



## Scope and Sequence

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<b>Cluster:</b>	Health Science		
<b>Course Name:</b>	Principles of Health Science		
<b>Course Description:</b>	<p>(1) The Principles of Health Science provides an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the health care industry.</p> <p>(2) 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 health care depends on the ability to work well with others.</p> <p>(3) The health science industry is comprised of diagnostic, therapeutic, health informatics, support services, and biotechnology research and development systems that function individually and collaboratively to provide comprehensive health care. Students should identify the employment opportunities, technology, and safety requirements of each system. Students are expected to apply the knowledge and skills necessary to pursue a health science career through further education and employment.</p> <p>(4) Professional integrity in the health science industry is dependent on acceptance of ethical and legal responsibilities. Students are expected to employ their ethical and legal responsibilities and limitations and understand the implications of their actions.</p>		
<b>Course Requirements:</b>	This course is recommended for students in Grade 9-12. Recommended resources are Diversified Health Occupations, Health Science Technology: Career Foundation, Health Careers Today		
<b>Equipment &amp; Supplies</b>	<p>Required: Stethoscopes (dual head, teaching), Sphygmomanometers (aneroid/mercuric), Thermometers (digital IV AC/thermoscope), Clock (with second hand), meter sticks or metric rulers, Manikin (adult, child and infant), hospital beds, Wheelchair, blankets, pillows, linens (draw sheet, fitted sheet, flat sheet, pillow case), anatomical charts, anatomical models - various parts of the body, human torso, skeleton, isolation gowns, isolation kit, gloves, masks, triangular bandages, 4 inch gauze squares, 2 inch Kling bandage rolls, 4 inch Kling, padded board splints, adhesive tape, elastic bandages, scissors, hand scrub/germicidal soap, alcohol preps, bandage scissors, non-sterile gloves, sterile gloves, overbed table, towels (bath, hand, washcloth), hamper, wash basin, emesis basin, bedpan, urinal, catheters, urine hat container, oxygen masks and tubing, cannula, portable oxygen, splints (leg and arm), IV bag and tubing, IV pole with wheels, backboards-CPR, walker, crutches, safety goggles, x-ray light box, microscopes, simulated blood typing kits, reagent strips, centrifuge, urinometer, clinitest, acetest, slides, coverstrips, test tubes, goniometer, snellen eye chart, scales with height measure, wraps (paper-sterile, cloth-nylon), assorted instruments, computers, monitors, telephone, fax machine, voice mail system, tv/dvdplayer, internet access, email</p> <p>Recommended: Stethoscopes (single head, specialized), bedside table, backboards, spinal immobilization devices - cervical, dental molds, dental trays, dental instruments, X-ray mounts, sports tape, prepared slides of blood, culture media, incubator, loops, glucometer, refractometer, stains for blood and bacteria, distilled water, EKG machine, autoclave, autoclave tape, trays, multimedia projector</p>		
<b>Units of Study</b>	<b>Knowledge and Skills</b>	<b>Student Expectations</b>	<b>Resources</b>
I. Health Care Systems & History of Health Care	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	<p>(D) organize, compile, and write ideas into reports and summaries;</p> <p>(E) plan and prepare effective oral presentations;</p> <p>(M) research the historical significance of health care;</p> <p>(O) analyze the impact of local, state, and national government on the health science industry;</p>	<p>Diversified Health Occupations - Unit 1 Health Careers Today - Chapter 1 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/ History/Culture</p>

Units of Study	Knowledge and Skills	Student Expectations	Resources
		(P) identify diverse and cultural influences that have impacted contemporary aspects of health care delivery; and  (Q) compare and contrast practices used by various cultures and societies to solve problems related to health.	
<b>II. Careers in Health Care</b>			
A. Diagnostic B. Therapeutic C. Health Informatics D. Support Services E. Biotechnology Research and Development Systems	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:  (4) The student assesses career options and the preparation necessary for employment in the health science industry. The student is expected to:  (5) The student identifies professional characteristics, academic preparation, and skills necessary for employment as defined by the health science industry. The student is expected to:  (6) The student identifies the systems related to health science. The student is expected to:  (11) The student identifies the technology used in the diagnostic, therapeutic, health informatics, support services, and biotechnology research and development systems. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries; (E) plan and prepare effective oral presentations; and (N) describe the impact of health services on the economy.  (A) locate, evaluate, and interpret career options and employment information; and (B) recognize the impact of career decisions, including cause and effect of changing employment situations.  (B) identify academic requirements for professional advancement such as certification, licensure, registration, continuing education, and advanced degrees.  (A) compare health science careers within the diagnostic, therapeutic, health informatics, support services, and biotechnology research and development systems; and (B) identify the collaborative role of team members between systems to deliver quality health care.  (A) identify technological equipment used in each of the five systems and relate findings to identified societal risk factors; and (B) recognize and relate the process for reporting equipment or technology malfunctions.	Diversified Health Occupations - Unit 2 Health Careers Today - Chapter 5; 21-34 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/ Careers Competitive Events Guidelines - HOSA Career Health Display www.hosa.org
<b>III. Anatomy and Physiology</b>			
A. Body planes B. Directional terms C. Cavities	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:  (2) The student uses verbal and nonverbal communication skills. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries; (E) plan and prepare effective oral presentations; and (G) describe biological and chemical processes that maintain homeostasis.  (D) accurately interpret, transcribe, and communicate medical vocabulary using appropriate technology.	Diversified Health Occupations - Unit 6:2 Health Careers Today - Chapter 8 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/ Anatomy & Physiology

Units of Study	Knowledge and Skills	Student Expectations	Resources
IV. Basic Medical Terminology			
A. Prefix B. Suffixes C. Root Words	(2) The student uses verbal and nonverbal communication skills. The student is expected to:	(D) accurately interpret, transcribe, and communicate medical vocabulary using appropriate technology.	Diversified Health Occupations - Unit 5 Health Careers Today - Chapter 6-20 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/ Anatomy & Physiology, and Communication
V. Anatomy and Physiology			
A. Basic Structure of the Human Body B. Skeletal System C. Muscular System	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(C) interpret technical material related to the health science industry;	Diversified Health Occupations - Unit 6 Health Careers Today - Chapter 13, 14 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/ Anatomy & Physiology HOSA Physical Therapy Guidelines- Range of Motion Exercises, DHO p. 801
		(D) organize, compile, and write ideas into reports and summaries;	
(E) plan and prepare effective oral presentations;			
(G) describe biological and chemical processes that maintain homeostasis; and			
		(H) identify and analyze principles of body mechanics and movement such as forces and the effects of movement, torque, tension, and elasticity on the human body.	
	(2) The student uses verbal and nonverbal communication skills. The student is expected to:	(D) accurately interpret, transcribe, and communicate medical vocabulary using appropriate technology.	
VI. Personal Qualities of a Health Care Worker			
A. Leadership B. Teamwork C. Communication	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries;	Diversified Health Occupations - Unit 3, 7 Health Careers Today - Chapter 2 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Communication, Leadership, and Professionalism/ Employability HOSA Competitive Event Guidelines - Job Seeking Skills, Prepared Speaking, etc.
		(E) plan and prepare effective oral presentations;	
		(F) formulate responses using precise language to communicate ideas; and	
		(L) analyze and evaluate communication skills for maintaining healthy relationships throughout the lifespan.	
	(2) The student uses verbal and nonverbal communication skills. The student is expected to:	(A) identify components of effective and non-effective communication;	
		(B) demonstrate effective communication skills for responding to the needs of individuals in a diverse society; and	
		(C) evaluate the effectiveness of conflict resolution techniques in various situations.	
	(3) The student implements the leadership skills necessary to function in a democratic society. The student is expected to:	(A) identify traits of a leader;	
		(B) demonstrate leadership skills, characteristics, and responsibilities of leaders such as goal setting and team building; and	
		(C) demonstrate the ability to effectively conduct and participate in meetings.	

Units of Study	Knowledge and Skills	Student Expectations	Resources
	(5) The student identifies professional characteristics, academic preparation, and skills necessary for employment as defined by the health science industry. The student is expected to:	(A) identify employer expectations such as punctuality, attendance, time management, communication, organizational skills, and productive work habits.	
	(7) The student examines the role of the multidisciplinary team in providing health care. The student is expected to:	(A) explain the concept of teaming to provide quality health care; and	
		(B) examine the role of professional organizations in the preparation and governance of credentialing and certification.	
	(9) The student recognizes the rights and choices of the individual. The student is expected to:	(B) identify wellness strategies for the prevention of disease.	
VII. Legal and Ethical			
A. Legal and Ethical Responsibilities B. Patient Rights	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries; and	Diversified Health Occupations - Unit 4 Health Careers Today - Chapter 4 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/ Ethical/Legal HOSA Competitive Events - Biomedical Debate
		(E) plan and prepare effective oral presentations.	
	(8) The student interprets ethical behavior standards and legal responsibilities. The student is expected to:	(A) compare published professional codes of ethics and scope of practice;	
		(B) explain principles of confidentiality and ethical behavior, including the consequences of breach of confidentiality;	
		(C) discuss ethical issues related to health care, including implications of technological advances;	
		(D) examine issues related to malpractice, negligence, and liability; and	
	(9) The student recognizes the rights and choices of the individual. The student is expected to:	(A) recognize situations related to autonomy; and	
		(D) review documentation related to rights and choices.	
VIII. Human Growth and Development			
A. Life Stages B. Maslow's Hierarchy of Human Needs C. Death and Dying	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries;	Diversified Health Occupations - Unit 7 Health Careers Today - Chapter 7 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Health & Wellness www.texashte.com - Course Guides/ Mental Health HOSA Competitive Events - Human Growth and Development
		(E) plan and prepare effective oral presentations;	
		(I) identify human needs according to Maslow's Hierarchy of Human Needs;	
		(J) describe the stages of development related to the life span; and	
		(K) identify the concepts of health and wellness throughout the life span.	
IX. Anatomy and Physiology			
A. Cardiovascular System B. Respiratory System	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(C) interpret technical material related to the health science industry;	Diversified Health Occupations - Unit 6:8, 6:10 Health Careers Today - Chapter 10-12 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E
		(D) organize, compile, and write ideas into reports and summaries;	

Units of Study	Knowledge and Skills	Student Expectations	Resources
		(E) plan and prepare effective oral presentations; (G) describe biological and chemical processes that maintain homeostasis; and (K) identify the concepts of health and wellness throughout the life span. (9) The student recognizes the rights and choices of the individual. The student is expected to:	Worker, 6E www.texashte.com - Activities Matrix/Anatomy & Physiology, Health & Wellness
X. Vital Signs			
A. Measuring and Recording 1. Pulse 2. Respirations 3. Temperature 4. Blood Pressure	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:  (11) The student identifies the technology used in the diagnostic, therapeutic, health informatics, support services, and biotechnology research and development systems. The student is expected to:	(A) convert units between systems of measurement; (B) apply data from tables, charts, and graphs to provide solutions to health-related problems; (D) organize, compile, and write ideas into reports and summaries; (E) plan and prepare effective oral presentations; and (G) describe biological and chemical processes that maintain homeostasis. (A) identify technological equipment used in each of the five systems and relate findings to identified societal risk factors; and (B) recognize and relate the process for reporting equipment or technology malfunctions.	Diversified Health Occupations - Unit 14 Health Careers Today - Chapter 6 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Skills HOSA Competitive Events Guidelines - Health Professional Events
XI. Anatomy and Physiology			
A. Digestive System	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:  (9) The student recognizes the rights and choices of the individual. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries; (E) plan and prepare effective oral presentations; and (G) describe biological and chemical processes that maintain homeostasis. (B) identify wellness strategies for the prevention of disease.	Diversified Health Occupations - Unit 6:11 Health Careers Today - Chapter 15 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Anatomy & Physiology
XII. Nutrition and Wellness			
	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:  (9) The student recognizes the rights and choices of the individual. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries; (E) plan and prepare effective oral presentations; and (K) identify the concepts of health and wellness throughout the life span. (B) identify wellness strategies for the prevention of disease; and (C) evaluate positive and negative effects of relationships on physical and emotional health such as peers, family, and friends and in promoting a healthy community.	Diversified Health Occupations - Unit 10 Health Careers Today - Chapter 7 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Nutrition, Health & Wellness HOSA Competitive Events Guidelines - Nutrition
XIII. Promotion of Safety			

Units of Study	Knowledge and Skills	Student Expectations	Resources
A. Body Mechanics B. Fire Safety	<p>(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:</p> <p>(10) The student recognizes the importance of maintaining a safe environment and eliminating hazardous situations. The student is expected to:</p>	<p>(D) organize, compile, and write ideas into reports and summaries;</p> <p>(E) plan and prepare effective oral presentations; and</p> <p>(H) identify and analyze principles of body mechanics and movement such as forces and the effects of movement, torque, tension, and elasticity on the human body.</p> <p>(A) identify governing regulatory agencies such as the World Health Organization, Centers for Disease Control, Occupational Safety and Health Administration, Food and Drug Administration, and National Institute for Occupational Safety and Health;</p> <p>(B) relate industry safety standards such as standard precautions, fire prevention, safety practices, and appropriate actions to emergency situations; and</p> <p>(C) identify safety practices in all aspects of the health science industry.</p>	Diversified Health Occupations - Unit 12 Health Careers Today - Chapter 3 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Safety, Skills
XIX. First Aid and CPR			
	<p>(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:</p> <p>(6) The student identifies the systems related to health science. The student is expected to:</p> <p>(7) The student examines the role of the multidisciplinary team in providing health care. The student is expected to:</p> <p>(10) The student recognizes the importance of maintaining a safe environment and eliminating hazardous situations. The student is expected to:</p> <p>(11) The student identifies the technology used in the diagnostic, therapeutic, health informatics, support services, and biotechnology research and development systems. The student is expected to:</p>	<p>(D) organize, compile, and write ideas into reports and summaries; and</p> <p>(E) plan and prepare effective oral presentations.</p> <p>(B) identify the collaborative role of team members between systems to deliver quality health care</p> <p>(A) explain the concept of teaming to provide quality health care.</p> <p>(B) relate industry safety standards such as standard precautions, fire prevention, safety practices, and appropriate actions to emergency situations; and</p> <p>(C) identify safety practices in all aspects of the health science industry.</p> <p>(A) identify technological equipment used in each of the five systems and relate findings to identified societal risk factors.</p>	Diversified Health Occupations - Unit 15 Health Careers Today - Chapter 1 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Safety HOSA Competitive Events Guidelines - Emergency Preparedness Events www.americanheart.org www.redcross.org
XV. Infection Control			
A. Asepsis	<p>(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:</p> <p>(9) The student recognizes the rights and choices of the individual. The student is expected to:</p> <p>(10) The student recognizes the importance of maintaining a safe environment and eliminating hazardous situations. The student is expected to:</p>	<p>(D) organize, compile, and write ideas into reports and summaries; and</p> <p>(E) plan and prepare effective oral presentations.</p> <p>(B) identify wellness strategies for the prevention of disease.</p> <p>(A) identify governing regulatory agencies such as the World Health Organization, Centers for Disease Control, Occupational Safety and Health Administration, Food and Drug Administration, and National Institute for Occupational Safety and Health;</p>	Diversified Health Occupations - Unit 13 Health Careers Today - Chapter 3 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashte.com - Activities Matrix/Asepsis HOSA Competitive Events Guidelines - Health Professions Events www.cdc.gov

Units of Study	Knowledge and Skills	Student Expectations	Resources
		(B) relate industry safety standards such as standard precautions, fire prevention, safety practices, and appropriate actions to emergency situations; and (C) identify safety practices in all aspects of the health science industry.	
XVI. Cultural Diversity			
A. Understanding and Respecting Cultural Diversity	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries;	Diversified Health Occupations - Unit 8 Health Careers Today - Chapter 4 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashste.com - Activities Matrix/History/Culture HOSA Competitive Events Guidelines - Biomedical Debate
		(E) plan and prepare effective oral presentations;	
		(P) identify diverse and cultural influences that have impacted contemporary aspects of health care delivery; and	
(Q) compare and contrast practices used by various cultures and societies to solve problems related to health.			
	(2) The student uses verbal and nonverbal communication skills. The student is expected to:	(B) demonstrate effective communication skills for responding to the needs of individuals in a diverse society.	
	(9) The student recognizes the rights and choices of the individual. The student is expected to:	(E) recognize diversity and cultural practices influencing contemporary aspects of health care.	
XVII. Anatomy and Physiology			
A. Urinary System B. Reproductive System	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(D) organize, compile, and write ideas into reports and summaries;	Diversified Health Occupations - Unit 16:12, 16:14 Health Careers Today - Chapter 16, 20 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texashste.com - Activities Matrix/Anatomy & Physiology, Health & Wellness
		(E) plan and prepare effective oral presentations; and	
		(G) describe biological and chemical processes that maintain homeostasis.	
(9) The student recognizes the rights and choices of the individual. The student is expected to:	(B) identify wellness strategies for the prevention of disease.		
<b>Resources: Books</b>			
	Diversified Health Occupations, 6E Student Edition, Thomson Delmar Learning.	1401814565	
	Health Care Science Technology: Career Foundation, 1E, Glencoe/McGraw Hill.	78294126	
	Health Careers Today, 3E, Elsevier/Mosby & Saunders.	032301867X	
	Introduction to Health Occupations: Today's Health Care Worker, 6E, Pearson/Prentice Hall.	131836927	
<b>Resources: Web Sites</b>			
	Texas Health Science Curriculum Materials	<a href="http://www.texashste.com">www.texashste.com</a>	
	Health Occupations Students of America	<a href="http://www.hosa.org">www.hosa.org</a>	
	Web M.D.	<a href="http://www.webmd.com">www.webmd.com</a>	
	Centers for Disease Control	<a href="http://www.cdc.gov">www.cdc.gov</a>	
	American Heart Association	<a href="http://www.americanheart.org">www.americanheart.org</a>	
	American Red Cross	<a href="http://www.redcross.org">www.redcross.org</a>	