Text of Adopted Amendments to 19 TAC

Chapter 130. Texas Essential Knowledge and Skills for Career and Technical Education

Subchapter H. Health Science

§130.226. World Health Research (One Credit), Adopted 2015.

(a) General requirements. This course is recommended for students in Grades 11 and 12. Prerequisites: Biology and Chemistry. Recommended prerequisite: a course in the Health Science Career Cluster. Students shall be awarded one credit for successful completion of this course.

(b) 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 World Health Research course is designed to examine major world health problems and emerging technologies as solutions to these medical concerns. It is designed to improve students' understanding of the cultural, infrastructural, political, educational, and technological constraints and inspire ideas for appropriate technological solutions to global medical care issues.

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

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

(c) Knowledge and skills.

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

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

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

(2) The student explores and discusses current major human health problems in the world. The student is expected to:

(A) describe the pathophysiology of the three leading causes of death in developing and developed countries;

(B) discuss history of diseases and the evolution of medical technology over time;

(C) contrast health problems in developing and developed countries;

(D) describe the function of the World Health Organization;

(E) define and calculate incidence, morbidity, and mortality; and

(F) identify and describe the challenges in global health that can have the greatest impact on health in developing nations.

(3) The student explains who pays for health care in the world today. The student is expected to:

(A) compare the availability of health care in developing and developed countries;

(B) discuss and contrast the four basic health care system models, including the Beveridge Model, Bismarck Model, National Health Insurance Model, and the Out-of-Pocket Model;

(C) explain how countries such as the United Kingdom, Japan, Germany, Taiwan, Switzerland, and the United States of America pay for health care;

(D) describe how health care expenditures have changed over time; and

(E) identify the major contributors to the rising health science industry costs.

(4) The student describes the engineering technologies developed to address clinical needs. The student is expected to:

(A) describe technologies that support the prevention and treatment of infectious diseases;

(B) explain the implication of vaccines on the immune system;

(C) investigate technologies used for the early detection of cancer;

(D) investigate technologies used for the treatment of several different types of cancers;

(E) explain the cardiovascular system and the technologies used in the diagnosis and treatment of heart disease; and

(F) describe and discuss technologies developed to support vital organ failure.

(5) The student explores how human clinical trials are designed, conducted, and evaluated. The student is expected to:

(A) identify types of clinical trials;

(B) define and calculate a sample size; and

(C) analyze quantitative methods used to describe clinical trials.

(6) The student recognizes the ethics involved in clinical research. The student is expected to:

(A) define informed consent;

(B) explain who can give informed consent;

(C) identify issues in research that influence the development of ethical principles and legal requirements currently governing research with human subjects; and

(D) explain the ethical guidelines for the conduct of research involving human subjects.

(7) The student explains how medical technologies are managed. The student is expected to:

(A) describe how health science research is funded;

(B) explain the role of the U.S. Food and Drug Administration in approving new drugs and medical devices; and

(C) analyze factors that affect the dissemination of new medical technologies.

(8) The student applies research principles to create a project that addresses a major health problem. The student is expected to:

(A) facilitate [~~construct charts and graphs in facilitating~~] data analysis and communicate [~~in communicating~~] experimental results clearly and effectively using technology by constructing charts and graphs ; and

(B) present the project to classmates, health professionals, parents, or instructors.

§130.230. Pharmacology (One Credit), Adopted 2015.

(a) General requirements. This course is recommended for students in Grades 11 and 12. Prerequisites: Biology and Chemistry. Recommended prerequisite: a course from the Health Science Career Cluster. Students shall be awarded one credit for successful completion of this course.

(b) 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 Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers.

(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.

(c) Knowledge and skills.

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

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

(B) demonstrate adaptability skills such as problem solving and creative thinking;

(C) develop a career plan;

(D) employ teamwork;

(E) create a job-specific resume; and

(F) appraise the characteristics desired by employers.

(2) The student explores the field of pharmacology and foundation of pharmacology [~~identifies individuals associated with manufacturing, dispensing, and administrating pharmaceuticals as a valued member of a health care team~~] . The student is expected to:

(A) define pharmacology and its major subdivisions, including pharmacodynamics, pharmacokinetics, and pharmacotherapeutics;

(B) explain the difference between therapeutic effects, side effects, and toxic effects;

(C) identify a drug receptor in the human body;

(D) trace the interaction and antagonist receptors;

(E) explain the relationship among [~~between~~] drug dosage, drug response, and time;

(F) explain drug safety and therapeutic index;

(G) describe three names by which drugs are known; and

(H) list two common drug reference books.

(3) The student identifies individuals and careers associated with manufacturing, dispensing, and administering [~~administrating~~] pharmaceuticals [~~as a valued member of a health care team~~] . The student is expected to:

(A) identify career pathways related to pharmacology;

(B) define the role of the pharmacy team;

(C) research and describe emerging pharmacy career opportunities;

(D) analyze the impact of pharmaceuticals on the costs of health care; and

(E) evaluate the impact of pharmaceuticals on the costs of society.

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

(A) describe the legal terms and consequences associated with prescription errors;

[~~(B) analyze the six routes of medication administration;~~]

(B) [~~(C)~~]differentiate between negligence, product liability, contributory negligence, and regulatory law;

(C) [~~(D)~~] evaluate the effect of medication errors related to the pharmacy and the industry;

(D) [~~(E)~~]discuss the elements of a lawsuit; and

(E) [~~(F)~~] define professional liability.

(5) The student uses a comprehensive medical vocabulary in order to communicate effectively with other health care professionals. The student is expected to:

(A) identify the various routes of drug medication;

(B) differentiate among the various classes of drugs;

(C) properly use common terms associated with pharmacology; and

(D) analyze unfamiliar terms using the knowledge of word roots, suffixes, and prefixes.

(6) The student demonstrates mathematical knowledge and skills to solve problems with systems of measurement used in the pharmacy. The student is expected to:

(A) analyze medication calculations, including metric, apothecary, and household systems;

(B) convert a measurement expressed in one standard unit within a system to a measurement expressed in another unit within the same system; and

(C) convert a measurement expressed in one system to a unit of the same measurement in a different system.

(7) The student recognizes the effectiveness of a pharmaceutical agent, its form, and its route of administration. The student is expected to:

(A) differentiate between solid, semi-solid, and liquid dosage forms;

(B) name forms in which drugs are manufactured, including their subcategories;

(C) list examples of drugs in each dosage form; and

(D) define medical terms associated with drug forms.

(8) The student must be able to select appropriate equipment and instruments and use technology for specific tasks. The student is expected to:

(A) identify technology components used in the pharmacy;

(B) describe how technology applications improve efficiency in the pharmacy; and

(C) analyze the use of technology in the pharmacy.

(9) The student is expected to practice safety in dispensing and administering pharmaceutical agents and prevent personal and client illness or injury. The student is expected to:

(A) employ safety standards;

(B) interpret rules associated with pharmacy standards;

(C) examine unsafe practices;

(D) observe safe procedures in the administration of client care; and

(E) demonstrate these safe procedures in the clinical setting.

§130.231. Health Science Theory (One Credit), Adopted 2015.

(a) General requirements. This course is recommended for students in Grades 10-12. Prerequisite: [~~Prerequisites: Principles of Health Science and~~] Biology. Recommended corequisite: Health Science Clinical. Students shall be awarded one credit for successful completion of this course.

(b) 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 Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.

(4) To pursue a career in the health science industry, students should recognize, 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.

(5) 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.

(6) 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, recognize limitations, and understand the implications of their actions.

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

(8) 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.

(c) Knowledge and skills.

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

(A) express ideas in a clear, concise, and effective manner; and

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

(2) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:

(A) solve mathematical calculations appropriate to situations in a health-related environment;

(B) communicate using medical terminology;

(C) express ideas in writing and develop skills in documentation;

(D) interpret complex technical material related to the health science industry;

(E) summarize biological and chemical processes that maintain homeostasis;

(F) explain the changes in structure and function due to trauma and disease; and

(G) research the global impact of disease prevention and cost containment.

(3) The student displays verbal and non-verbal communication skills. The student is expected to:

(A) demonstrate therapeutic communication appropriate to the situation;

(B) execute verbal and nonverbal skills when communicating with persons with sensory loss and language barriers in a simulated setting; and

(C) use electronic communication devices with appropriate supervision in the classroom setting such as facsimile, scanner, electronic mail, and telephone.

(4) The student analyzes and evaluates communication skills for maintaining healthy relationships throughout the life span. The student is expected to:

(A) evaluate how healthy relationships influence career goals;

(B) demonstrate communication skills in building and maintaining healthy relationships;

(C) demonstrate strategies for communicating needs, wants, and emotions; and

(D) evaluate the effectiveness of conflict resolution techniques in various simulated situations.

(5) The student relates appropriate information to the proper authority in a simulated classroom setting. The student is expected to:

(A) identify and retrieve reportable information; and

(B) report simulated information according to facility policy.

(6) The student identifies documents integrated into the permanent record of the health informatics system. The student is expected to:

(A) research document formats; and

(B) compile and record data according to industry-based standards.

(7) The student describes academic requirements necessary for employment in the health science industry. The student is expected to:

(A) research specific health science careers; and

(B) examine employment procedures for a specific health science career.

(8) The student identifies problems and participates in the decision-making process. The student is expected to:

(A) analyze systematic procedures for problem solving;

(B) evaluate the impact of decisions; and

(C) suggest modifications based on decision outcomes.

(9) The student implements the knowledge and skills of a health science professional in the classroom setting. The student is expected to:

(A) comply with specific industry standards related to safety and substance abuse;

(B) model industry expectations of professional conduct such as attendance, punctuality, personal appearance, hygiene, and time management;

(C) articulate comprehension of assignment;

(D) employ medical vocabulary specific to the health care setting;

(E) perform admission, discharge, and transfer functions in a simulated setting;

(F) demonstrate skills related to activities of daily living in rehabilitative care such as range of motion, positioning, and ambulation according to the health science industry standards, regulatory agency standards, and professional guidelines;

(G) role play techniques used in stressful situations such as trauma and chronic and terminal illness;

(H) demonstrate first aid, vital signs, cardiopulmonary resuscitation, and automated external defibrillator skills in a laboratory setting; and

(I) perform skills specific to a health science professional such as medical assistant, dental assistant, emergency medical technician-basic, phlebotomy technician, and pharmacy technician.

(10) The student evaluates ethical behavioral standards and legal responsibilities. The student is expected to:

(A) research and describe the role of professional associations and regulatory agencies;

(B) examine legal and ethical behavior standards such as Patient Bill of Rights, Advanced Directives, and the Health Insurance Portability and Accountability Act; and

(C) investigate the legal and ethical ramifications of unacceptable behavior.

(11) The student exhibits the leadership skills necessary to function in a democratic society. The student is expected to:

(A) identify leadership skills of health science professionals;

(B) participate in group dynamics; and

(C) integrate consensus-building techniques.

(12) The student maintains a safe environment. The student is expected to:

(A) conform to governmental regulations and guidelines from entities such as the World Health Organization, Centers for Disease Control and Prevention, Occupational Safety and Health Administration, U.S. Food and Drug Administration, Joint Commission, and National Institute of Health;

(B) explain protocol related to hazardous materials and situations;

(C) observe and report unsafe conditions; and

(D) support recycling and waste management for cost containment and environmental protection.

(13) The student assesses wellness strategies for the prevention of disease. The student is expected to:

(A) research wellness strategies for the prevention of disease;

(B) evaluate positive and negative effects of relationships on physical and emotional health;

(C) explain the benefits of positive relationships among community health professionals in promoting a healthy community;

(D) research and analyze the effects of access to quality health care; and

(E) research alternative health practices and therapies.

§130.232. Health Science Clinical (One Credit), Adopted 2015.

(a) General requirements. This course is recommended for students in Grades 10-12. Prerequisite [~~Prerequisites~~] : Biology [~~and Principles of Health Science~~] . Corequisite: Health Science Theory. This course must be taken concurrently with Health Science Theory and may not be taken as a stand-alone course. Districts are encouraged to offer this course in a consecutive block with Health Science Theory to allow students sufficient time to master the content of both courses. Students shall be awarded one credit for successful completion of this course.

(b) 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 Health Science Clinical course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.

(4) To pursue a career in the health science industry, students should recognize, 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.

(5) 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.

(6) 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, recognize limitations, and understand the implications of their actions.

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

(8) 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.

(c) Knowledge and skills.

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

(A) express ideas in a clear, concise, and effective manner; and

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

(2) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:

(A) solve mathematical calculations appropriate to situations in a health-related environment;

(B) communicate using medical terminology;

(C) express ideas in writing and develop skills in documentation;

(D) interpret complex technical material related to the health science industry;

(E) summarize biological and chemical processes that maintain homeostasis;

(F) explain the changes in structure and function due to trauma and disease; and

(G) research the global impact of disease prevention and cost containment.

(3) The student displays verbal and non-verbal communication skills. The student is expected to:

(A) demonstrate therapeutic communication appropriate to the situation;

(B) execute verbal and nonverbal skills when communicating with persons with sensory loss and language barriers; and

(C) use electronic communication devices with appropriate supervision such as facsimile, scanner, electronic mail, and telephone.

(4) The student analyzes and evaluates communication skills for maintaining healthy relationships throughout the life span. The student is expected to:

(A) evaluate how a healthy relationship influences career goals;

(B) demonstrate communication skills in building and maintaining healthy relationships;

(C) demonstrate strategies for communicating needs, wants, and emotions; and

(D) evaluate the effectiveness of conflict resolution techniques in various practical situations.

(5) The student relates appropriate information in the practical setting to the proper authority. The student is expected to:

(A) identify and retrieve reportable information; and

(B) report information according to facility policy in the practical setting.

(6) The student identifies documents integrated into the permanent record of the health informatics system. The student is expected to:

(A) research and describe document formats; and

(B) compile and record data according to industry based standards.

(7) The student describes academic requirements necessary for employment in the health science industry. The student is expected to:

(A) research specific health science careers; and

(B) review employment procedures for a specific health science career.

(8) The student identifies problems and participates in the decision-making process. The student is expected to:

(A) analyze systematic procedures for problem solving;

(B) evaluate the impact of decisions; and

(C) suggest modifications based on decision outcomes.

(9) The student implements the knowledge and skills of a health science professional in the clinical setting. The student is expected to:

(A) comply with specific industry standards related to safety and substance abuse;

(B) model industry expectations of professional conduct such as attendance, punctuality, personal appearance, hygiene, and time management;

(C) articulate comprehension of assignment;

(D) employ medical vocabulary specific to the health care setting;

(E) perform admission, discharge, and transfer functions in a simulated setting;

(F) demonstrate skills related to activities of daily living in rehabilitative care such as range of motion, positioning, and ambulation according to the health science industry standards, regulatory agency standards, and professional guidelines;

(G) role play techniques used in stressful situations such as trauma, chronic, and terminal illness;

(H) demonstrate first aid, vital signs, cardiopulmonary resuscitation, and automated external defibrillator skills in a laboratory setting; and

(I) perform skills specific to a health science professional such as medical assistant, dental assistant, emergency medical technician-basic, phlebotomy technician, and pharmacy technician.

(10) The student evaluates ethical behavioral standards and legal responsibilities. The student is expected to:

(A) research and describe the role of professional associations and regulatory agencies;

(B) examine legal and ethical behavior standards such as Patient Bill of Rights, Advanced Directives, and the Health Insurance Portability and Accountability Act;

(C) investigate the legal and ethical ramifications of unacceptable behavior; and

(D) perform within the designated scope of practice.

(11) The student exhibits the leadership skills necessary to function in a democratic society. The student is expected to:

(A) identify leadership skills of health science professionals;

(B) participate in group dynamics; and

(C) integrate consensus-building techniques.

(12) The student maintains a safe environment. The student is expected to:

(A) conform to governmental regulations and guidelines from entities such as the World Health Organization, Centers for Disease Control and Prevention, Occupational Safety and Health Administration, U.S. Food and Drug Administration, Joint Commission, and National Institute of Health;

(B) explain protocol related to hazardous materials and situations such as material safety data sheets;

(C) observe and report unsafe conditions; and

(D) practice recycling and waste management for cost containment and environmental protection.

(13) The student assesses wellness strategies for the prevention of disease. The student is expected to:

(A) research wellness strategies for the prevention of disease;

(B) evaluate positive and negative effects of relationships on physical and emotional health;

(C) explain the benefits of positive relationships among community health professionals in promoting a healthy community;

(D) research and analyze access to quality health care; and

(E) research alternative health practices and therapies.

§130.233. Practicum in Health Science (Two Credits), Adopted 2015.

(a) General requirements. This course is recommended for students in Grades 11 and 12. Prerequisites: [~~Principles of Health Science,~~] Health Science Theory [~~,~~] and Biology. Students shall be awarded two credits for successful completion of this course. A student may repeat this course once for credit provided that the student is experiencing different aspects of the industry and demonstrating proficiency in additional and more advanced knowledge and skills.

(b) 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 Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

(4) To pursue a career in the health care 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.

(5) The health care 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 recognize 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 certification or licensure through further education and employment.

(6) Professional integrity in the health care industry is dependent on acceptance of ethical and legal responsibilities. Students are expected to employ their ethical and legal responsibilities, recognize limitations, and understand the implications of their actions.

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

(8) 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.

(c) Knowledge and skills.

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

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

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

(2) The student applies mathematics, science, English language arts, and social sciences in health science. The student is expected to:

(A) interpret data from various sources in formulating conclusions;

(B) compile information from a variety of sources to create a technical report;

(C) plan, prepare, and deliver a presentation;

(D) examine the environmental factors that affect homeostasis;

(E) relate anatomical structure to physiological functions; and

(F) distinguish atypical anatomy and physiology in the human body systems.

(3) The student uses verbal and non-verbal communication skills. The student is expected to:

(A) accurately report information according to facility policies and procedures;

(B) demonstrate therapeutic communication skills to provide quality care; and

(C) employ therapeutic measures to minimize communication barriers.

(4) The student implements the knowledge and skills of a health care professional necessary to acquire and retain employment. The student is expected to:

(A) demonstrate proficiency in medical terminology and skills related to the health care of an individual;

(B) develop new problem-solving strategies based on previous knowledge and skills; and

(C) evaluate performance for continuous improvement and advancement in health care.

(5) The student employs ethical behavior standards and legal responsibilities. The student is expected to:

(A) identify individual ethical and legal behavior standards according to professional regulatory agencies; and

(B) research case studies related to unethical behavior in the health care industry.

(6) The student employs a safe environment to prevent hazardous situations. The student is expected to:

(A) integrate regulatory standards such as standard precautions and safe patient handling;

(B) evaluate hazardous materials according to the material safety data sheets; and

(C) apply principles of infection control and body mechanics in all aspects of the health care industry.

(7) The student explores the knowledge and skill levels necessary for advancing in the health science professions. The student is expected to:

(A) identify knowledge and skills that are transferable among health science professions; and

(B) research career pathways pertaining to the health care industry.

(8) The student implements skills in monitoring individual health status during therapeutic or diagnostic procedures. The student is expected to:

(A) identify care indicators of health status; and

(B) record health status according to facility protocol.

(9) The student recognizes the importance of participation in extended learning experiences. The student is expected to:

(A) participate in extended learning experiences such as community service, career and technical student organizations, and professional organizations; and

(B) create a plan of action targeting the career and technical student organization's community service goal.

§130.234. Extended Practicum in Health Science (One Credit), Adopted 2015.

(a) General requirements. This course is recommended for students in Grades 11 and 12. The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Health Science Career Cluster. Prerequisites: [~~Principles of Health Science,~~] Health Science Theory [~~,~~] and Biology. Corequisite: Practicum in Health Science. This course must be taken concurrently with Practicum in Health Science and may not be taken as a stand-alone course.

Students shall be awarded one credit for successful completion of this course. A student may repeat this course once for credit provided that the student is experiencing different aspects of the industry and demonstrating proficiency in additional and more advanced knowledge and skills.

(b) 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 Extended Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

(4) 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.

(5) 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.

(6) 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, recognize limitations, and understand the implications of their actions.

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

(8) 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.

(c) Knowledge and skills.

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

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

(B) participate in training, education, or preparation for licensure, certification, or other relevant credentials to prepare for employment;

(C) demonstrate professional standards and personal qualities needed to be employable such as self-discipline, positive attitude, integrity, commitment, leadership, appreciation for diversity, customer service, and adaptability with increased fluency;

(D) employ teamwork and conflict-management skills with increased fluency to achieve collective goals; and

(E) employ planning and time-management skills and tools with increased fluency to enhance results and complete work tasks.

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

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

(B) report information according to facility policies and procedures accurately;

(C) demonstrate therapeutic communication skills with increased fluency to provide quality care;

(D) analyze, interpret, and effectively communicate information, data, and observations;

(E) apply active listening skills to obtain and clarify information; and

(F) observe and interpret verbal and nonverbal cues and behaviors to enhance communication.

(3) The student implements advanced problem-solving methods. The student is expected to employ critical-thinking skills with increased fluency both independently and in groups to solve problems and make decisions.

(4) The student understands and applies proper safety techniques in the workplace to prevent hazardous situations. The student is expected to:

(A) demonstrate an understanding of and follow workplace safety rules and regulations;

(B) implement regulatory standards such as standard precautions and safe patient handling with increased fluency;

(C) evaluate hazardous materials according to the material safety data sheets in a consistent manner; and

(D) apply principles of infection control and body mechanics in all aspects of the health care industry.

(5) The student understands the professional, ethical, and legal responsibilities in health science. The student is expected to:

(A) demonstrate a positive, productive work ethic by performing assigned tasks as directed;

(B) implement individual ethical and legal behavior standards according to professional regulatory agencies;

(C) show integrity by choosing the ethical course of action when making decisions; and

(D) comply with all applicable rules, laws, and regulations in a consistent manner.

(6) The student implements the knowledge and skills of a health care professional necessary to acquire and retain employment. The student is expected to demonstrate proficiency in medical terminology and skills related to the health care of an individual.

(7) The student participates in a supervised health science experience. The student is expected to:

(A) conduct, document, and evaluate learning activities in a supervised health science experience;

(B) develop advanced technical knowledge and skills related to a personal occupational objective;

(C) evaluate strengths and weaknesses in technical skill proficiency; and

(D) collect representative work samples.