

**TExES® Health Science 6–12
 Curriculum Crosswalk**

Required Course Numbers											
Test Content Categories											
Domain I – Academic Foundations											
Competency 001: <i>The teacher understands major trends in the history of health care and the impact of health care on society.</i>											
A. Knows major historical events in the development of health care and understands their impact on society.											
B. Describes the economic impact of health services on society, the systems that finance health care in a free-enterprise economy and the features of different health care reform plans in the United States.											
C. Describes the changes in health care expenditure over time and factors that have contributed to rising costs in the health science industry.											
D. Describes the contrasting health problems in developing and developed countries.											
E. Identifies age and cultural influences that impact health care delivery.											
F. Compares and contrasts strategies used by different cultures to solve health-related problems.											

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G. Describes the roles of individuals and organizations (e.g., the Centers for Disease Control and Prevention, the United States Department of Health and Human Services, the World Health Organization) in the prevention and containment of disease in a global society.											
H. Identifies the impact of technological advances on health care and analyzes issues related to the appropriate use of technological resources.											
Competency 002: <i>The teacher applies academic skills to health science, understands scientific methods and the impact of scientific research on the health sciences, and organizes and communicates valid conclusions from experimental data.</i>											
A. Solves mathematical problems relating to the health sciences.											
B. Uses the process of scientific inquiry and applies critical-thinking skills to solve problems.											
C. Applies basic principles of physics, chemistry and the biomedical sciences to analyze situations and solve problems.											
D. Documents, interprets and analyzes scientific and technical data related to health care.											
E. Distinguishes between scientific theory and hypothesis and analyzes, reviews and critiques strengths and weaknesses of hypotheses, theories and models using scientific evidence and information and draws valid conclusions.											

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F. Knows that scientific theories are based on natural and physical phenomena and can be 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.											
G. Uses scientific information to make responsible choices in selecting everyday products and services.											
H. Plans and implements appropriate investigative procedures (e.g., asking questions, formulating testable hypotheses, selecting equipment and technology).											
I. Collects, organizes and displays experimental results using charts, tables and graphs.											
J. Analyzes data and makes inferences and predicts trends.											
K. Knows where to obtain and how to use available resources common to the health care profession.											
Competency 003: <i>The teacher understands medical terminology related to health care and uses it appropriately.</i>											
A. Identifies medical abbreviations, acronyms and symbols.											
B. Identifies the meaning of medical word prefixes, suffixes and roots.											

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C. Accurately interprets and transcribes medical vocabulary including the origins of eponyms.											
D. Reports observations using medical terminology including words associated with medical specialties such as genetics, pathology and oncology.											
E. Translates medical terms to conversational language.											
F. Uses medical and dental dictionaries, multimedia resources and Internet sites.											
G. Uses appropriate resources (e.g., texts, journals, reference manuals).											
H. Knows how to plan, prepare and deliver a presentation.											
I. Describes and reports information accurately according to facility policy, observations and procedures.											
Domain II – Medical Sciences											
<i>Competency 004: The teacher understands the anatomical structures of the human body and their relationship to the physiological functions and processes that maintain homeostasis.</i>											
A. Relates physiological functions to anatomical structures within the body systems (including directional terms and anatomical planes related to body structures).											
B. Analyzes biological and chemical processes that maintain homeostasis.											

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C. Analyzes the chemical reactions that provide energy for the body.											
D. Identifies the means, including the structure and function of the digestive system, by which nutrients are processed and energy is utilized or stored.											
E. Analyzes the effects of energy deficiencies in malabsorption disorders (e.g., diabetes, hypothyroidism, Crohn's disease) and energy excesses such as obesity.											
F. Analyzes and describes the effects of pressure, movement, torque, tension and elasticity on the human body.											
G. Explains how coordination of muscles, bones and joints allows movement of the body.											
H. Identifies and relates the changes in structures and functions of the body due to trauma, disease and environmental conditions.											
I. Describes the anatomy and physiology of the nervous system, including conduction systems (e.g., nerve transmission, muscle stimulation).											
J. Analyzes the physical, chemical and biological properties of the circulatory, respiratory and excretory transport systems and their interactions.											
K. Identifies the functions of the male and female reproductive systems.											

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L. Describes the development of cells, tissues, organs and systems, including embryological development.											
M. Describes the human development cycle.											
N. Recognizes reemerging technologies such as stem cell research and cord blood utilization, bioengineering and transplant technology.											
O. Conducts research on technological advances and limitations in the treatment of system disorders.											
Competency 005: <i>The teacher understands the relationship between micro-organisms and health and the role of microorganisms in infectious diseases.</i>											
A. Describes the historical development of microbiology as it relates to health-care.											
B. Identifies the chemical processes, morphology and characteristics of microorganisms.											
C. Describes techniques (e.g., use of a microscope, preparation of bacterial cultures) used to identify microorganisms.											
D. Describes the factors required for microbial reproduction and growth.											
E. Identifies normal flora of the human body.											
F. Describes the infectious disease process (e.g., reservoir, mode of transmission, incubation period).											
G. Identifies pathogens of the human body.											

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H. Explains the effects of antimicrobial agents.											
I. Examines the reemergence of diseases such as malaria, tuberculosis and polio.											
J. Describes drug-resistant diseases.											
Competency 006: <i>The teacher understands the mechanisms of pathology, the process of pathogenesis, a variety of human diseases and the effects of disease prevention and control.</i>											
A. Identifies biological and chemical processes at the cellular level.											
B. Associates disease processes with changes in homeostasis.											
C. Identifies factors contributing to disease (e.g., age, gender, environment, lifestyle, heredity).											
D. Describes stages in the progression of disease.											
E. Identifies pathogenic organisms, mutations and neoplasms and their associated disease processes.											
F. Recognizes the stages of pathogenesis (e.g., incubation, prodromal and symptomatic periods, exacerbation and remission).											
G. Analyzes the body's natural defenses against infection, including inflammatory and immune system responses.											
H. Explains the effects of chemical agents, environmental pollution and trauma on the disease process.											

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I. Identifies and describes congenital disorders and childhood diseases.											
J. Analyzes public health issues related to asepsis, isolation, immunization and quarantine.											
K. Compares treatment options for diseases.											
L. Describes diseases that threaten world health.											
Domain III – Occupational Knowledge											
<i>Competency 007: The teacher understands the aging process, including the sociological implications and psychological effects of aging.</i>											
A. Identifies the physiological and cognitive patterns of change in aging individuals.											
B. Analyzes the nutritional and pharmacological issues associated with aging.											
C. Describes the presentation of disease in older adults (e.g., heart attacks).											
D. Describes the myths regarding aging.											
E. Identifies cultural responses to aging.											
F. Describes and analyzes ethical issues regarding older adults.											
G. Analyzes the impact of a “graying” population on twenty-first-century health care.											
H. Describes and evaluates social services available to older adults.											

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I. Identifies the psychological aspects of aging, including responses to death and dying.											
Competency 008: <i>The teacher understands foundations and therapeutic concepts of nutrition and social and cultural issues related to nutrition.</i>											
A. Analyzes nutritional information, including that presented on food labels.											
B. Describes the nutritional needs of different populations (e.g., clients undergoing chemotherapy and radiation, clients of different ages).											
C. Describes how culture influences nutritional preferences.											
D. Assesses clients' nutritional needs.											
E. Describes eating disorders (e.g., anorexia, bulimia) and how they affect individuals.											
F. Identifies therapeutic diets.											
G. Describes food additives and food allergies.											
H. Describes the roles of vitamins and vitamin supplements.											
I. Describes the relationship between nutrition and world health.											
J. Describes the impact of government services and regulatory agencies on nutrition.											
K. Identifies alternative methods of nutrition (e.g., macrobiotic diets, antioxidants).											

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Competency 009: <i>The teacher understands the concepts of and the technology used in pharmacology.</i>											
A. Uses drug reference materials (e.g., the Physicians' Desk Reference [PDR], inserts in drug packaging).											
B. Describes instructions related to drug administration (e.g., taking medicine on an empty stomach, spacing of daily doses).											
C. Identifies drug names, classifications, actions and interactions.											
D. Identifies indications and contraindications of drugs.											
E. Identifies side effects and toxic effects of drugs as well as adverse reactions to drugs.											
F. Identifies routes of drug administration.											
G. Describes the differences between generic and brand-name drugs.											
H. Describes importance of clinical trials of new drugs and compares and contrasts different types of clinical trials.											
I. Describes importance of sample size in clinical trials and how to calculate sample sizes.											
J. Compares and contrasts drugs approved by the Food and Drug Administration (FDA) with alternative medicines.											
K. Uses technology to access, process and retrieve information.											

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Competency 010: <i>The teacher understands the concepts of, and social and cultural issues related to, mental health.</i>											
A. Describes the psychological aspects of health and wellness across the life span.											
B. Describes pathophysiology of the nervous system.											
C. Identifies the physiological aspects of stress.											
D. Identifies the symptoms of maladaptive conditions (e.g., paranoia, schizophrenia, aggression, depression).											
E. Describes treatment options (e.g., psychotherapy, medication, behavior modification) for a variety of mental health problems.											
F. Identifies societal perspectives and socioeconomic factors as they affect mental health.											
G. Describes the role of social services (e.g., drug dependency rehabilitation centers).											
Competency 011: <i>The teacher understands the fundamentals of wellness and disease prevention and the importance of preventive health behaviors.</i>											
A. Relates concepts of health and wellness to each phase of the life span and to disease prevention and risk management.											
B. Identifies human needs according to Maslow's Hierarchy of Human Needs.											
C. Identifies warning signs of disease and explains the importance of early detection.											

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D. Explains the relationship between nutrition, disease and the quality of life.											
E. Evaluates wellness strategies for the prevention and control of disease, such as maintaining positive relationships with friends, family and peers.											
F. Analyzes health-related social issues (e.g., access to health care, organ donation, religious beliefs).											
G. Analyzes risk factors for and consequences of unhealthy behaviors.											
H. Promotes healthy behaviors and suggests wellness strategies, products, information and services.											
I. Evaluates information and products related to traditional and alternative health care.											
Competency 012: <i>The teacher understands the skills and roles of health care workers and the functions of the diagnostic, therapeutic, informational and environmental systems of health care.</i>											
A. Describes the uses of appropriate technology (e.g., ultrasound, magnetic resonance imaging, X-rays, other diagnostic tests) and equipment (e.g., electrocardiograph) used in the delivery of health care.											
B. Provides opportunities for the students to observe therapeutic and diagnostic procedures and pre-procedural preparations.											

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C. Assesses and monitors client health status and accurately measures, records and interprets vital signs, according to facility protocol, throughout the life span.											
D. Describes how to safely move, lift and transport patients.											
E. Assesses client nutrition and hygiene.											
F. Demonstrates skills associated with activities of daily living and rehabilitative care and identifies care indicators of health status.											
G. Uses appropriate protocols, procedures and technology for the collection and dissemination of client health care data.											
H. Identifies client privacy issues and is familiar with the patient Privacy Rule and the Health Insurance Portability and Accountability Act (HIPAA).											

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Competency 013: <i>The teacher understands the importance of maintaining a safe environment and knows the roles of regulatory agencies, including safety policies, procedures and standard precautions, as they relate to health care workers and controlling the spread of infection.</i>											
A. Evaluates environments for personal and client safety and reports equipment or technology malfunctions.											
B. Identifies fire prevention procedures according to facility protocol.											
C. Describes appropriate responses to emergencies and other stressful situations such as trauma, chronic illness and terminal illness (e.g., triage, first aid, cardiopulmonary resuscitation).											
D. Identifies and explains the principles of body mechanics that minimize personal and client injury.											
E. Describes protocols related to recycling, waste management for cost containment, and handling chemicals and hazardous materials for environmental protection.											
F. Identifies the possible roles of chemical, biological and radiological agents in man-made and natural environmental disasters.											
G. Knows procedures related to preparedness for disasters (e.g., hurricanes, floods, ice storms, terrorist attacks).											
H. Describes the cycle of the infectious process.											

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I. Describes and explains the use of standard precautions to prevent nosocomial infections.											
J. Identifies, describes and demonstrates universal protection guidelines (e.g., levels of protection, appropriate equipment) for the personal protection of health care workers.											
K. Compares the functions of regulatory agencies (e.g., the Occupational Safety and Health Administration, the Food and Drug Administration, the Centers for Disease Control and Prevention).											
L. Describes school, laboratory and workplace safety policies and procedures and follows safe and responsible practices in laboratory investigations and fieldwork.											
Domain IV – Professional Responsibilities											
<i>Competency 014: The teacher communicates appropriately in medical environments and understands the importance of teaming and leadership skills and of developing partnerships within the health care community.</i>											
A. Adapts communication to the needs (e.g., physical, psychological, cultural) of individuals in a diverse society.											
B. Describes the importance of accurate communication with clients and members of the health care team and effectively conducts and participates in meetings.											

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C. Analyzes client data, records and technical reports.											
D. Describes appropriate communication skills in a variety of settings (e.g., over the phone, in reception areas, during interactions with clients, during work with other medical staff) and supervises electronic modes of communication such as email, instant messaging, and e-signature.											
E. Describes how the health care team uses teaming skills to provide quality health care.											
F. Identifies the collaborative roles of team members in delivering quality health care.											
G. Describes the skills, characteristics and responsibilities of leaders and group members.											
H. Explains the benefits of positive relationships among health professionals in promoting a healthy community.											
I. Describes importance of healthy professional relationships to achieving career goals.											
J. Uses problem-solving skills to negotiate and resolve conflicts and refine consensus-building techniques.											
K. Uses community resources for the benefit of students (e.g., involving parents/guardians in student learning and career development and inviting health care professionals to participate in the formal instruction of students).											

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L. Uses partnerships to prepare students for the transition from secondary to postsecondary education and to provide quality work-based learning opportunities (i.e., paid and unpaid) that are specific to health science professions, such as medical assistant, dental assistant, emergency medical technician-basic, phlebotomy technician and pharmacy technician.											
Competency 015: <i>The teacher prepares students for successful careers in the health care industry and understands the importance of lifelong learning and continuing professional development.</i>											
A. Identifies professional characteristics of health care workers.											
B. Locates, evaluates, and interprets career options, employment information and career enhancement opportunities within the diagnostic, therapeutic, health informatics, support services and biotechnology research and development systems and describes the procedures necessary to seek, secure and maintain employment.											
C. Guides students to prepare a professional portfolio and present it to interested stakeholders.											
D. Identifies and promotes productive work habits such as punctuality, regular attendance and time management.											
E. Guides students to set realistic career and educational goals based on personal interests, aptitudes and lifestyles.											

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F. Identifies new and emerging careers in health care.											
G. Uses the statewide curriculum (Texas Essential Knowledge and Skills [TEKS]) for Health Science Technology Education to plan academic achievement for advancement in the health science industry.											
H. Integrates new and emerging technology into the curriculum and selects a variety of appropriate resources (e.g., professional publications and journals) when preparing lessons.											
I. Describes the advantages of participating in professional development opportunities that address topics related to health care and facilitate the transfer of knowledge and skills from health care professionals to students.											

Required Course Numbers											
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Competency 016: <i>The teacher understands the ethical and legal responsibilities of health care workers.</i>											
A. Describes ethical behavior.											
B. Recognizes the necessity of client confidentiality.											
C. Explains the protocols and legal requirements of the health care industry within a designated scope of practice.											
D. Describes the purpose and use of policy and procedure manuals.											
E. Identifies clients' rights and health care options.											
F. Identifies and analyzes issues related to malpractice, negligence and liability.											
G. Describes the effects of unethical practices on consumers and analyzes court cases related to professional liability and ethics.											
H. Identifies circumstances that affect clients' rights (e.g., living will, durable power of attorney).											
I. Analyzes issues related to death and dying.											