ATTACHMENT II
Text of Proposed New 19 TAC

Chapter 127. Texas Essential Knowledge and Skills for Career Development and Career and Technical Education

Subchapter J. Health Science [~~Hospitality and Tourism~~]

§127.472. Introduction to Pharmacy Science (One Credit), Adopted 2025.

(a) Implementation.

(1) The provisions of this section shall be implemented by school districts beginning with the 2026-2027 school year.

(2) School districts shall implement the employability skills student expectations listed in §127.15(d)(1) of this chapter (relating to Career and Technical Education Employability Skills, Adopted 2025) as an integral part of this course.

(b) General requirements. This course is recommended for students in Grades 9 and 10. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

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

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

(3) The Introduction to Pharmacy Science course is designed to provide an overview of the history of the pharmacy profession, legal and ethical aspects of pharmacy, and the skills necessary to work in the field of pharmacy. The course addresses certifications/registration and state and federal regulations and rules pertaining to the field. Students acquire a foundational understanding of medical terminology and math, anatomy and physiology, pathophysiology, pharmacology, and wellness as they pertain to pharmacy sciences.

(A) To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students should recognize that quality healthcare depends on the ability to work well with others.

(B) Professional integrity in the health science industry is dependent on acceptance of ethical responsibilities. Students employ their ethical responsibilities, recognize limitations, and understand the implications of their actions.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other organizations that foster leadership and career development in the profession such as student chapters of related professional associations.

(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 researches the history of medicine and pharmacy and how it differs from modern practices. The student is expected to:

(A) identify ancient beliefs associated with illness and medicine from 440 BC through AD 1600;

(B) describe treatments, including herbal remedies and supernatural explanations, that were commonly practiced prior to the Enlightenment period in Western Civilization; and

(C) describe eighteenth and nineteenth century medicine, including bloodletting, purging, blistering, inoculation, amputation, and surgery and how major wars influenced medicine.

(2) The student explains the ethical and legal responsibilities of pharmacists and pharmacy technicians. The student is expected to:

(A) describe basic laws and regulations that govern pharmacy at the state and federal level;

(B) describe legal terms, including medical malpractice, negligence, mislabeling, adverse drug event (ADE), and wrongful death, and consequences associated with medication errors, including civil lawsuits, professional disciplinary action, and criminal charges, related to dispensing and compounding medications;

(C) differentiate between negligence, product liability, contributory negligence, and regulatory law;

(D) differentiate between the roles and responsibilities of a pharmacist and a pharmacy technician;

(E) describe why maintaining confidentiality of patient information is vital and summarize the Health Insurance Portability and Accountability Act (HIPAA);

(F) identify tort law and explain how HIPPA relates to medical negligence cases; and

(G) define professional liability.

(3) The student demonstrates professionalism and effectively communicates with healthcare workers and patients. The student is expected to:

(A) define appropriate and professional attire required for laboratory work;

(B) describe appropriate hygiene expected of pharmaceutical professionals;

(C) discuss professional attitudes and behaviors expected of pharmacy employees;

(D) identify the key characteristics of effective and ineffective communication in pharmacy practice;

(E) accurately interpret, transcribe, and communicate medical vocabulary using appropriate technologies;

(F) identify ways to eliminate barriers to effective communication in a pharmacy setting; and

(G) identify communication skills needed to work with individuals who are terminally ill, intellectually disabled or hearing and vision impaired or have other impairments in a pharmacy setting.

(4) The student examines skills, training, and certifications necessary to work in the field of pharmacy. The student is expected to:

(A) explain how time management, stress management, and change management skills can support the ability to thrive in a continuously evolving pharmacy profession;

(B) analyze applicability of interpersonal skills, including negotiation skills, conflict resolution, customer service, and teamwork within a pharmacy setting;

(C) demonstrate problem-solving skills by developing and implementing effective solutions to pharmacy challenges within a specified time frame;

(D) explain methods to maintain competency in the pharmacy industry through continuing education and continuing professional development; and

(E) compare the various career paths in pharmacy, including pharmacist, pharmacy technician, sales representative, and pharmaceutical research.

(5) The student uses appropriate medical vocabulary to communicate effectively with other healthcare professionals. The student is expected to:

(A) identify the various routes of drug medication;

(B) differentiate between the various classes of drugs;

(C) define prefixes, roots, suffixes, and abbreviations common to the pharmacy profession;

(D) define common terms associated with pharmacology; and

(E) apply knowledge of word roots, prefixes, and suffixes to comprehend unfamiliar terms in pharmacy science.

(6) The student uses mathematical calculations and systems of measurement to solve problems in pharmacy. The student is expected to:

(A) perform medication calculations using different systems of measurement, including metric, apothecary, and household systems;

(B) convert units within and between the metric and imperial measurement systems;

(C) convert measurements between the metric, apothecary, and avoirdupois systems; and

(D) perform multistep ratio and proportion drug concentration problems.

(7) The student understands the fundamental principles of human anatomy, physiology, pathophysiology, and basic pharmacology. The student is expected to:

(A) describe the anatomy and physiology of the human body systems, including integumentary, musculoskeletal, nervous, immune, lymphatic, endocrine, cardiovascular, respiratory, gastrointestinal, renal, genitourinary, and hematological systems, and the senses;

(B) describe the pathophysiology of the main human body systems, including integumentary, musculoskeletal, nervous, immune, lymphatic, endocrine, cardiovascular, respiratory, gastrointestinal, renal, genitourinary, and hematological systems, and the senses; and

(C) identify the basic drug categories that affect each of the main human body systems, including integumentary, musculoskeletal, nervous, immune, lymphatic, endocrine, cardiovascular, respiratory, gastrointestinal, renal, genitourinary, and hematological systems, and the senses.

(8) The student explores the application of basic wellness concepts and disease prevention strategies. The student is expected to:

(A) describe the recommended vaccination schedule, including how to counsel on recommendations for patient populations with certain chronic illnesses;

(B) explain standard procedures for delivery and documentation of immunizations;

(C) analyze the effectiveness and safety of complementary and alternative medicines (CAM) such as acupuncture, acupressure, and coining and CAM's potential impact on traditional medical treatments;

(D) explain the role of health screenings in maintaining a healthy population;

(E) research and describe the impact of external factors such as alcohol, tobacco, vaping, and drug use on patient health; and

(F) explain the role of medication therapy management (MTM) in optimizing patient health and medication compliance.

(9) The student understands pharmaceutical regulations that are enforced by state and federal agencies. The student is expected to:

(A) define Occupational Safety and Health Administration (OSHA) requirements for prevention of exposure to hazardous substances, including risk assessment;

(B) define National Institute of Occupational Safety and Health (NIOSH) requirements for prevention of exposure to hazardous substances, including risk assessment;

(C) define United States Pharmacopeia (USP) requirements for prevention of exposure to hazardous substances, including risk assessment;

(D) identify, handle, dispense, and safely dispose of hazardous medications and materials using information from Safety Data Sheets (SDS), NIOSH Hazardous Drug List, and USP;

(E) describe requirements for prevention and response to blood-borne pathogen exposure, including accidental needle stick and post-exposure prophylaxis; and

(F) explain OSHA Hazard Communication Standards.

§127.512. Science of Nursing (One Credit), Adopted 2025.

(a) Implementation.

(1) The provisions of this section shall be implemented by school districts beginning with the 2026-2027 school year.

(2) School districts shall implement the employability skills student expectations listed in §127.15(d)(1) of this chapter (relating to Career and Technical Education Employability Skills, Adopted 2025) as an integral part of this course.

(b) General requirements. This course is recommended for students in Grades 10 and 11. Recommended prerequisite: Principles of Nursing Science or Principles of Health Science. Students shall be awarded one credit for successful completion of this course.

(c) Introduction.

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

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

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

(A) To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students should recognize that quality healthcare depends on the ability to work well with others.

(B) Professional integrity in the health science industry is dependent on acceptance of ethical responsibilities. Students employ their ethical responsibilities, recognize limitations, and understand the implications of their actions.

(4) Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other organizations that foster leadership and career development in the profession such as student chapters of related professional associations.

(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 understands tiers of nursing careers and the associated licensures. The student is expected to:

(A) identify and describe the educational and certification requirements for an entry-level patient care technician (PCT);

(B) identify and describe common work settings, including hospitals, doctors' offices, and healthcare agencies for PCTs;

(C) list qualifications to become a certified nursing assistant (CNA);

(D) identify and describe scope of practice for CNAs;

(E) describe the professional responsibilities of unlicensed assistive personnel (UAP) and explain how UAPs assist individuals with physical disabilities, mental disorders, and other healthcare needs;

(F) compare coursework required to obtain nursing credentials, including a licensed vocational nurse (LVN), Associate Degree Registered Nurse (ADN RN), and Bachelor of Science in Nursing Registered Nurse (BSN RN);

(G) analyze the requirements for advanced practice registered nurse (APRN) certification, including certified registered nurse anesthetist (CRNA), certified nurse midwife (CNM), certified nurse practitioner (CNP), and certified clinical nurse specialist (CNS); and

(H) compare nursing specialty options, including pediatric, critical care, emergency room, mental health, forensic, geriatric, and hospice nursing roles.

(2) The student examines how the nursing process is used to collect subjective and objective data in patient assessment. The student is expected to:

(A) describe the steps of a basic patient intake interview, including recording family history, biographical information, reason for seeking healthcare, present illness or health concerns, past health history, current medication list, and review of systems;

(B) explain the visual and physical head-to-toe assessment, including abnormal and normal structure and function of the body systems, used to evaluate patient condition;

(C) describe the importance of patient vital signs, including temperature, systolic and diastolic pressures, pulse, respiratory rate, pulse oximetry, and pain assessment using appropriate pain scales, in assessing a patient's overall health status;

(D) identify equipment, including a thermometer, sphygmomanometer, stethoscope, pulse oximeter, and time keeping device, used to measure and record patient vital signs;

(E) compare patient vital signs, including values outside of normal ranges, that establish baseline homeostasis; and

(F) explain how the steps in the nursing process are used to assist the patient to reach optimal physiological, social, mental, and emotional wellness.

(3) The student demonstrates knowledge of therapeutic care by reviewing patient activities of daily living (ADL). The student is expected to:

(A) define and differentiate between essential ADLs;

(B) explain the procedures for assessing patient independence, identifying functional limitations, and developing appropriate care plans;

(C) explain how a nurse promotes optimal patient function and quality of life;

(D) identify mental health disorders, including depression and anxiety, on patient ADLs;

(E) evaluate physical disabilities and limitations to recommend the correct assistive device for patient care; and

(F) identify and align therapeutic care to specific deficiencies in ADLs such as performing personal care, ambulating, and orienting to and using assistive devices to promote patient independence and optimize functional outcomes.

(4) The student understands the role of the nurse in providing first aid and emergency care. The student is expected to:

(A) identify and describe first aid and emergency care certifications such as Basic Life Support (BLS), Automated External Defibrillator (AED), First Aid, and Mental Health First Aid;

(B) discuss the advantages of obtaining first aid and emergency care certifications;

(C) identify and describe first aid and emergency care skills used by nurses; and

(D) explain the significance of the role of a nurse in an emergency setting such as an emergency room, intensive care unit, urgent care, or a life-saving event.

(5) The student applies nursing theory to simulate the implementation of patient care. The student is expected to:

(A) identify and explain the purpose of medical equipment that is used to assist patients with varied needs, including a Hoyer lift, hospital beds, foley catheter and drainage system, wheelchairs, gait belts, and bedside commodes;

(B) compare patient care needs throughout the lifespan using theories such as Maslow's Hierarchy of Needs, Erik Erikson's Stages of Psychosocial Development, Jean Piaget's Theory of Child Development, and Lev Vygotsky's Contemporary Theories on Development;

(C) identify proper patient positioning for patient needs, including Trendelenburg, Fowler's, supine, prone, lithotomy, and lateral recumbent;

(D) identify methods used to educate patients, family members, and caregivers in techniques for managing disabilities; and

(E) model the proper use of assistive medical equipment used in a variety of medical facilities, including long-term care, nursing and rehabilitation, home healthcare settings, and classroom environment.

(6) The student examines technology used in the practice of nursing. The student is expected to:

(A) identify and describe the technology, including electronic medical records, mobile computer workstations, scanning devices, and charting software, used to collect patient information;

(B) describe how to access laboratory values and normal ranges for diagnostic tests such as complete blood count, comprehensive metabolic panel, basic metabolic panel, and urinalysis to determine patient health status; and

(C) identify and describe advancements in technology, including remote patient monitoring systems, wearable monitoring systems, electronic intake patient interviews, interpreting services, deaf-link communication services, and patient safety alarms.

(7) The student understands the importance of using critical-thinking skills in the nursing process. The student is expected to:

(A) analyze the components of conducting a comprehensive patient assessment;

(B) identify and differentiate between subjective and objective data, including what the patient reports and what is observable and quantifiable;

(C) compare trends in health outcomes between various populations across the lifespan, including birth rates, life expectancy, mortality rates, and morbidity rates;

(D) analyze peer-reviewed medical research articles to evaluate the efficacy of specific treatments in improving patient care outcomes;

(E) create a patient care plan using procedures, including assess, diagnose, plan, implement and evaluate (ADPIE) and subjective, objective, assess, plan, implement, and evaluate (SOAPIE);

(F) analyze the impact of nursing interventions on patient condition in a simulated setting; and

(G) examine and describe clinical outcomes based upon patient assessment, care plan, and nursing interventions.

(8) The student understands pharmacology terminology associated with nursing practices. The student is expected to:

(A) identify and describe the eight rights of medication administration, including right patient, medication, dose, route, time, documentation, diagnosis, and response;

(B) identify and describe the principles of pharmacodynamics, including receptor binding, drug-receptor interactions, dose-response relationships, and therapeutic index;

(C) explain pharmacokinetics in the human body system, including the course of drug absorption, distribution, metabolism, and excretion;

(D) analyze the advantages of various routes of drug administration, including oral, injection, topical, buccal, suppository, mucosal, intravenous, interosseous, nebulization, and intrathecal; and

(E) analyze the disadvantages of various routes of drug administration, including oral, injection, topical, buccal, suppository, mucosal, intravenous, interosseous, nebulization, and intrathecal.