights;

(E) identify the components and explain the operational theory of full authority digital engine controls (FADEC);

(F) explain the purpose and methods of marking engine instrument ranges;

(G) research and identify the risks of damaging instrument systems or indicating systems during maintenance; and

(H) research and identify the risks of inaccurate engine instrument calibration or inaccurate instrument readings.

(9) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine inspection, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) remove, inspect, and install a fuel-flow transmitter;

(B) remove, inspect, and install a fuel-flow gauge;

(C) identify components of an electric tachometer system;

(D) inspect tachometer markings for accuracy;

(E) locate procedures for troubleshooting a turbine EPR system;

(F) inspect exhaust gas temperature (EGT) probes;

(G) locate and inspect engine low fuel pressure warning system components; and

(H) troubleshoot an EGT indicating system.

(10) The student relates academic skills to the requirements of engine fire protection systems. The student is expected to:

(A) identify types of fires such as electrical, structural, and petroleum-based fires and explain the purpose of engine fire zones;

(B) identify the components and explain the basic operation of fire detection warning systems;

(C) explain the purpose of fire detection system maintenance and inspection requirements;

(D) identify fire extinguishing agents and types of fire extinguishing systems;

(E) explain the purpose and methods of fire extinguishing system maintenance and inspection;

(F) research and identify the risks of container discharge cartridges;

(G) research and identify the risks of extinguishing agents; and

(H) research and identify the risks of maintenance on circuits associated with electrically activated container discharge cartridges.

(11) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine fire protection systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify fire detection sensing units;

(B) locate troubleshooting procedures for a fire detection system;

(C) inspect fire extinguisher discharge circuit;

(D) check operation of fire warning press-to-test and troubleshoot faults; and

(E) identify continuous-loop fire detection system components.

(12) The student relates academic skills to the requirements of engine electrical systems. The student is expected to:

(A) identify the components of engine electrical systems, including alternating current generators, direct current generators, alternators, starter generators, voltage regulators, overvoltage protection, and overcurrent protection;

(B) explain the operational theory of engine electrical systems, including alternating current generators, direct current generators, alternators, starter generators, voltage regulators, overvoltage protection, and overcurrent protection;

(C) explain the procedure for locating the correct electrical wire size needed to fabricate a wire;

(D) explain the purpose of engine electrical wiring, switches, and protective devices;

(E) research and identify the risks of reversing polarity when performing electrical system maintenance;

(F) research and identify the actions necessary in response to a warning or caution annunciator light;

(G) research and identify the risks of performing maintenance on energized aircraft systems; and

(H) research and identify the risks of improper routing and securing wiring near flammable fluid lines.

(13) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine electrical systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) inspect engine electrical wiring, switches, cable, and protective devices;

(B) analyze the suitability of a replacement component by part number;

(C) troubleshoot a direct-drive electric starter system;

(D) select the appropriate wire size for engine electrical system;

(E) repair a broken engine electrical system wire;

(F) troubleshoot an electrical system using a schematic or wiring diagram;

(G) fabricate a bonding jumper; and

(H) inspect engine electrical connectors.

(14) The student relates academic skills to the requirements of engine lubrication systems. The student is expected to:

(A) describe types, grades, and uses of engine oil;

(B) identify the components and explain the basic operation of lubrication systems, including wet-sumps and dry-sumps;

(C) explain the purpose of chip detectors;

(D) explain the purpose and methods of lubrication system maintenance, inspection, servicing, and analysis;

(E) explain the causes of excessive aircraft engine oil consumption;

(F) research and identify the risks of mixing engine oils;

(G) research and identify the risks in not using the manufacturer's recommendations regarding the use of engine lubricants; and

(H) research and identify the risks of improper handling, storage, and disposal of used lubricating oil.

(15) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine lubrication systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) inspect an oil cooler or oil lines;

(B) identify the correct type of oil for a specific engine;

(C) identify approved oils for different climatic temperatures;

(D) identify and locate procedures for obtaining oil samples;

(E) inspect an oil filter or screen based on industry standards;

(F) identify oil system components;

(G) replace an oil system component;

(H) identify oil system flow through the engine;

(I) troubleshoot an engine oil pressure malfunction;

(J) troubleshoot an engine oil temperature system; and

(K) identify types of metal found in an oil filter.

(16) The student relates academic skills to the requirements of ignition and starting systems. The student is expected to:

(A) identify the components of ignition systems, including spark plugs, shower of sparks, magnetos, impulse couplings, solid-state ignitions, and FADECs;

(B) explain the operational theory of ignition systems and components, including spark plugs, shower of sparks, magnetos, impulse couplings, solid-state ignitions, and FADECs;

(C) identify the components and explain the basic operation of engine starters;

(D) identify the components and explain the basic operation of turbine engine ignition systems;

(E) research and identify the risks of advanced and retarded ignition timing on piston engines;

(F) research and identify the risks of maintenance on engines with capacitor discharge ignition systems; and

(G) research and identify the risks of working around reciprocating engines with an ungrounded magneto.

(17) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for ignition and starting systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) remove, clean, inspect, and install a spark plug;

(B) inspect an electrical starting system;

(C) troubleshoot an electrical starting system;

(D) troubleshoot an ignition switch circuit;

(E) identify the correct spark plugs used for replacement installation; and

(F) identify the correct igniter plug on a turbine engine.

(18) The student relates academic skills to the requirements of engine fuel and fuel metering systems. The student is expected to:

(A) explain the purpose of proper fuel to air ratios and fuel metering;

(B) identify the components, basic operation, and adjustment of fuel metering systems, including float carburetor, pressure carburetor, continuous-flow fuel injection, FADEC, and hydromechanical fuel control;

(C) explain the purpose and basic operation of fuel heaters, lines, pumps, valves, filters, and drains;

(D) explain the basic operation of fuel nozzles and manifolds;

(E) identify the components and explain the basic operation of turbine engine fuel metering systems;

(F) locate and explain inspection requirements for an engine fuel system;

(G) explain fuel system operation;

(H) research and identify the risks of adjusting turbine engine fuel controls;

(I) research and identify the risks of adjusting reciprocating engine fuel controls;

(J) research and identify the risks of handling fuel metering system components or fuel control units that may contain fuel; and

(K) research and identify the risks of fuel system maintenance.

(19) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine fuel and fuel metering systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify carburetor components;

(B) identify fuel and air flow through a float-type carburetor;

(C) remove and install a carburetor main metering jet;

(D) inspect the needle, seat, and float level on a float-type carburetor;

(E) adjust carburetor idle speed and mixture;

(F) research and locate procedures for a turbine engine revolutions per minute overspeed inspection;

(G) research and locate procedures for adjusting a hydromechanical fuel control unit;

(H) explain procedures for removing and installing a turbine engine fuel control unit;

(I) identify components of an engine fuel system;

(J) identify fuel selector placards;

(K) inspect engine fuel system fluid lines and components;

(L) locate the procedures for troubleshooting a turbine engine fuel heater system; and

(M) inspect fuel selector valve.

(20) The student relates academic skills to the requirements of reciprocating engine induction and cooling systems. The student is expected to:

(A) identify the components and explain the theory of operation of reciprocating engine induction and cooling systems;

(B) explain the causes and effects of induction system icing;

(C) identify the components and explain the theory of superchargers, supercharger controls, turbochargers, turbocharger controls, and intercoolers;

(D) identify the components and explain the theory of augmenter cooling systems;

(E) identify the components and explain the theory of induction system filtering and carburetor heaters;

(F) research and identify the risks of maintenance on turbochargers;

(G) research and identify the risks of ground operation of aircraft engines;

(H) research and identify the risks of maintenance-related foreign object debris and foreign object damage; and

(I) research and identify the risks of chemicals used in liquid cooling systems.

(21) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for reciprocating engine induction and cooling systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) inspect a carburetor heat system;

(B) inspect an alternate air valve for proper operation;

(C) inspect an induction system drain for proper operation;

(D) service an induction air filter;

(E) inspect an induction system for obstruction;

(F) inspect an air intake manifold for leaks;

(G) locate the proper specifications for coolant used in a liquid-cooled engine;

(H) inspect reciprocating engine cooling ducting and baffle seals for damage;

(I) identify components of a turbocharger induction system;

(J) identify exhaust augmenter-cooled engine components;

(K) inspect and repair a cylinder baffle;

(L) inspect a cowl flap system for normal operation; and

(M) inspect cylinder cooling fins for damage.

(22) The student relates academic skills to the requirements of turbine engine air systems. The student is expected to:

(A) identify the components and explain the operational theory of air cooling systems, turbine engine induction systems, turbine engine bleed air systems and turbine engine anti-ice systems;

(B) explain the purpose and theory of turbine engine cowling air flow and turbine engine internal cooling;

(C) identify the components and purpose of turbine engine baffle and methods of seal installation;

(D) identify and explain the purpose of turbine engine insulation blankets and shrouds;

(E) research and identify the risks of maintenance on compressor bleed air systems; and

(F) research and identify the risks of ground operation of aircraft engines following other than manufacturer's instructions.

(23) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for turbine engine air systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify location of turbine engine insulation blankets;

(B) identify turbine engine cooling air flow;

(C) inspect rigid or flexible turbine engine cooling ducting or baffle seals; and

(D) identify turbine engine ice and rain protection system components.

(24) The student relates academic skills to the requirements of engine exhaust and reverser systems. The student is expected to:

(A) identify the components of reciprocating engine exhaust systems, turbine engine exhaust systems, noise suppression systems, and thrust reversers;

(B) explain the operational theory of reciprocating engine exhaust systems, turbine engine exhaust systems, noise suppression systems, and thrust reversers;

(C) research and identify the risks of maintenance and inspection of exhaust system components;

(D) research and identify the risks of operating reciprocating engines with exhaust systems leaks and exhaust system failures; and

(E) research and identify the risks of ground operation of aircraft engines.

(25) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for engine exhaust and reverser systems, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify the type of exhaust system on a particular aircraft;

(B) inspect exhaust system;

(C) locate and explain procedures for testing and troubleshooting a turbine thrust reverser system; and

(D) perform a pressure leak check of a reciprocating engine exhaust system.

(26) The student relates academic skills to the requirements of propellers. The student is expected to:

(A) explain the theory and operation of propellers;

(B) identify types of propellers and blade design;

(C) explain the theory and operation of constant speed propellers, pitch control systems, and propeller governors;

(D) explain the theory and operation of turbine engine propeller beta range operation;

(E) explain the purpose and methods of propeller servicing, maintenance, and inspections;

(F) identify and locate procedures for removal and installation of a propeller;

(G) explain the purpose of propeller TCDS;

(H) explain the theory and operation of propeller synchronization systems and propeller ice control systems; and

(I) research and identify the risks of propeller ground operation, maintenance, and inspections.

(27) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for propellers, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) check blade static tracking;

(B) inspect a propeller for condition and airworthiness;

(C) measure propeller blade angle;

(D) locate and explain the procedures for balancing a fixed-pitch propeller;

(E) identify propeller range of operation; and

(F) determine what minor propeller alterations are acceptable using the propeller specifications, TCDS, and listings.

§127.890. Aircraft Maintenance Technology (One Credit), Adopted 2024.

(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. Recommended prerequisites: Introduction to Aircraft Technology. 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 Transportation, Distribution, and Logistics Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure plan-

ning and management, logistics services, mobile equipment, and facility maintenance.

(3) Aircraft Maintenance Technology is designed to teach the theory of operation, general maintenance, and repair practices of Federal Aviation Administration (FAA) general curriculum subjects utilizing aircraft, aircraft training devices, or equivalent simulated situations. In this course, the academic and technical skills are separated to reflect the learning outcomes as designed in the FAA airman certification standards. Maintenance and repair practices include knowledge of the function, diagnosis, and service of aircraft and their associated equipment. Industry-recognized professional licensures, certifications, and registrations are available for students who meet the requirements set forth by the accrediting organization.

(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.

(6) The FAA uses standard terms with specific expectations for performance. The terms are defined as follows.

(A) Check means to verify proper operation.

(B) Inspect means to examine with or without inspection enhancing tools or equipment.

(C) Overhaul means to disassemble, clean, inspect, repair as necessary, and reassemble.

(D) Repair means to correct a defective condition.

(E) Service means to perform functions that assure continued operation.

(F) Troubleshoot means to analyze and identify malfunctions.

(7) When a student performs an action, such as checking, inspecting, overhauling, repairing, servicing, troubleshooting, and installing in this course, they are to complete all associated tasks. If an action detects a flaw, defect, or discrepancy in an aircraft or component, that finding could trigger another maintenance action. Actions may include documenting findings through logbook entries, maintenance action forms, installation plans, and work orders.

(d) Knowledge and skills.

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

(A) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the field of aircraft maintenance and repair;

(B) identify and demonstrate ways to contribute and collaborate as an effective member of a team;

(C) identify individual ethical and legal behavior standards according to professional and regulatory agencies;

(D) research and discuss the impact of the English language proficiency requirements as prescribed by the Federal Aviation Regulations;

(E) identify and explain the technical knowledge and skills related to human factors in health and safety in the worksite as addressed by industry standards;

(F) explain the role of human factors in maintaining health and safety in the workplace and demonstrate personal responsibility to maintain health and safety in the worksite;

(G) identify and explain how employees' personal responsibility attitudes can affect the success and profitability of a worksite;

(H) apply reasoning skills to a variety of workplace situations to make ethical decisions;

(I) identify industry standards related to employee appearance and health habits;

(J) practice effective written and oral communication skills;

(K) identify and practice effective listening skills; and

(L) define and apply FAA standard terms that have specific expectations for performance, including check, inspect, overhaul, repair, service, and troubleshoot.

(2) The student relates academic skills to the requirements of human factors. The student is expected to:

(A) describe safety culture and organizational structures in the work environment;

(B) identify and explain types of human error and human factor principles;

(C) identify and discuss the chain-of-events theory, including pre-conditions and conditions for unsafe acts;

(D) identify and discuss the 12 common causes of mistakes in the aviation workplace; and

(E) research and discuss the purpose of safety management systems in the aviation workplace.

(3) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for human factors, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) complete and submit a malfunction and defect report; and

(B) research and report on information regarding human factor errors.

(4) The student relates academic skills to the requirements of aviation mathematics. The student is expected to:

(A) perform algebraic operations involving addition, subtraction, multiplication, and division, using positive and negative numbers;

(B) determine areas and volumes of various geometric shapes;

(C) solve ratio, proportion, and percentage problems; and

(D) extract roots and raise numbers to a given power.

(5) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for aviation mathematics, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) compute the volume of a shape such as a baggage compartment, a fuel tank, or an engine cylinder;

(B) compute the area of an aircraft wing;

(C) convert between fractions and decimals;

(D) compute torque value conversions between inch-pounds and foot-pounds; and

(E) compute the compression ratio of a reciprocating engine cylinder.

(6) The student relates academic skills to the requirements of fundamentals of electricity and electronics. The student is expected to:

(A) explain electron theory, including magnetism, capacitance, induction, direct current electrical circuits, and alternating current electrical circuits;

(B) explain electrical theories and laws, including Ohm's Law, Kirchhoff's Law, Watt's Law, Faraday's Law, Lenz's Law, and right-hand rule;

(C) identify and explain electrical measurement principles and related tools and procedures for measuring voltage, current, resistance, and power;

(D) compare types of batteries; and

(E) compare series circuits and parallel circuits.

(7) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for fundamentals of electricity and electronics, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) use multimeters to perform circuit continuity tests, test a switch and fuse, and measure voltage, current, and resistance;

(B) interpret aircraft electrical circuit diagrams and symbols;

(C) inspect and service an aircraft battery; and

(D) identify faults in circuits by using appropriate troubleshooting techniques.

(8) The student relates academic skills to the requirements of physics for aviation. The student is expected to:

(A) explain the theory of flight, including lift, weight, thrust, and drag, as related to Bernoulli's Principle, Newton's Laws of Motion, and fluid mechanics;

(B) describe the function and operation of aircraft flight controls and additional aerodynamic devices, including vortex generators, wing fences, and stall strips; and

(C) analyze and compare standard atmospheric factors affecting atmospheric conditions, including the relationship between temperature, density, weight, and volume.

(9) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for physics for aviation, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) determine density and pressure altitude;

(B) identify changes to pressure and velocity of a fluid as it passes through a venturi;

(C) calculate force, area, and pressure for a given scenario related to aircraft maintenance; and

(D) calculate the lift of an aircraft and determine if the aircraft will climb, descend, or maintain altitude given its weight.

(10) The student relates academic skills to the requirements of weight and balance. The student is expected to:

(A) describe the purpose of weighing an aircraft and determining the aircraft's center of gravity;

(B) explain the procedures for weighing an aircraft, including the general preparation for weighing, with emphasis on aircraft weighing area considerations;

(C) explain the procedures for calculating center of gravity, including arm, positive and negative moment, center of gravity, and moment index; and

(D) explain adverse loading considerations, proper empty weight configuration, and ballast placement.

(11) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for weight and balance, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) calculate aircraft weight and balance, including equipment changes, empty weight, and empty weight center of gravity; and

(B) locate datum, weight and balance information, placarding, and limitation requirements for an aircraft in an appropriate reference such as the type certificate data sheet.

(12) The student relates academic skills to the requirements of aircraft drawings. The student is expected to:

(A) identify and use aircraft drawing terminology; and

(B) interpret aircraft drawings, blueprints, sketches, charts, graphs, and system schematics related to repairs, alterations, and inspections.

(13) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for aircraft drawings, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify and describe the meaning of lines and symbols used in an aircraft drawing;

(B) interpret dimensions used in an aircraft drawing;

(C) identify changes to aircraft drawings; and

(D) identify material requirements indicated by an aircraft drawing.

(14) The student relates academic skills to the requirements of regulations, forms, and publications. The student is expected to:

(A) identify recency of experience requirements, the privileges and limitations of mechanic certificates, and how to reestablish privileges once they are lost;

(B) define maintenance terminology as defined in 14 Code of Federal Regulations (CFR) Part 1, including time in service, maintenance, preventive maintenance, major alteration, major repair, minor alteration, and minor repair;

(C) describe requirements for maintenance record entries for approval for return to service after maintenance, alterations, and inspections;

(D) identify compliance requirements for manufacturer-specified maintenance methods, techniques, practices, and inspection intervals;

(E) explain FAA-approved maintenance data, including maintenance manuals and other methods acceptable by the administrator; and

(F) describe mechanic change of address notification procedures.

(15) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for regulations, forms, and publications, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) evaluate a 100-hour inspection aircraft maintenance record entry for accuracy;

(B) locate applicable FAA aircraft specifications and FAA Type Certificate Data Sheets (TCDS) for an aircraft or component;

(C) determine the conformity of aircraft instrument range markings and placarding;

(D) use a manufacturer's illustrated parts catalog to locate specific part numbers for aircraft parts such as door handles, rudder pedals, or seat latches;

(E) determine whether a given repair or alteration is major or minor; and

(F) explain the difference between approved data such as data required for major repairs or alterations and acceptable data such as data required for minor repairs or alterations.

(16) The student relates academic skills to the requirements of fluid lines and fittings. The student is expected to:

(A) identify rigid tubing and flexible hose materials, applications, sizes, and fittings;

(B) describe rigid tubing and flexible hose fabrication, installation, and inspection techniques;

(C) explain the importance of properly using a torque wrench and torque seal when securing fluid hose and line fittings; and

(D) analyze and describe the risks associated with high-pressure hydraulic system configuration prior to and during maintenance.

(17) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for fluid lines and fittings, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) fabricate and install a rigid line with a flare and a bend;

(B) fabricate and install a flexible hose; and

(C) perform a rigid line and flexible hose inspection.

(18) The student relates academic skills to the requirements of aircraft materials, hardware, and processes. The student is expected to:

(A) identify and describe material markings and hardware markings commonly used in aircraft;

(B) compare suitability and compatibility of materials and hardware used for maintenance;

(C) explain forces placed on aircraft materials, including tension, compression, torsion, bending, strain, and shear;

(D) identify safety wire and safety clip requirements and techniques;

(E) identify cotter pin requirements and techniques;

(F) describe precision measurement tools, principles, and procedures;

(G) explain soldering preparation, types of solder, and flux usage;

(H) analyze torquing tools, principles, and procedures and the relationship between torque and fastener preload; and

(I) differentiate between the characteristics of acceptable and unacceptable welds.

(19) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for aircraft materials, hardware, and processes, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) select aircraft materials and hardware such as bolts, turnbuckles, washers, and rivets based on manufacturer's markings appropriate for a specific scenario;

(B) install safety wire on hardware such as nuts, bolts, and turnbuckles;

(C) install cotter pins on hardware such as nuts and bolts;

(D) check for proper calibration of a precision-measurement tool and record precision measurements with an instrument that has a Vernier scale;

(E) determine required torque values and properly torque aircraft hardware; and

(F) inspect welds and differentiate between acceptable and unacceptable welds.

(20) The student relates academic skills to the requirements of ground operations and servicing. The student is expected to:

(A) describe proper towing and securing procedures for aircraft using approved data;

(B) describe proper aircraft ground servicing, including oil, oxygen, hydraulic, pneumatic, and deicing systems and fueling and defueling procedures;

(C) differentiate between characteristics of aviation gasoline, turbine fuels, and fuel additives;

(D) explain engine starting, ground operation, and aircraft taxiing procedures;

(E) explain airport operation area procedures and air traffic control communications, including runway incursion prevention;

(F) identify the types and classes of fire extinguishers;

(G) analyze the importance of proper tool and hardware use and accountability;

(H) describe the need for proper material handling and parts protection;

(I) identify hazardous materials, locate the appropriate safety data sheet (SDS), and select the indicated personal protection equipment (PPE); and

(J) analyze and describe the potential effects of foreign object damage (FOD) on aircraft.

(21) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for ground operations and servicing, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) perform a foreign object damage (FOD) control procedure;

(B) connect external power to an aircraft;

(C) prepare an aircraft for towing;

(D) use appropriate hand signals for the movement of aircraft;

(E) identify different grades of aviation fuel and select an approved fuel for an aircraft;

(F) prepare an aircraft for fueling and inspect an aircraft fuel system for water and foreign object debris (FOD) contamination;

(G) follow a checklist to start up or shut down an aircraft reciprocating or turbine engine;

(H) identify procedures for extinguishing fires in an engine induction system;

(I) secure an aircraft by locating and following the correct procedures for a turbine-powered aircraft after engine shutdown; and

(J) locate and explain procedures for securing a turbine-powered aircraft after engine shutdown.

(22) The student relates academic skills to the requirements of cleaning and corrosion control. The student is expected to:

(A) explain the need for aircraft cleaning procedures;

(B) explain corrosion theory, including types and effects of corrosion, corrosion-prone areas in aircraft, and corrosion preventive maintenance procedures;

(C) describe corrosion identification and inspection techniques, corrosion removal and treatment procedures, the selection of optimal corrosion preventive compounds (CPC), and the frequency of corrosion treatment;

(D) describe the use of high-pressure application equipment;

(E) identify and discuss the effects of improper use of cleaners on aluminum or composite materials;

(F) explain accelerated corrosion caused by dissimilar metals and the role of protective barriers, including conversion coatings, materials used for protection of airframe structures, and primer materials, to mitigate this risk;

(G) identify topcoat materials and discuss concerns regarding surface preparation for a desired finishing material, effects of ambient conditions on finishing materials, and effects of improper surface preparation on finishing materials; and

(H) identify health concerns when using paints, solvents, and finishing materials and processes, including the use of PPE.

(23) The student uses regulatory and industry standards and demonstrates technical knowledge and skills for cleaning and corrosion control, utilizing aircraft, aircraft training devices, or equivalent simulated situations. The student is expected to:

(A) identify types of protective finishes;

(B) inspect finishes for corrosion and identify, select, and use aircraft corrosion prevention and cleaning materials; and

(C) apply aircraft corrosion prevention and coating materials.

§127.920. Advanced Transportation Systems Laboratory (One Credit), Adopted 2024.

(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 as a corequisite course for students participating in a coherent sequence of career and technical education courses in the Transportation, Distribution, and Logistics Career Cluster. This course provides an enhancement opportunity for students to develop the additional skills necessary to pursue industry certification. Recommended prerequisite: a minimum of one credit from the courses in the Transportation, Distribution, and Logistics Career Cluster. Corequisites: Automotive Technology II: Automotive Service, Diesel Equipment Technology II, Collision Repair, Paint and Refinishing, Aircraft Airframe Technology, Aircraft Maintenance Technology, or Aircraft Powerplant Technology. This course must be taken concurrently with a corequisite course and may not be taken as a stand-alone course. Districts are encouraged to offer this lab in a consecutive block with the corequisite course to allow students sufficient time to master the content of both courses. 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 Transportation, Distribution, and Logistics Career Cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment, and facility maintenance.

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

(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 knowledge of the technical knowledge and skills related to health and safety in the workplace such as safety glasses and other personal protective equipment (PPE) and safety data sheets (SDS);

(B) identify employment opportunities, including entrepreneurship opportunities and internships, and industry-recognized certification requirements in the transportation field of study;

(C) demonstrate the principles of group participation, team concept, and leadership related to citizenship and career preparation;

(D) apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in the transportation industry;

(E) discuss certification opportunities;

(F) discuss response plans to emergency situations;

(G) identify employers' expectations and appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills; and

(H) develop personal goals, objectives, and strategies as part of a plan for future career and educational opportunities.

(2) The student demonstrates an understanding of the technical knowledge and skills that form the core of knowledge of transportation services. The student is expected to:

(A) extend knowledge of new and emerging transportation technologies related to the corequisite course and its industry such as hybrid, avionics, unmanned aerial systems, collision avoidance, and light duty diesel systems;

(B) demonstrate advanced technical skills related to the corequisite course and its industry;

(C) demonstrate an understanding of the use of advanced tools and equipment; and

(D) demonstrate an understanding of research and development in the transportation industry of the corequisite course.

(3) The student develops an elevated aptitude for the essential knowledge and skills listed for the corequisite course. The student is expected to:

(A) demonstrate deeper understanding of the corequisite course;

(B) develop hands-on skills at an industry-accepted standard; and

(C) exhibit progress toward achieving industry-recognized documentation of specific expertise in a transportation field or skill.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 20, 2024.

TRD-202403828

Cristina De La Fuente-Valadez
Director, Rulemaking
Texas Education Agency
Effective date: September 9, 2024
Proposal publication date: March 1, 2024
For further information, please call: (512) 475-1497

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TITLE 22. EXAMINING BOARDS

PART 6. TEXAS BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS

CHAPTER 134. LICENSING, REGISTRATION, AND CERTIFICATION FOR SURVEYORS

SUBCHAPTER D. EDUCATION

22 TAC §134.31

The Texas Board of Professional Engineers and Land Surveyors (Board) adopts amendments to 22 Texas Administrative Code, Chapter 134, regarding the licensing of registered professional land surveyors, and specifically §134.31, relating to Educational Requirements for Applicants. Amendments to 22 Texas Administrative Code §134.31 are adopted without changes to the proposed text as published in the July 5, 2024, issue of the *Texas Register* (49 TexReg 4887) and will not be republished.

REASONED JUSTIFICATION FOR RULE ADOPTION

The adopted amendments to §134.31 to update the educational requirements for certain applicants for a surveyor-in-training certificate and all applicants to become a registered professional land surveyor. The Professional Land Surveying Practices Act requires applicants for a surveyor-in-training certificate that hold an associate degree or bachelor's degree in anything other than surveying to have, in a combination acceptable to the board, at least 32 hours of formal education in one of seven categories: civil engineering, land surveying, mathematics, photogrammetry, forestry, land law, and physical sciences. After review and consultation with the surveying community, the Board has determined updates in the acceptable combination of 32 hours of formal education is warranted. Land surveying is unquestionably a highly technical field that requires registrants that practice this field have a minimum competency to offer land surveying services to the people of Texas.

To ensure applicants education best prepares them to be competent registered professional land surveyors, the Board proposes to require applicants have at least nine hours of education in land surveying, at least three hours of education in land law, and at least six hours of education in mathematics. The remaining 14 hours of required education can be of any combination of the seven categories found in the Professional Land Surveying Practices Act. Additionally, the proposed rules establish definitions for the seven educational categories found in the Professional Land Surveying Practices Act to provide additional clarification to applicants.

To not adversely impact current students or people already in the process of becoming licensed, the proposed updates will apply to anyone who has not already applied for a surveyor-in-training certificate as of January 1, 2026.

PUBLIC COMMENT

Pursuant to §2001.029 of the Texas Government Code, the Board gave all interested persons a reasonable opportunity to provide oral and/or written commentary concerning the adoption of the rules. The public comment period began on July 5, 2024, and ended August 4, 2024. The Board received no comments from the public.

STATUTORY AUTHORITY

The amendments are adopted pursuant to Texas Occupations Code §§1001.201 and 1001.202, which authorize the Board to regulate engineering and land surveying and make and enforce all rules and regulations and bylaws consistent with the Texas Engineering Practice Act and the Professional Land Surveying Practices as necessary for the performance of its duties, the governance of its own proceedings, and the regulation of the practices of engineering and land surveying in this state.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 25, 2024.

TRD-202403914
Lance Kinney
Executive Director
Texas Board of Professional Engineers and Land Surveyors
Effective date: September 14, 2024
Proposal publication date: July 5, 2024
For further information, please call: (512) 440-7723

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PART 8. TEXAS APPRAISER LICENSING AND CERTIFICATION BOARD

CHAPTER 153. RULES RELATING TO PROVISIONS OF THE TEXAS APPRAISER LICENSING AND CERTIFICATION ACT

22 TAC §153.241

The Texas Appraiser Licensing and Certification Board (TALCB) adopts amendments to 22 TAC §153.241, Sanctions Guidelines.

The amendments are adopted without changes to the proposed text as published in the May 31, 2024, issue of the *Texas Register* (49 TexReg 3896) and will not be republished.

The amendments to §153.241 add additional factors that may be considered in determining the disposition of a formal complaint, specifically whether an appraisal or conduct at issue was investigated by another governmental agency and the likelihood of the same or similar conduct occurring again. Additionally, the amendments allow for greater flexibility in sanctions for First Time Discipline, Level 2 violations of the Act or Statute.

No comments were received regarding adoption of the amendments.

The amendments are adopted under Texas Occupations Code §1103.151, which authorizes TALCB to adopt rules related to certificates and licenses that are consistent with applicable federal law and guidelines adopted by the AQB and §1103.154, which authorizes TALCB to adopt rules relating to professional conduct.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 23, 2024.

TRD-202403899
Kathleen Santos
General Counsel
Texas Appraiser Licensing and Certification Board
Effective date: September 12, 2024
Proposal publication date: May 31, 2024
For further information, please call: (512) 936-3088

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PART 23. TEXAS REAL ESTATE COMMISSION

CHAPTER 533. PRACTICE AND PROCEDURE SUBCHAPTER B. GENERAL PROVISIONS RELATING TO PRACTICE AND PROCEDURE

22 TAC §533.8

The Texas Real Estate Commission (TREC) adopts an amendment to 22 TAC §533.8, Motions for Rehearing, in Chapter 533, Practice and Procedure, without changes to the text as published in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4007), and will not be republished.

The amendment to this section is made as a result of the Commission's quadrennial rule review. The amendment corrects a typographical error in subsection (h) of the rule--changing the word "supersedes" to "supersedeas."

No comments were received on the proposed amendment as published.

The amendment is adopted under Texas Occupations Code, §1101.151, which authorizes the Texas Real Estate Commission to adopt and enforce rules necessary to administer Chapters 1101 and 1102; and to establish standards of conduct and ethics for its license holders to fulfill the purposes of Chapters 1101 and 1102 and ensure compliance with Chapters 1101 and 1102.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 22, 2024.

TRD-202403884
Abby Lee
Deputy General Counsel
Texas Real Estate Commission
Effective date: September 11, 2024
Proposal publication date: June 7, 2024
For further information, please call: (512) 936-3057

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CHAPTER 534. GENERAL ADMINISTRATION

22 TAC §534.4, §534.7

The Texas Real Estate Commission (TREC) adopts amendments to 22 TAC §534.4, Historically Underutilized Businesses Program, and §534.7, Vendor Protest Procedures, in Chapter 534, General Administration, without changes, as published in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4008), and will not be republished.

The amendments are made as a result of the Commission's quadrennial rule review. The amendments correct references to applicable regulations in the Texas Administrative Code.

No comments were received on the amendments as published.

The amendments are adopted under §1101.151, Occupations Code, which authorizes the Texas Real Estate Commission to adopt and enforce rules necessary to administer Chapters 1101 and 1102; and to establish standards of conduct and ethics for its license holders to fulfill the purposes of Chapters 1101 and 1102 and ensure compliance with Chapters 1101 and 1102. The amendment to 22 TAC §534.4 is also adopted under §2161.003, Government Code, which requires the agency to adopt such a rule.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 22, 2024.

TRD-202403885
Abby Lee
Deputy General Counsel
Texas Real Estate Commission
Effective date: September 11, 2024
Proposal publication date: June 7, 2024
For further information, please call: (512) 936-3057

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CHAPTER 535. GENERAL PROVISIONS SUBCHAPTER F. REQUIREMENTS FOR EDUCATION PROVIDERS, COURSES AND INSTRUCTORS FOR QUALIFYING EDUCATION

22 TAC §535.64

The Texas Real Estate Commission (TREC) adopts amendments to 22 TAC §535.64, Content Requirements for Qualifying Real Estate Courses, in Chapter 535, General Provisions, without changes, as proposed in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4009), and will not be republished.

The amendments reflect changes to the course approval forms incorporated by reference in subsections (a)(1) - (3) of the rule related to the Principles of Real Estate I, Principles of Real Estate II, and Law of Agency courses. These course approval form revisions were recommended by the Education Standards Advisory Committee (ESAC). These changes reorder and remove content from the course approval forms to ensure relevancy and that course objectives are being met.

Two comments were received (from one commenter) on the rule as published. The commenter raised concerns about the changes to the course approval forms adopted by reference for Principles of Real Estate I and II. In particular, the commenter noted and ESAC discussed concerns about the changes and reduction of time in the math section of the course outline for Principles of Real Estate II. ESAC declined to make any changes, ultimately concluding that the outlines, including the order and content of the topics, were well thought out by the working group and that much of the concepts taught in real estate math would be tied to real estate financing, which is a separate topic in the Principles of Real Estate II outline, with 275 minutes specifically dedicated to it.

After reviewing the comment and the recommendation by ESAC, the Commission also declined to make any changes for the reasons cited above.

The amendments are adopted under §1101.151, Texas Occupations Code, which authorizes the Texas Real Estate Commission to adopt and enforce rules necessary to administer Chapters 1101 and 1102; and to establish standards of conduct and ethics for its license holders to fulfill the purposes of Chapters 1101 and 1102 and ensure compliance with Chapters 1101 and 1102, as well as §1101.003, Texas Occupations Code, which allows the Commission to prescribe by rule the content of the qualifying real estate courses listed in this section.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 22, 2024.

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Abby Lee
Deputy General Counsel
Texas Real Estate Commission
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Proposal publication date: June 7, 2024
For further information, please call: (512) 936-3057

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SUBCHAPTER L. INACTIVE LICENSE STATUS

22 TAC §§535.121, 535.123, 535.124

The Texas Real Estate Commission (TREC) adopts amendments to 22 TAC §535.121, Inactive Sales Agent License; §535.123, Inactive Broker Status; and new §535.124, Death of a Designated Broker, in Chapter 535, General Provisions, without changes, as published in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4010), and will not be republished.

Under Chapter 1101, Occupations Code (the Act) and Commission rules, in order for a business entity to obtain a broker's license, the entity must name a designated broker that: (i) holds an active broker's license in good standing with the Commission; and (ii) has managing authority for the business entity (*e.g.*, a corporate officer, an LLC manager, an LLC member with managing authority, or a general partner). Under current Commission rules, when a designated broker for a business entity dies, the business entity license becomes inactive, as does any sponsored sales agent's license. This means that neither the entity nor the sales agent will be able to perform any real estate services that require a license, even if in the middle of a transaction. To return to active status, the entity needs to designate a new broker, who must satisfy the legal requirements referenced

above. Even if the entity has a succession plan in place, this transition period can take time and leave consumers in the middle of transactions without representation.

Under the amendments and new rule, the business entity and sponsored sales agents will be given a "safe harbor" or grace period of 14 days from the broker's death before their licenses inactivate. This will provide the entity with time to name a new designated broker that satisfies the statutory requirements under the Act prior to going inactive. The changes also remove the word "immediately" from §535.121 and §535.123. Through these changes, the rule better aligns with current agency practice and provides better guidance in the event the designated broker of a licensed business entity dies.

Ninety-four comments were received on the proposed amendments and new rule as published, which the Commission's Executive Committee reviewed. Sixty-nine of those comments were in support of the proposed changes.

Fifteen commenters want a named successor on file with TREC or a required succession plan. The Executive Committee noted that even if the Commission were to implement something like this, because the Act requires the designated broker to be in good standing and to have managing authority, agency staff would still need to determine whether the named successor broker was still qualified at the time of the designated broker's death, which would not place the entity, sponsored sales agents, or consumers in any better position than under the proposed changes. The Executive Committee also expressed concern about changes in situation, relationships, or business structure that might occur between the naming of the successor and the time of death (*e.g.*, the person is no longer affiliated with the entity, the person is also deceased, etc.). The Committee stressed that, from the Commission's perspective (and authority) this issue is less about having a replacement designated broker ready at the time of death and more about allowing sufficient time to process the change without licenses becoming inactive and transactions stalling. The Committee reiterated however the importance of succession planning, even if such planning is outside the jurisdiction of the Commission.

Fourteen commenters wanted a longer safe harbor period, with most requesting 30 days instead of 14 days. One commenter wanted less time than 14 days, but did not specify an amount. The Executive Committee noted that the current turnaround time for agency staff to process a change in designated broker is three to five business days and that agency staff expedites the processing of these changes when notified of a death. The Committee also noted that the Commission considered the number of days to suggest as the safe harbor and arrived at 14 days after balancing giving the entity enough time to notify the agency with how much time a sales agent and entity is without a designated broker.

Four commenters had concerns about allowing a sales agent to have an active license for up to 14 days without a designated broker for the entity. The Committee stated that while this is a risk of any safe harbor period, the benefit and consumer protection outweighed any potential harm.

Several commenters wanted the safe harbor to be expanded to cover additional situations. Three commenters wanted these changes to be expanded to a broker who is incapacitated. The Committee noted that the rule has never addressed this scenario and expressed concerns regarding how incapacity would be demonstrated by the broker or determined by the agency. Similarly, two commenters wanted to expand the safe harbor to a broker who goes inactive. The Committee stated that this scenario does not have the same policy concerns as often a broker who goes inactive has planned to do so. Finally, one commenter wanted the safe harbor to be expanded to individual brokers who may or may not sponsor agents. The Committee noted that the situation is different for an individual broker. If an individual broker who sponsors sales agents passes away, any sponsored sales agent will be required to find a new broker, which they can quickly do by utilizing TREC's online Relationship Management Tool. In contrast, in the case of a designated broker, because the business entity still exists, then in most cases, the sponsored sales agents are not going to want to find a new broker (and would not need to if a new designated broker is named). If an individual broker passes away and does not sponsor agents, then there will not be any inactive sales agent unable to assist consumers in transactions (and although not a Commission issue, any representation agreements in place may terminate anyway).

Two commenters requested the Commission provide more education on succession planning, and the Committee noted that this topic will be included in the new Broker Responsibility Course.

One commenter asked whether a sole proprietor could name currently name a successor with TREC. The Committee said no, but that this could be accomplished by business planning (separate from the Commission's jurisdiction).

After reviewing and considering the comments, the Executive Committee declined to make changes to the rules as published. Similarly, after review and consideration of the comments, the Commission declined to make changes to the rules as published for the reasons cited above.

The amendments and new rule are adopted under Texas Occupations Code, §1101.151, which authorizes the Texas Real Estate Commission to adopt and enforce rules necessary to administer Chapters 1101 and 1102; and to establish standards of conduct and ethics for its license holders to fulfill the purposes of Chapters 1101 and 1102 and ensure compliance with Chapters 1101 and 1102.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Texas Real Estate Commission
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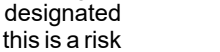

SUBCHAPTER R. REAL ESTATE INSPECTORS

22 TAC §535.209, §535.213

The Texas Real Estate Commission (TREC) adopts amendments to 22 TAC §535.209, Examinations, and §535.213, Qualifying Real Estate Inspector Instructors and Courses, in Chapter 535, General Provisions, without changes, as published

in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4012) and will not be republished.

The amendments--which primarily rearrange existing requirements--are being adopted to clarify that the Texas Practicum is an experience requirement (categorized by statute as field work) and is separate and apart from an educational course. Education providers can still offer the Texas Practicum, but will no longer need to submit a course application for the Texas Practicum or issue course completion certificates to students. Instead, students will submit the credit request form to the agency to obtain credit.

The Texas Real Estate Inspector Committee (TREIC) recommended the amendments.

Two comments were received and were reviewed by TREIC.

One commenter expressed concern that the changes are inconsistent with applicable law, the Sunset Advisory Commission's 2019 report, antitrust standards, and that the changes as proposed create a barrier to entry by not allowing the Practicum to be taught by video.

TREIC discussed with agency staff and general counsel and does not share the same concerns. Additionally, with regard to the concern raised that the changes create a barrier to entry, TREIC believes this will have the opposite effect because this will result in a cost-savings for education providers offering the Practicum and potentially to students since providers won't be required to have the Practicum approved by the Commission (which comes with associated fees that are often passed down to students). Furthermore, the only time the Commission allowed for a video or virtual component to the Practicum was during COVID. This temporary allowance ended in August 2022.

Another commenter appeared to be in support of keeping the Practicum as a course. However, for the reasons stated above, TREIC declined to make any further changes.

After reviewing the comments and the recommendation by TREIC, the Commission also declined to make any changes for the reasons cited above.

The amendments are adopted under Texas Occupations Code, §1101.151, which authorizes the Texas Real Estate Commission to adopt and enforce rules necessary to administer Chapters 1101 and 1102; and to establish standards of conduct and ethics for its license holders to fulfill the purposes of Chapters 1101 and 1102 and ensure compliance with Chapters 1101 and 1102. The amendments are also adopted under Texas Occupations Code, §1102.111, which requires the agency, by rule, to provide for substitution of relevant experience in place of certain licensing requirements and limits the number of hours of field work.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Vanessa E. Burgess
General Counsel
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For further information, please call: (512) 936-3284

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22 TAC §535.214

The Texas Real Estate Commission (TREC) adopts amendments to 22 TAC §535.214, Education and Experience Requirements for a License, in Chapter 535, General Provisions, with changes, as published in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4012), and will be republished. Changes to subsection (h)(1)(b)(i) include the addition of a clarifying statement that the required inspections also must include preparation of inspection reports by the applicant.

The amendments-which primarily rearrange existing requirements-clarify that the Texas Practicum is an experience requirement (categorized by statute as field work) and is separate and apart from an educational course. Education providers can still offer the Texas Practicum, but will no longer need to submit a course application for the Texas Practicum or issue course completion certificates to students. Instead, students will submit the credit request form to the agency to obtain credit.

The Texas Real Estate Inspector Committee recommended the amendments, including the addition of the clarifying statement described above.

Two comments were received and were reviewed by TREIC.

One commenter expressed concern that the changes are inconsistent with applicable law, the Sunset Advisory Commission's 2019 report, antitrust standards, and that the changes as proposed create a barrier to entry by not allowing the Practicum to be taught by video.

TREIC discussed with agency staff and general counsel and does not share the same concerns. Additionally, with regard to the concern raised that the changes create a barrier to entry, TREIC believes this will have the opposite effect because this will result in a cost-savings for education providers offering the Practicum and potentially to students since providers won't be required to have the Practicum approved by the Commission (which comes with associated fees that are often passed down to students). Furthermore, the only time the Commission allowed for a video or virtual component to the Practicum was during COVID. This temporary allowance ended in August 2022.

Another commenter appeared to be in support of keeping the Practicum as a course. However, for the reasons stated above, TREIC declined to make any further changes as a result of these comments.

After reviewing the comments and the recommendation by TREIC, the Commission also declined to make any changes as a result of these comments for the reasons cited above.

The amendments are adopted under Texas Occupations Code, §1101.151, which authorizes the Texas Real Estate Commission to adopt and enforce rules necessary to administer Chapters 1101 and 1102; and to establish standards of conduct and ethics for its license holders to fulfill the purposes of Chapters 1101 and 1102 and ensure compliance with Chapters 1101 and 1102. The amendments are also adopted under Texas Occupations Code, §1102.111, which requires the agency, by rule, to provide for substitution of relevant experience in place of certain licensing requirements and limits the number of hours of field work.

§535.214. Education and Experience Requirements for a License.

(a) Sponsored Experience and Education Requirements for a Real Estate Inspector License. To become licensed as a real estate inspector a person must:

(1) satisfy the 90-hour education requirement for licensure by completing the following coursework:

(A) Property and Building Inspection Module I, total 40 hours;

(B) Property and Building Inspection Module II, total 40 hours; and

(C) Business Operations and Professional Responsibilities Module, total 10 hours;

(2) have been licensed as an apprentice inspector on active status for a total of at least three months within the 12 month period before the filing of the application;

(3) complete 25 inspections; and

(4) pass the licensure examinations set out in §535.209 of this subchapter (relating to Examinations).

(b) Sponsored Experience and Education Requirements for a Professional Inspector License. To become licensed as a professional inspector, a person must:

(1) satisfy the 134-hour education requirement for licensure by completing the following coursework:

(A) Property and Building Inspection Module I, total 40 hours;

(B) Property and Building Inspection Module II, total 40 hours;

(C) Business Operations and Professional Responsibilities Module, total 10 hours;

(D) Texas Law Module, total 20 hours; and

(E) Texas Standards of Practice Module, total 24 hours;

(2) have been licensed as a real estate inspector on active status for a total of at least 12 months within the 24 month period before the filing of the application;

(3) complete 175 inspections; and

(4) pass the licensure examinations set out in §535.209 of this subchapter.

(c) Sponsored Experience Criteria. To meet the experience requirements for licensure under subsections (a) or (b) of this section, or to sponsor apprentice inspectors or real estate inspectors:

(1) the Commission considers an improvement to real property to be any unit capable of being separately rented, leased or sold; and

(2) an inspection of an improvement to real property that includes the structural and equipment/systems of the unit constitutes a single inspection.

(d) Substitute Experience and Education Requirements for a Real Estate Inspector License. As an alternative to subsection (a) of this section, to become a licensed real estate inspector, a person must:

(1) complete a total of 114 hours of qualifying inspection coursework, which must include the following:

(A) Property and Building Inspection Module I, total 40 hours;

(B) Property and Building Inspection Module II, total 40 hours;

(C) Business Operations and Professional Responsibilities Module, total 10 hours; and

(D) Texas Standards of Practice Module, total 24 hours; and

(2) complete the Texas Practicum, as defined by subsection (h) of this section; and

(3) pass the licensure examinations set out in §535.209 of this subchapter; and

(4) be sponsored by a professional inspector.

(e) Substitute Experience and Education Requirements for a Professional Inspector License. As an alternative to subsection (b) of this section, to become a licensed professional inspector, a person must:

(1) complete a total of 154 hours of qualifying inspection coursework, which must include the following:

(A) Property and Building Inspection Module I, total 40 hours;

(B) Property and Building Inspection Module II, total 40 hours;

(C) Business Operations and Professional Responsibilities Module, total 10 hours;

(D) Analysis of Findings and Reporting Module, total 20 hours;

(E) Texas Law Module, total 20 hours;

(F) Texas Standards of Practice Module, total 24 hours; and

(2) complete the Texas Practicum as defined by subsection (h) of this section; and

(3) pass the licensure examinations set out in §535.209 of this subchapter.

(f) Courses completed for a real estate inspector license under this section shall count towards the identical qualifying inspection coursework for licensure as a professional inspector.

(g) Experience Credit. The Commission may award credit for education required under subsections (d) and (e) of this section to an applicant who:

(1) has three years of experience in a field directly related to home inspection, including but not limited to installing, servicing, repairing or maintaining the structural, mechanical and electrical systems found in improvements to real property; and

(2) provides to the Commission two affidavits from persons who have personal knowledge of the applicant's work, detailing the time and nature of the applicant's relevant experience.

(h) Texas Practicum.

(1) To receive credit for completion, the Texas Practicum must:

(A) be supervised by a licensed inspector who has:

(i) been actively licensed as a professional inspector for at least five years; and

(ii) at least three years of supervisory or training experience with inspectors; or

(iii) performed a minimum of 200 real estate inspections as a Texas professional inspector;

(B) consist of:

(i) a minimum of five complete and in-person inspections, totaling 40 hours, including the preparation by the applicant of a written inspection report for each completed inspection; and

(ii) no more than four students per supervising inspector; and

(C) include a review of each inspection report prepared by the applicant in which the supervising inspector must find that each report:

(i) is considered satisfactory for release to an average consumer; and

(ii) demonstrates an understanding of:

(I) report writing;

(II) client interaction;

(III) personal property protection; and

(IV) concepts critical for the positive outcome of the inspection process.

(2) An applicant may request credit for completing the Texas Practicum by submitting to the Commission the credit request form approved by the Commission.

(3) Audits.

(A) The Commission staff may conduct an audit of any information provided on the credit request form, including verifying that the supervising inspector meets the qualifications in paragraph (1)(A) of this subsection.

(B) The following acts committed by a supervising inspector conducting the Texas Practicum are grounds for disciplinary action:

(i) making material misrepresentation of fact;

(ii) making a false representation to the Commission, either intentionally or negligently, that an applicant completed the Texas Practicum in its entirety, satisfying all requirements for credit.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 22, 2024.

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Vanessa E. Burgess
General Counsel
Texas Real Estate Commission
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For further information, please call: (512) 936-3284

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TITLE 25. HEALTH SERVICES

PART 11. CANCER PREVENTION AND RESEARCH INSTITUTE OF TEXAS

CHAPTER 701. POLICIES AND PROCEDURES

25 TAC §701.11

The Cancer Prevention and Research Institute of Texas ("CPRIT" or "the Institute") adopts the amendment to 25 Texas Administrative Code §701.11 without changes to the proposed amendment as published in the May 31, 2024, issue of the *Texas Register* (49 TexReg 3904); therefore, the rule will not be republished.

Reasoned Justification

Texas Health & Safety Code Chapter 102 charges CPRIT with the responsibility of facilitating the development of the Texas Cancer Plan, which aims to reduce the cancer burden across the state to improve the lives of Texans. CPRIT plans to present the next version of the Texas Cancer Plan as a fully online, dynamic resource available to the public. The proposed amendment removes the requirement that CPRIT provide a hard copy of the Texas Cancer Plan.

Summary of Public Comments and Staff Recommendation

CPRIT received one public comment from Heather Becker at The University of Texas at Austin School of Nursing noting the importance of "having a limited number of print copies available to the public" and explaining that some people may prefer not to read the *Texas Cancer Plan* online. While CPRIT appreciates this perspective, the agency considers that the benefits of providing the 2024 Texas Cancer Plan in a web-based format (e.g., interactive content, multimedia integration, accessibility, hyperlinking, shareability, search functionality) outweigh the likelihood that a person wanting to read the Texas Cancer Plan will be unable or unwilling to access the content in any format other than as a physical copy. To date, CPRIT has not received a request for a physical copy of the current or previous editions of the Texas Cancer Plan. For these reasons, CPRIT declines to change the amendment to Section 701.11(5) as originally published on May 31.

The amendment is adopted under the authority of the Texas Health and Safety Code Annotated, § 102.108, which provides the Institute with broad rule-making authority to administer the chapter, including rules for awarding grants.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 23, 2024.

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Heidi McConnell
Deputy Executive Officer / Chief Operating Officer
Cancer Prevention and Research Institute of Texas
Effective date: September 12, 2024
Proposal publication date: May 31, 2024
For further information, please call: (512) 463-3190

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TITLE 26. HEALTH AND HUMAN SERVICES

PART 1. HEALTH AND HUMAN SERVICES COMMISSION

CHAPTER 553. LICENSING STANDARDS FOR ASSISTED LIVING FACILITIES

The Executive Commissioner of the Texas Health and Human Services Commission (HHSC) adopts amendments to §553.17, concerning Criteria for Licensing; §553.255, concerning All Staff Policy for Residents with Alzheimer's Disease or a Related Disorder; §553.257, concerning Human Resources; and §553.329, concerning HHSC Investigation of Allegations of Abuse, Neglect, or Exploitation; and new §553.254, concerning Training Requirements for Staff Providing Personal Care Services to a Resident With Alzheimer's Disease or Related Disorder in a Facility that is Not an Alzheimer's Certified Facility.

The amendments to §553.255 and §553.257 are adopted without changes to the proposed text as published in the May 3, 2024, issue of the *Texas Register* (49 TexReg 2944). These rules will not be republished.

The amendments to §553.17 and §553.329, and new §553.254, are adopted with changes to the proposed text as published in the May 3, 2024, issue of the *Texas Register* (49 TexReg 2944). These rules will be republished.

BACKGROUND AND JUSTIFICATION

The purpose of the amended and new rules is to implement House Bill (H.B.) 1009, H.B. 1673, and H.B. 4696 from the 88th Legislature, Regular Session, 2023. H.B. 1009 requires a facility to suspend an employee who HHSC has determined has engaged in reportable conduct during any applicable appeals process. H.B. 1673 requires facilities that are not Alzheimer's certified to nevertheless ensure all staff complete training specific to Alzheimer's disease and related disorders. H.B. 4696 allows HHSC to conduct an offsite survey unless the investigation is for alleged abuse or neglect. The proposal also clarifies that an accreditation commission is able to conduct a life safety code survey of a facility based on the requirements in Subchapter D of Chapter 553, Facility Construction.

COMMENTS

The 31-day comment period ended June 3, 2024.

During this period, HHSC received seven comments regarding the proposed rules from two commenters: the Legislative Director for State Senator Royce West and Vice President of Public Policy Texas Assisted Living Association (TALA). A summary of comments relating to the rules and HHSC's responses follows.

Comment: One commentor questioned the meaning of "administrative support services" in §553.254(b)(1)(F).

Response: "Administrative support services" was the phrase used in H.B. 1673 (current Texas Health and Safety Code §247.0291). Because this phrase is used to describe training required of assisted living facility managers, HHSC interprets it to refer to training related to facility management (as opposed to direct care staff).

Comment: One commentor suggested hyphenating "medically appropriate" in §553.254(b)(1)(F)(iii).

Response: HHSC declines to make the suggested change. Language in this rule is taken directly from the bill and is grammatically correct.

Comment: One commentor requested that the rule require that the facility be informed of an employee's reportable conduct determination in §553.257(b)(8).

Response: HHSC declines to make this change. Existing HHSC employee misconduct registry (EMR) notification processes already include notifying the facility where the individual was employed at the time the reportable conduct occurred.

Comment: One commenter suggested that §553.257(b)(8)(B) expressly state that, if at the end of the appeals process, the hearings examiner concludes that reportable conduct "did not" happen, the facility should be allowed to reinstate an employee's employment. The commenter submitted suggested language to describe when a facility may reinstate employment.

Response: HHSC declines to make the suggested change. The rule reflects the language used in H.B. 1009 (current Texas Health and Safety Code §253.0025) and §253.004 and §253.005.

Comment: One commenter suggested striking §553.257(b)(9), arguing that HHSC--not the facility--makes the referral to the EMR.

Response: HHSC declines to make the suggested change as this provision defines a term used in the section and does not impose a duty on facilities.

Comment: One commenter suggested that the rule use "shall, may, or must" rather than "seeks" in §553.329(e) related to on-site investigations.

Response: HHSC agrees with the commenter's suggested language in part and edited the rule language using "may seek."

Comment: One commenter recommended changing the phrase in §553.329(e) from "HHSC seeks a probate or county court order for admission" to "HHSC seeks a court order for admission from a county, probate, or state district court."

Response: HHSC agrees with the commenter's suggested language and edited the wording for clarity. HHSC added the option for a peace officer to accompany the HHSC investigator.

HHSC made punctuation and grammar edits in §553.17 and §553.254.

SUBCHAPTER B. LICENSING

26 TAC §553.17

STATUTORY AUTHORITY

The amendment is adopted under Texas Government Code §531.0055, which provides that the Executive Commissioner of HHSC shall adopt rules for the operation and provision of services by the health and human services agencies; Texas Government Code §531.033, which provides the Executive Commissioner of HHSC with broad rule-making authority; and Texas Health and Safety Code §247.025 and §247.026, which provide that the Executive Commissioner of HHSC shall adopt rules necessary to implement Chapter 247 and ensure the quality of care and protection of assisted living facility residents' health and safety, respectively.

§553.17. Criteria for Licensing.

(a) A person must be licensed to establish or operate an assisted living facility in Texas.

(1) HHSC considers one or more facilities to be part of the same establishment and, therefore, subject to licensure as an assisted living facility, based on the following factors:

(A) common ownership;

(B) physical proximity;

(C) shared services, personnel, or equipment in any part of the facilities' operations; and

(D) any public appearance of joint operations or of a relationship between the facilities.

(2) The presence or absence of any one factor in paragraph (1) of this subsection is not conclusive.

(b) To obtain a license, a person must follow the application requirements in this subchapter and meet the criteria for a license.

(c) An applicant must affirmatively show that the applicant, license holder, controlling person, and any person required to submit background and qualification information meet the criteria and eligibility for licensing, in accordance with this section; and

(1) the building in which the facility is housed:

(A) meets local fire ordinances;

(B) is approved by the local fire authority;

(C) meets HHSC licensing standards in accordance with Subchapter D of this chapter (relating to Facility Construction) based on an on-site inspection by HHSC or the standards for accreditation based on an on-site accreditation survey by an accreditation commission; and

(D) if located in a county of more than 3.3 million residents for initial license applications submitted or issued on or after December 6, 2022, is not located in a 100-year floodplain; and

(2) operation of the facility meets HHSC licensing standards based on an on-site health inspection by HHSC, which must include observation of the care of a resident; or

(3) the facility meets the standards for accreditation based on an on-site accreditation survey by the accreditation commission.

(d) An applicant who chooses the option authorized in subsection (c)(3) of this section must contact HHSC to determine which accreditation commissions are available to meet the requirements of that subsection. If a license holder uses an on-site accreditation survey by an accreditation commission, as provided in this subsection and §553.33(i) of this subchapter (relating to Renewal Procedures and Qualifications), the license holder must:

(1) provide written notification to HHSC by submitting an updated application in the licensing system within five working days after the license holder receives a notice of change in accreditation status from the accreditation commission; and

(2) include a copy of the notice of change with its written notification to HHSC.

(e) HHSC issues a license to a facility meeting all requirements of this chapter. The facility must not exceed the maximum allowable number of residents specified on the license.

(f) HHSC denies an application for an initial license or a renewal of a license if:

(1) the applicant, license holder, controlling person, or any person required to be disclosed on the application for licensure has been debarred or excluded from the Medicare or Medicaid programs by the federal government or a state;

(2) a court has issued an injunction prohibiting the applicant, license holder, controlling person, or any person required to be disclosed on the application for licensure from operating a facility; or

(3) during the five years preceding the date of the application, a license to operate a health care facility, long-term care facility, assisted living facility, or similar facility in any state held by the applicant, license holder, controlling person, or any person required to be disclosed on the application for licensure has been revoked.

(g) A license holder or controlling person who operates a nursing facility or an assisted living facility for which a trustee was appointed and for which emergency assistance funds, other than funds to pay the expenses of the trustee, were used is subject to exclusion from eligibility for:

(1) the issuance of an initial license for a facility for which the person has not previously held a license; and

(2) the renewal of the license of the facility for which the trustee was appointed.

(h) HHSC may deny an application for an initial license or refuse to renew a license if an applicant, license holder, controlling person, or any person required to be disclosed on the application for licensure:

(1) violates Texas Health and Safety Code, Chapter 247; a section, standard, or order adopted under Chapter 247; or a license issued under Chapter 247 in either a repeated or substantial manner;

(2) commits an act described in §553.751(a)(2) - (9) of this chapter (relating to Administrative Penalties);

(3) aids, abets, or permits a substantial violation described in paragraph (1) or (2) of this subsection about which the person had or should have had knowledge;

(4) fails to provide the required information, facts, or references;

(5) engages in the following:

(A) knowingly submits false or intentionally misleading statements to HHSC;

(B) uses subterfuge or other evasive means of filing an application for licensure;

(C) engages in subterfuge or other evasive means of filing on behalf of another who is unqualified for licensure;

(D) knowingly conceals a material fact related to licensure; or

(E) is responsible for fraud;

(6) fails to pay the following fees, taxes, and assessments when due:

(A) license fees, as described in §553.47 of this subchapter (relating to License Fees); or

(B) franchise taxes, if applicable;

(7) during the five years preceding the date of the application, has a history in any state or other jurisdiction of any of the following:

(A) operation of a facility that has been decertified or has had its contract canceled under the Medicare or Medicaid program;

(B) federal or state long-term care facility, assisted living facility, or similar facility sanctions or penalties, including monetary penalties, involuntary downgrading of the status of a facility license, proposals to decertify, directed plans of correction, or the denial of payment for new Medicaid admissions;

(C) unsatisfied final judgments, excluding judgments wholly unrelated to the provision of care rendered in long-term care facilities;

(D) eviction involving any property or space used as a facility; or

(E) suspension of a license to operate a health care facility, long-term care facility, assisted living facility, or a similar facility;

(8) violates Texas Health and Safety Code §247.021 by operating a facility without a license; or

(9) is subject to denial or refusal as described in Chapter 560 of this title (relating to Denial or Refusal of License) during the time frames described in that chapter.

(i) Without limitation, HHSC reviews all information provided by an applicant, a license holder, a person required to be disclosed on the application for licensure, or a manager when considering grounds for denial of an initial license application or a renewal application in accordance with subsection (h) of this section. HHSC may grant a license if HHSC finds the applicant, license holder, person required to be disclosed on the application for licensure, affiliate, or manager is able to comply with the rules in this chapter.

(j) HHSC reviews final actions when considering the grounds for denial of an initial license application or renewal application in accordance with subsections (f) and (h) of this section. An action is final when routine administrative and judicial remedies are exhausted. An applicant must disclose all actions, whether pending or final.

(k) If an applicant owns multiple facilities, HHSC examines the overall record of compliance in all of the applicant's facilities. An overall record poor enough to deny issuance of a new license does not preclude the renewal of a license of a facility with a satisfactory record.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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TRD-202403909
Karen Ray
Chief Counsel
Health and Human Services Commission
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Proposal publication date: May 3, 2024
For further information, please call: (512) 438-3161

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SUBCHAPTER E. STANDARDS FOR LICENSURE

26 TAC §§553.254, 553.255, 553.257

STATUTORY AUTHORITY

The amendments and new section are adopted under Texas Government Code §531.0055, which provides that the Executive Commissioner of HHSC shall adopt rules for the operation and provision of services by the health and human services agencies; Texas Government Code §531.033, which provides the Executive Commissioner of HHSC with broad rule-making authority; and Texas Health and Safety Code §247.025 and §247.026, which provide that the Executive Commissioner of HHSC shall adopt rules necessary to implement Chapter 247 and ensure the quality of care and protection of assisted living facility residents' health and safety, respectively.

§553.254. Training Requirements for Staff Providing Personal Care Services to a Resident With Alzheimer's Disease or a Related Disorder in a Facility that is Not an Alzheimer's Certified Facility.

(a) A facility that provides personal care services to a resident with Alzheimer's disease or a related disorder that is not an Alzheimer's certified facility must require a staff member to complete competency-based training and annual continuing education on Alzheimer's disease and related disorders in accordance with this section.

(1) The training required in this section may be included as part of the initial training and continuing education required in §553.253 of this subchapter (relating to Employee Qualifications and Training).

(2) The training required in this section may satisfy the training required by facility policy under §553.255 of this subchapter (relating to All Staff Policy for Residents with Alzheimer's Disease or a Related Disorder).

(b) A facility must require a manager to:

(1) complete four hours of training and pass a competency-based evaluation on:

(A) Alzheimer's disease and related disorders;

(B) provision of person-centered care;

(C) assessment and care planning;

(D) activities of daily living for a resident with Alzheimer's disease or a related disorder;

(E) common behaviors and communications associated with residents with Alzheimer's disease or related disorders;

(F) administrative support services related to information for:

(i) comorbidities management;

(ii) care planning;

(iii) provision of medically appropriate education and support services and resources in the community; and

(iv) including person-centered care to residents with Alzheimer's disease or related disorders and the resident's family;

(G) staffing requirements that will:

(i) facilitate collaboration and cooperation among facility staff members; and

(ii) ensure each staff member obtains appropriate informational materials and training to properly care for and interact with a resident with Alzheimer's disease or a related disorder based on the staff member's position;

(H) establishing a supportive and therapeutic environment for residents with Alzheimer's disease or related disorders to enhance the sense of community among the residents and within the facility; and

(I) transitioning care and coordination of services for residents with Alzheimer's disease or related disorders; and

(2) after the date of successfully completing the training and competency-based evaluation required in paragraph (1) of this subsection, complete two hours of annual continuing education on best practices related to treatment and provision of care to residents with Alzheimer's disease or related disorders.

(c) A facility must require a staff member who provides personal care services to:

(1) complete four hours of training and pass a competency-based evaluation on:

(A) Alzheimer's disease and related disorders;

(B) provision of person-centered care;

(C) assessment and care planning;

(D) activities of daily living for a resident with Alzheimer's disease or a related disorder; and

(E) common behaviors and communications associated with a resident with Alzheimer's disease and related disorders;

(2) complete the requirements in paragraph (1) of this subsection prior to performing personal care services; and

(3) after successfully completing the training and competency-based evaluation required in paragraph (1) of this subsection, complete two hours of continuing education that includes best practices related to the treatment of and provision of care to residents with Alzheimer's disease or related disorders.

(d) A facility must require each staff member who is not a direct service staff member, including housekeeping staff, front desk staff, maintenance staff, and other staff members with incidental but recurring contact with a resident with Alzheimer's disease or a related disorder, to complete training and pass a competency-based evaluation on:

(1) Alzheimer's disease and related disorders;

(2) provision of person-centered care; and

(3) common behaviors and communications associated with a resident with Alzheimer's disease and related disorders.

(e) A facility must:

(1) provide the training completion certificate to the staff member, including the manager; and

(2) maintain records of each certificate for all staff, including the manager, in accordance with the facility's records retention policies.

(f) A facility staff member who successfully completes the training required by this section, passes the evaluation, and then transfers employment to another facility is not required to satisfy these requirements for the new facility if there is less than a two-year lapse of employment with a facility.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Karen Ray
Chief Counsel
Health and Human Services Commission
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For further information, please call: (512) 438-3161

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SUBCHAPTER G. INSPECTIONS, INVESTIGATIONS, AND INFORMAL DISPUTE RESOLUTION

26 TAC §553.329

STATUTORY AUTHORITY

The amendment is adopted under Texas Government Code §531.0055, which provides that the Executive Commissioner of HHSC shall adopt rules for the operation and provision of services by the health and human services agencies; Texas Government Code §531.033, which provides the Executive Commissioner of HHSC with broad rule-making authority; and Texas Health and Safety Code §247.025 and §247.026, which provide that the Executive Commissioner of HHSC shall adopt rules necessary to implement Chapter 247 and ensure the quality of care and protection of assisted living facility residents' health and safety, respectively.

§553.329. HHSC Investigation of Allegations of Abuse, Neglect, or Exploitation.

(a) In accordance with the memorandum of understanding (relating to Memorandum of Understanding Concerning Protective Services for the Elderly), between HHSC and the Texas Department of Family and Protective Services (DFPS), HHSC receives and investigates reports of abuse, neglect, and exploitation of elderly and disabled persons or other residents living in facilities licensed under this chapter.

(b) HHSC only investigates complaints of abuse, neglect, or exploitation when:

(1) the act occurs in the facility;

(2) the facility is responsible for the supervision of the resident at the time the act occurs; or

(3) the alleged perpetrator is affiliated with the facility.

(c) HHSC refers all other complaints of abuse, neglect, or exploitation not meeting subsection (b) of this section to DFPS.

(d) HHSC must make an on-site visit to a facility to investigate complaints of abuse or neglect and all complaints involving unemancipated minors who have been inappropriately placed in the facility. During such on-site visits, HHSC must consult with persons thought to have knowledge of the circumstances. HHSC may make an on-site visit to a facility to investigate all other types of complaints.

(e) If a facility fails to admit HHSC staff for an on-site investigation, HHSC may seek a court order for admission from a county, probate, or state district court. An HHSC investigator may ask the court to have a peace officer accompany them.

(f) In cases concluded to be physical abuse, HHSC submits the written report of the HHSC investigation to the appropriate law enforcement agency.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Chief Counsel
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TITLE 28. INSURANCE

PART 1. TEXAS DEPARTMENT OF INSURANCE

CHAPTER 5. PROPERTY AND CASUALTY INSURANCE

SUBCHAPTER E. TEXAS WINDSTORM INSURANCE ASSOCIATION

DIVISION 4. CONSUMER ASSISTANCE; CLAIM PROCESSES

28 TAC §5.4215, §5.4233

The commissioner of insurance adopts amendments to 28 TAC §5.4215 and §5.4233, concerning updates to umpire and mediator roster application forms. The amendments are adopted without changes to the proposed text published in the June 14, 2024, issue of the *Texas Register* (49 TexReg 4416). The sections will not be republished.

REASONED JUSTIFICATION. The amended sections are necessary to add requirements related to applicants' consent to publish confidential information, and to state whether umpires are insured by the Texas Windstorm Insurance Association (TWIA). Senate Bill 510 added Government Code §552.11765, which created new categories of confidential information for state agencies. Section 5.4215 provides requirements for the appraisal umpire roster that TDI maintains for TWIA claims. That section specifies the information that umpire applicants must provide to register with TDI. Section 5.4233 does the same for the mediator roster.

SUMMARY OF COMMENTS. TDI provided an opportunity for public comment on the rule proposal for a period that ended on July 15, 2024. TDI did not receive any comments on the proposed amendments.

STATUTORY AUTHORITY. The commissioner adopts the amendments to §5.4215 and §5.4233 under Insurance Code §§2210.008, 2210.575, 2210.580 and 36.001.

Insurance Code §2210.008 provides that the commissioner may adopt rules as reasonable and necessary to implement Insurance Code Chapter 2210.

Insurance Code §2210.575 requires the commissioner to establish rules for alternative dispute resolution for disputes concerning denied coverage.

Insurance Code §2210.580 provides that the commissioner must adopt rules regarding the qualifications and selection of appraisers for the appraisal process and the qualifications and selection of mediators.

Insurance Code §36.001 provides that the commissioner may adopt any rules necessary and appropriate to implement the powers and duties of TDI under the Insurance Code and other laws of this state.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 20, 2024.

TRD-202403825
Jessica Barta
General Counsel
Texas Department of Insurance
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Proposal publication date: June 14, 2024
For further information, please call: (512) 676-6555

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TITLE 37. PUBLIC SAFETY AND CORRECTIONS

PART 1. TEXAS DEPARTMENT OF PUBLIC SAFETY

CHAPTER 6. LICENSE TO CARRY HANDGUNS

SUBCHAPTER B. ELIGIBILITY AND APPLICATION PROCEDURES FOR A LICENSE TO CARRY A HANDGUN

37 TAC §§6.12, 6.14, 6.18

The Texas Department of Public Safety (the department) adopts amendments to §§6.12, 6.14, and 6.18, concerning Eligibility and Application Procedures for a License to Carry a Handgun. These rules are adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4741) and will not be republished.

The amendments to §6.12, concerning Fingerprints, remove the peace officer exemption for required electronic fingerprints to comply with current Federal Bureau of Investigation requirements. The amendments to §6.14, concerning Proficiency Requirements, and §6.18, concerning First Responder Certification; Renewal of Certification, make conforming language changes for consistency and remove references to form numbers to allow the department flexibility in consolidating and renumbering forms.

No comments were received regarding the adoption of these rules.

STATUTORY AUTHORITY

These rules are adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; Texas Government Code, §411.1883, which authorizes the department to adopt by rule standards for the first responder training course as authorized in House Bill 1069, 87th Leg., R.S. (2021) and renumbered in House Bill 4595, 88th Leg., R.S. (2023); and Texas Government Code, §411.197, which authorizes the director to adopt rules to administer Subchapter H, License to Carry a Handgun.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

Filed with the Office of the Secretary of State on August 22, 2024.

TRD-202403871

D. Phillip Adkins
General Counsel
Texas Department of Public Safety
Effective date: September 11, 2024
Proposal publication date: June 28, 2024
For further information, please call: (512) 424-5848

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SUBCHAPTER F. FIRST RESPONDER INSTRUCTOR CERTIFICATION

37 TAC §6.96

The Texas Department of Public Safety (the department) adopts amendments to §6.96, concerning First Responder Certification Courses. This rule is adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4742) and will not be republished.

The department adopted amendments to this rule in relation to first responder certification courses. These amendments make minor changes in terminology to maintain consistency with amendments to §§6.12, 6.14, and 6.18 elsewhere in this issue of the *Texas Register.* The amendments to §6.12, concerning Fingerprints, remove the peace officer exemption for required electronic fingerprints to comply with current Federal Bureau of Investigation requirements. The amendments to §6.14, concerning Proficiency Requirements, and §6.18, concerning First Responder Certification; Renewal of Certification, make conforming language changes for consistency and remove references to form numbers to allow the department flexibility in consolidating and renumbering forms.

No comments were received regarding the adoption of this rule.

This rule is adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; Texas Government Code, §411.1883, which authorizes the department to adopt by rule standards for the first responder training course as authorized in House Bill 1069, 87th Leg., R.S. (2021) and renumbered in House Bill 4595, 88th Leg., R.S. (2023); and Texas Government Code, §411.197, which authorizes the director to adopt rules to administer Subchapter H, License to Carry a Handgun.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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D. Phillip Adkins
General Counsel
Texas Department of Public Safety
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CHAPTER 15. DRIVER LICENSE RULES

SUBCHAPTER B. APPLICATION REQUIREMENTS--ORIGINAL, RENEWAL, DUPLICATE, IDENTIFICATION CERTIFICATES

37 TAC §§15.29, 15.34, 15.38

The Texas Department of Public Safety (the department) adopts amendments to §§15.29, 15.34, and 15.38, concerning Application Requirements--Original, Renewal, Duplicate, Identification Certificates. These rules are adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4743) and will not be republished.

The adopted amendments implement Senate Bill 1518, 88th Leg., R.S. (2023) and Senate Bill 1527, 88th Leg., R.S. (2023). Specifically, the amendments to §15.29 add that any driver license or identification certificate holder who is subject to the requirements of Code of Criminal Procedure, Chapter 65, Terrorist Offender Registration Program, is not eligible to renew or apply for a duplicate driver license or identification certificate by alternative methods. The amendments to §15.34 add that any driver license or identification certificate holder who is subject to the requirements of Penal Code, Chapter 20A, Trafficking of Persons, or Code of Criminal Procedure, Chapter 65, Terrorist Offender Registration Program, is only eligible to renew 60 days before expiration. The amendment to §15.38 adds that any driver license or identification certificate holder who is subject to the requirements of Penal Code, Chapter 20A, Trafficking of Persons, or Code of Criminal Procedure, Chapter 65, Terrorist Offender Registration Program, is not eligible to receive a fee exemption as a veteran.

No comments were received regarding the adoption of these rules.

These rules are adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; Texas Transportation Code, §521.005, which authorizes the department to adopt rules necessary to administer Chapter 521 of the Texas Transportation Code; Texas Transportation Code, §522.005, which authorizes the department to adopt rules necessary to administer Chapter 522 of the Texas Transportation Code; and Texas Code of Criminal Procedure, Article 65.009, which authorizes the department to adopt any rule necessary to implement Chapter 65.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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TRD-202403873
D. Phillip Adkins
General Counsel
Texas Department of Public Safety
Effective date: September 11, 2024
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For further information, please call: (512) 424-5848

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37 TAC §15.42

The Texas Department of Public Safety (the department) adopts amendments to §15.42, concerning Social Security Number.

This rule is adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4745) and will not be republished.

This amendment complies with changes to the Code of Federal Regulations recently passed by the federal government. This amendment reduces the regulatory burden upon driver license and identification certificate applicants by eliminating the need to provide a document to verify Social Security Number, which is verified with the federal government electronically.

No comments were received regarding the adoption of this rule.

This rule is adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; and Texas Transportation Code §521.005, which authorizes the department to adopt rules necessary to administer Chapter 521 of the Transportation Code.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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D. Phillip Adkins
General Counsel
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For further information, please call: (512) 424-5848

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SUBCHAPTER D. DRIVER IMPROVEMENT

37 TAC §15.88

The Texas Department of Public Safety (the department) adopts amendments to §15.88, concerning Demand for Surrender. This rule is adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4746) and will not be republished.

The amendment makes conforming changes necessary to implement House Bill 4528, 88th Leg., R.S. (2023), which removed the requirement that a peace officer take physical control of a person's driver's license for failing or refusing an intoxication test because the suspension may now be done electronically. The rule title has also been renamed "Demand for Surrender."

No comments were received regarding the adoption of this rule.

This rule is adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; Texas Transportation Code, §521.005, which authorizes the department to adopt rules necessary to administer Chapter 521 of the Texas Transportation Code; Texas Transportation Code, §522.005, which authorizes the department to adopt rules necessary to administer Chapter 522 of the Texas Transportation Code; Texas Transportation Code, §524.002, which authorizes the department to adopt rules necessary to administer Chapter 524 of the Texas Transportation Code; and Texas Transportation Code, §724.003, which authorizes the department to adopt rules necessary to administer Chapter 724 of the Texas Transportation Code.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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D. Phillip Adkins
General Counsel
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For further information, please call: (512) 424-5848

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SUBCHAPTER G. DENIAL OF RENEWAL OF DRIVER LICENSE FOR FAILURE TO APPEAR FOR TRAFFIC VIOLATION

37 TAC §15.118

The Texas Department of Public Safety (the department) adopts amendments to §15.118, concerning Clearance Report. This rule is adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4747) and will not be republished.

This amendment modifies the reasonable time to submit a clearance report from five days to two days to accurately reflect the current terms and conditions established in the Memorandum of Understanding (MOU) between the department and courts for the Failure to Appear/Failure to Pay Program.

No comments were received regarding the adoption of this rule.

This rule is adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; Texas Transportation Code, §521.005, which authorizes the department to adopt rules necessary to administer Chapter 521 of the Texas Transportation Code; Texas Transportation Code, §522.005, which authorizes the department to adopt rules necessary to administer Chapter 522 of the Texas Transportation Code; and Texas Transportation Code, §706.012, which authorizes the department to adopt rules to implement Chapter 706 of the Texas Transportation Code.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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D. Phillip Adkins
General Counsel
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For further information, please call: (512) 424-5848

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CHAPTER 17. ADMINISTRATIVE LICENSE REVOCATION

SUBCHAPTER A. ADMINISTRATIVE LICENSE REVOCATION

37 TAC §§17.1 - 17.4, 17.6, 17.8, 17.11, 17.13, 17.14, 17.16

The Texas Department of Public Safety (the department) adopts amendments to §§17.1 - 17.4, 17.6, 17.8, 17.11, 17.13, 17.14, and 17.16, concerning Administrative License Revocation. These rules are adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4748) and will not be republished.

The amendments to §§17.1, 17.2, 17.8, 17.11, 17.13, and 17.16 refine administrative driver license revocation procedures and are necessitated by implementation of the electronic filing and service requirements for the State Office of Administrative Hearings related to the appeal of a driver license suspension. The rule title for §17.16 is also renamed "Service on the Department."

The amendments to §§17.3, 17.4, 17.6, and 17.14 make conforming changes necessary to implement House Bill 4528, 88th Leg., R.S. (2023), which removed the requirement that a peace officer take physical control of a person's driver's license for failing or refusing an intoxication test because the suspension may now be done electronically.

Additional changes made to §§17.2, 17.3, 17.4, and 17.13 implement House Bill 1163, 88th Leg., R.S. (2023), which created a new criminal offense for Boating While Intoxicated with a Child Passenger, by simplifying the language so that any new criminal intoxication offenses created related to a driver license suspension are included.

No comments were received regarding the adoption of these rules.

These rules are adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; Texas Transportation Code, §521.005, which authorizes the department to adopt rules necessary to administer Chapter 521 of the Texas Transportation Code; Texas Transportation Code, §522.005, which authorizes the department to adopt rules necessary to administer Chapter 522 of the Texas Transportation Code; Texas Transportation Code, §524.002, which authorizes the department to adopt rules necessary to administer Chapter 524 of the Texas Transportation Code; and Texas Transportation Code, §724.003, which authorizes the department to adopt rules necessary to administer Chapter 724 of the Texas Transportation Code.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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General Counsel
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For further information, please call: (512) 424-5848

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CHAPTER 35. PRIVATE SECURITY

SUBCHAPTER A. GENERAL PROVISIONS

37 TAC §§35.5, 35.9, 35.13

The Texas Department of Public Safety (the department) adopts amendments to §§35.5, 35.9, and 35.13, concerning General Provisions. These rules are adopted without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4753) and will not be republished.

The changes to §35.5, concerning Standards of Conduct, clarify that a company license holder may not use the department's name or insignia in advertisements. The changes to §35.9, concerning Advertisements, exempt publishing the licensee's address in its advertisements when that address is a residence and clarify that business cards constitute advertisements. The changes to §35.13, concerning Drug-Free Workplace Policy, clarify that a sole proprietor must have a drug-free workplace policy.

No comments were received regarding the adoption of these rules.

These rules are adopted pursuant to Texas Government Code, §411.004(3), which authorizes the Public Safety Commission to adopt rules considered necessary for carrying out the department's work; and Texas Occupations Code, §1702.061(a), which authorizes the Public Safety Commission to adopt rules to guide the department in its administration of Texas Occupations Code, Chapter 1702.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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D. Phillip Adkins
General Counsel
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For further information, please call: (512) 424-5848

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PART 6. TEXAS DEPARTMENT OF CRIMINAL JUSTICE

CHAPTER 151. GENERAL PROVISIONS

37 TAC §151.75

The Texas Board of Criminal Justice (board) adopts amendments to §151.75, concerning Standards of Conduct for Financial Advisors and Service Providers, without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4754). The rule will not be republished.

The adopted amendments add language to specify the disclosure of a relationship or pecuniary interest by a financial advisor or service provider with minor word changes and grammatical updates made for clarity.

No comments were received regarding the amendments.

The amendments are adopted under Texas Government Code §492.013, which authorizes the board to adopt rules; §2263.004, which establishes ethics requirements for outside financial advisors or service providers; Chapter 404, which establishes the state treasury operations of the comptroller; Chapter 552, which establishes public information guidelines; and Chapter 2256; which establishes guidelines for public funds investment.

Cross Reference to Statutes: None.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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TRD-202403938
Stephanie Greger
General Counsel
Texas Department of Criminal Justice
Effective date: September 15, 2024
Proposal publication date: June 28, 2024
For further information, please call: (936) 437-6700

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CHAPTER 152. CORRECTIONAL INSTITUTIONS DIVISION SUBCHAPTER D. OTHER RULES

37 TAC §152.61

The Texas Board of Criminal Justice (board) adopts amendments to §152.61, concerning Emergency Response to Law Enforcement Agencies or Departments and Non-Agent Private Prisons or Jails, without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 TexReg 4756). The rule will not be republished.

The adopted amendments revise "rule" to "section" and "offender" to "inmate" throughout and make grammatical updates.

No comments were received regarding the amendments.

The amendments are adopted under Texas Government Code § 492.013, which authorizes the board to adopt rules; and § 494.008, which establishes limited law enforcement powers for department employees.

Cross Reference to Statutes: None.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Stephanie Greger
General Counsel
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For further information, please call: (936) 437-6700

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CHAPTER 155. REPORTS AND INFORMATION GATHERING SUBCHAPTER B. SITE SELECTION AND FACILITY NAMES

37 TAC §155.23

The Texas Board of Criminal Justice (board) adopts amendments to §155.23, concerning Site Selection Process for the Location of Additional Facilities, without changes to the proposed text as published in the May 10, 2024, issue of the *Texas Register* (49 TexReg 3193). The rule will not be republished.

The adopted amendments revise offender to inmate throughout; remove references to transfer facilities and the Prison Management Act; and reorganize language for clarity.

No comments were received regarding the amendments.

The amendments are adopted under Texas Government Code §492.013, which authorizes the board to adopt rules; and §496.007, which requires the board to evaluate the advantages and disadvantages of a proposed location before determination.

Cross Reference to Statutes: None.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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Proposal publication date: May 10, 2024
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CHAPTER 163. COMMUNITY JUSTICE ASSISTANCE DIVISION STANDARDS

37 TAC §163.36

The Texas Board of Criminal Justice (board) adopts amendments to §163.36, concerning Supervision of Offenders with Mental Impairment, without changes to the proposed text as published in the June 28, 2024, issue of the *Texas Register* (49 Tex.Reg. 4758). The rule will not be republished.

The adopted amendments revise the spelling of "judgement" to "judgment."

No comments were received regarding the amendments.

The amendments are adopted under Texas Government Code §492.013, which authorizes the board to adopt rules; §509.003, which authorizes the board to adopt reasonable rules establishing standards and procedures for the TDCJ Community Justice Assistance Division; and Texas Health and Safety Code §614.013, which establishes requirements for continuity of care for offenders with mental impairments.

Cross Reference to Statutes: None.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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PART 13. TEXAS COMMISSION ON FIRE PROTECTION

CHAPTER 469. TECHNICAL RESCUE

The Texas Commission on Fire Protection (the Commission) adopts new chapter, 37 Texas Administrative Code Chapter 469, Technical Rescue, concerning §461.1 Rope Rescue Awareness Level/Operations Level Certification, §469.3 Minimum Standards for Rope Rescue Awareness Level/Operations Level, §469.5 Examination Requirement, §469.201 Rope Rescue Technician Level, §469.203 Minimum Standards for Rope Rescue Technician Level Certification, and §469.205 Examination Requirements.

The new chapter is adopted with changes as published in the July 12, 2024, issue of the *Texas Register* (49 TexReg 5003). The changes are made in Subchapter B, Minimum Standards for Rope Rescue, §469.203, Minimum Standards for Rope Rescue Technician Level Certification (C). The changes were made to note the combined test requirement. This rule will be republished. Sections 469.1, 469.3, 469.5, 469.201 and 469.205 are adopted without changes and will not be republished.

This new chapter is adopted to allow for technical rescue certification.

No comments were received from the public regarding the adoption of the new chapter.

SUBCHAPTER A. MINIMUM STANDARDS FOR ROPE RESCUE AWARENESS AND OPERATIONS

37 TAC §§469.1, 469.3, 469.5

The new chapter is adopted under Texas Government Code §419.008(a), which provides the Commission may adopt rules for the administration of its powers and duties.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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General Counsel
Texas Commission on Fire Protection
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SUBCHAPTER B. MINIMUM STANDARDS FOR ROPE RESCUE TECHNICIAN

37 TAC §§469.201, 469.203, 469.205

The new sections are adopted under Texas Government Code §419.008(a), which provides the Commission may adopt rules for the administration of its powers and duties.

§469.203. Minimum Standards for Rope Rescue Technician Level Certification.

In order to be certified at the Rope Rescue Technician Level, an individual must:

(1) Option 1--hold certification as Structural Fire Protection Personnel, Aircraft Rescue Fire Fighting Personnel, or Marine Fire Protection Personnel; and

(A) hold a Rope Rescue Awareness Level/Operations Level certification through the commission; and

(B) complete a commission-approved Rope Rescue Technician Level program and successfully pass the commission examination for Rope Rescue Technician as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved Rope Rescue Technician Level program must consist of one of the following:

(i) completion of an in-state Rope Rescue Technician Level program meeting the requirements of the applicable NFPA standard and conducted by a commission-certified training provider that was submitted and approved through the commission's training prior approval system; or

(ii) successful completion of an out-of-state educational institution of higher education, and/or military training program that has been submitted to the commission for evaluation and found to meet the requirements of the applicable NFPA standard.

(2) Option 2--hold certification as Structural Fire Protection Personnel, Aircraft Rescue Fire Fighting Personnel, or Marine Fire Protection Personnel; and

(A) complete a commission-approved Rope Rescue Awareness Level/Operations Level program. An approved Rope Rescue Awareness Level/Operations Level program must consist of one of the following:

(i) completion of an in-state Rope Rescue Awareness Level/Operations Level program meeting the requirements of the applicable NFPA standard and conducted by a commission-certified training provider that was submitted and approved through the commission's training prior approval system; or

(ii) successful completion of an out-of-state educational institution of higher education, and/or military training program that has been submitted to the commission for evaluation and found to meet the requirements of the applicable NFPA standard; and

(B) complete a commission-approved Rope Rescue Technician Level program. An approved Rope Rescue Technician Level program must consist of one of the following:

(i) completion of an in-state Rope Rescue Technician Level program meeting the requirements of the applicable NFPA standard and conducted by a commission-certified training provider that was submitted and approved through the commission's training prior approval system; or

(ii) completion of an out-of-state educational institution of higher education, and/or military training program that has been submitted to the commission for evaluation and found to meet the requirements of the applicable NFPA standard; and

(C) successfully pass the commission examination for Rope Rescue Awareness Level & Operations Level combined with the Technician Level as specified in Chapter 439 of this title (relating to Examinations for Certification).

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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For further information, please call: (512) 936-3824

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TITLE 43. TRANSPORTATION

PART 1. TEXAS DEPARTMENT OF TRANSPORTATION

CHAPTER 27. TOLL PROJECTS
SUBCHAPTER G. OPERATION OF DEPARTMENT TOLL PROJECTS

The Texas Department of Transportation (department) adopts amendments to §§27.80 - 27.82 and the repeal of §27.86, all concerning Operation of Department Toll Projects. The amendments to §§27.80 - 27.82 and the repeal of §27.86 are adopted without changes to the text as published in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4028) and will not be republished.

EXPLANATION OF PROPOSED AMENDMENTS AND REPEAL

The primary purpose of this rulemaking is to provide contracting flexibility for the department with respect to the operation of its toll projects. In addition, the rulemaking corrects outdated terminology and eliminates unnecessary provisions.

Amendments to §27.80, Definitions, add the defined term "Toll Project Entity" to mean an entity authorized by law to acquire, design, construct, finance, operate, and maintain a toll project, including a regional tollway authority under Transportation Code, Chapter 366, a regional mobility authority under Transportation Code, Chapter 370, or a county under Transportation Code, Chapter 284.

Amendments to §27.81, Free Use of Turnpike Project By Military Vehicle, replace the term "turnpike" with the term "toll" for consistency with current statutory provisions. The amendments also add new subsection (g), which provides that if the department enters into an agreement with a toll project entity to operate a toll project, the use of the project by military vehicles may be governed by the rules and policies of the toll project entity in lieu of the requirements of the section, with exception of subsection (f).

Amendments to §27.82, Toll Operations, update the heading of subsection (f) to distinguish that subsection from new subsection (i). New subsection (i) provides that if the department enters into an agreement with a toll project entity to operate a toll project, the operation of the project may be governed by the rules and policies of the toll project entity in lieu of the requirements of the section, with the exception of subsections (d) and (g).

Repeal of §27.86, Veteran Discount Program, eliminates the stated requirements for an electronic toll collection customer to participate in the veteran discount program established pursuant Texas Transportation Code, §372.053. This rule was never implemented due to system limitations and the department has subsequently determined that the provisions are unnecessary.

COMMENTS

No comments to the proposed repeal and amendments were received.

43 TAC §§27.80 - 27.82

STATUTORY AUTHORITY

The amendments are adopted under Transportation Code, §201.101, which provides the Texas Transportation Commission (commission) with the authority to establish rules for the conduct of the work of the department, and more specifically, Transportation Code, §228.007, which authorizes the department to enter into an agreement with a toll project entity to design, construct, operate, or maintain a toll lane on a state highway and to charge a toll for the use of one or more lanes of a state highway facility, Transportation Code, §228.059, which authorizes a toll collected for the use of a toll lane on a state highway pursuant to an agreement for tolling services with a toll project entity to be governed by the fee and fine structure of the entity issuing the initial toll invoice, Transportation Code, §362.901, which requires the commission to adopt rules relating to the free use of department toll projects by military vehicles, and Transportation Code, §372.053, which authorizes a toll project entity to establish a veterans discount program.

CROSS REFERENCE TO STATUTES IMPLEMENTED BY THIS RULEMAKING

Transportation Code, §228.007, §228.059, §362.901, and §372.053.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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43 TAC §27.86

STATUTORY AUTHORITY

The repeal is adopted under Transportation Code, §201.101, which provides the Texas Transportation Commission (commission) with the authority to establish rules for the conduct of the work of the department, and more specifically, Transportation Code, §228.007, which authorizes the department to enter into an agreement with a toll project entity to design, construct, operate, or maintain a toll lane on a state highway and to charge a toll for the use of one or more lanes of a state highway facility, Transportation Code, §228.059, which authorizes a toll collected for the use of a toll lane on a state highway pursuant to an agreement for tolling services with a toll project entity to be governed by the fee and fine structure of the entity issuing the initial toll invoice, Transportation Code, §362.901, which requires the commission to adopt rules relating to the free use of department toll projects by military vehicles, and Transportation Code, §372.053, which authorizes a toll project entity to establish a veterans discount program.

CROSS REFERENCE TO STATUTES IMPLEMENTED BY THIS RULEMAKING

Transportation Code, §228.007, §228.059, §362.901, and §372.053.

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CHAPTER 28. OVERSIZE AND OVERWEIGHT VEHICLES AND LOADS
SUBCHAPTER H. HIDALGO COUNTY REGIONAL MOBILITY AUTHORITY PERMITS

43 TAC §28.102

The Texas Department of Transportation (department) adopts the amendments to §28.102 concerning Authority's Powers and Duties. The amendments to §28.102 are adopted without changes to the proposed text as published in the June 7, 2024, issue of the *Texas Register* (49 TexReg 4031) and will not be republished.

EXPLANATION OF ADOPTED AMENDMENTS

These amendments grant the Hidalgo County Regional Mobility Authority (HCRMA) additional authority to issue permits for the operation of oversize/overweight vehicles on a designated roadway segment within Hidalgo County and clarify the limits of that authority. Transportation Code, §623.363(a)(2), authorizes the Texas Transportation Commission (commission) to designate additional routes for which HCRMA may issue oversize and overweight permits. The statute requires that the commission consult with HCRMA prior to the designation. The department worked with HCRMA to identify the additional route that would benefit the HCRMA permitting process.

Amendments to §28.102, Authority's Powers and Duties, clarify that the purpose of the rule is to authorize the issuance of permits by the HCRMA for roads listed under Transportation Code, §623.363, and those routes identified and designated by the commission. The amendments add an additional route designated by the commission for which HCRMA is authorized to issue permits for the operation of oversize/overweight vehicles. The added route is: the segment of W. Doffing Road from the intersection with Doffin Canal Road/S. Veterans Blvd (Spur 29) to 0.8 miles east of that intersection, which segment is not on the state highway system. This addition expands HCRMA's permitting authority for the operation of the roadways within its jurisdiction and allows HCRMA to provide more complete service to the motor carriers using the permits within Hidalgo County.

These amendments also require, prior to issuing any oversize/overweight permits on the newly added off-system roadway, HCRMA must demonstrate to the department's satisfaction that the roadway has sufficient structure to safely sustain the overweight loads. The amendments also dictate that it is the responsibility of HCRMA to maintain the off-system road and that the maintenance contract required between the department and HCRMA will provide for the allocation of permit fees between the department and HCRMA. Finally, the amendments dictate that HCRMA may not issue permits that authorize travel on this off-system segment of roadway after September 30, 2025.

COMMENTS

No comments on the proposed amendments were received.

STATUTORY AUTHORITY

The amendments are adopted under Transportation Code, §201.101, which provides the Texas Transportation Commission (commission) with the authority to establish rules for the conduct of the work of the department, and more specifically, Transportation Code, §623.369 authorizing the commission to adopt rules necessary to implement Subchapter S, Regional Mobility Authority Permits.

CROSS REFERENCE TO STATUTES IMPLEMENTED BY THIS RULEMAKING

Transportation Code, Chapter 623, Subchapter S.

The agency certifies that legal counsel has reviewed the adoption and found it to be a valid exercise of the agency's legal authority.

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