Indiana Department of Education
Academic Standards Course Framework

HEALTH SCIENCE EDUCATION I

Health Science Education I content includes skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, an introduction to health care systems, anatomy, physiology, and medical terminology. Leadership skills developed through HOSA participation are also included. Lab experiences are organized and planned around the activities associated with the student's career objectives. Job seeking and job maintenance skills, personal management skills, self analysis to aid in career selection and completion of the application process for admission into a post secondary program of their choice are also included in this course.

- DOE Code: 5282
- Recommended Grade Level: Grade 11
- Recommended Prerequisites: None
- Credits: 2 to 3 credits per semester, maximum of 6 credits.
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- This course is aligned with the following Post-Secondary courses for Dual Credit:
    - Ivy Tech
        - HLHS 100 Introduction to Health Careers
        - HLHS 101 Medical Terminology
    - Vincennes University
        - HIMT 110 Medical Terminology

Dual Credit

This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

Application of Content and Multiple Hour Offerings

Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

Career and Technical Student Organizations (CTSOs)

Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in HOSA Health Occupations Student Association the CTSO for this area.

Content Standards

Domain—The Human Body

Core Standard 1 Students analyze functions of the human body to determine how to prevent common diseases.

Standards

HSEI-1.1 Classify the basic structural and functional organization of the human body (tissue, organ, and system)

HSEI-1.2 Recognize body planes, directional terms, quadrants, and cavities

HSEI-1.3 Analyze the basic structure and function of the human body

HSEI-1.4 Describe common diseases and disorders of each body system (prevention, pathology, diagnosis, and treatment)

HSEI-1.5 Recognize emerging diseases and disorders

HSEI-1.6 Investigate biomedical therapies as they relate to the prevention, pathology, and treatment of disease

HSEI-1.7 Apply mathematical computations related to healthcare procedures (metric and household, conversions and measurements)

HSEI-1.8 Analyze diagrams, charts, graphs, and tables to interpret healthcare results

HSEI-1.9 Record time using the 24-hour clock

Domain – Communications

Core Standard 2 Students analyze various modes of writing to prepare for communicating in a health care setting.

Standards

HSEI-2.1 Interpret verbal and nonverbal communication

HSEI-2.2 Recognize barriers to communication

HSEI-2.3 Report subjective and objective information

HSEI-2.4 Recognize the elements of communication using a sender-receiver model

HSEI-2.5 Apply speaking and active listening skills

HSEI-2.6 Use roots, prefixes, and suffixes to communicate information

HSEI-2.7 Use medical abbreviations to communicate information

HSEI-2.8 Recognize elements of written and electronic communication (spelling, grammar, and formatting)

Domain – Systems

Core Standard 3 Students analyze how the healthcare professionals' roles fit into their departments, and the overall healthcare environment, identifying how key systems affect services and quality of care.

Standards

HSEI-3.1 Describe the healthcare delivery system (public, private, government, and non-profit)

HSEI-3.2 Explain the factors influencing healthcare delivery systems

HSEI-3.3 Describe the responsibilities of consumers within the healthcare system

HSEI-3.4 Explain the impact of emerging issues such as technology, epidemiology, bioethics, and socioeconomics on healthcare delivery systems

HSEI-3.5 Discuss common methods of payment for healthcare

Domain – Employability Skills

Core Standard 4 Students identify employability skills in order to enhance their employment opportunities and job satisfaction.

Standards

HSEI-4.1 Classify the personal traits and attitudes desirable in a member of the healthcare team

HSEI-4.2 Summarize professional standards as they apply to hygiene, dress, language, confidentiality and behavior

HSEI-4.3 Define employability skills in healthcare

HSEI-4.4 Discuss levels of education, credentialing requirements, and employment trends in healthcare

HSEI-4.5 Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services, or biotechnology research and development)

HSEI-4.6 Develop components of a personal portfolio

HSEI-4.7 Demonstrate the process for obtaining employment

Domain – Legal Responsibilities

Core Standard 5 Students analyze the legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting.

Standards

HSEI-5.1 Analyze legal responsibilities

HSEI-5.2 Apply procedures for accurate documentation and record keeping

HSEI-5.3 Apply standards for Health Insurance Portability and Accountability Act (HIPAA)

HSEI-5.4 Describe advance directives

HSEI-5.5 Summarize the Patient's Bill of Rights

HSEI-5.6 Describe concept of informed consent

HSEI-5.7 Explain laws governing harassment, labor and scope of practice

Domain – Ethics

Core Standard 6 Students connect accepted ethical practices to cultural, social, and ethnic differences within the healthcare environment to provide quality healthcare.

Standards

HSEI-6.1 Differentiate between ethical and legal issues impacting healthcare

HSEI-6.2 Recognize ethical issues and their implications related to healthcare

HSEI-6.3 Apply procedures for reporting activities and behaviors that affect the health, safety, and welfare of others

HSEI-6.4 Discuss religious and cultural values as they impact healthcare

HSEI-6.5 Recognize respectful and empathetic treatment of ALL patients/clients (customer service)

Domain – Safety Practices

Core Standard 7 Students evaluate the existing and potential hazards to clients, co-workers, and self.

Standards

HSEI-7.1 Explain principles of infection control

HSEI-7.2 Describe methods of controlling the spread and growth of microorganisms

HSEI-7.3 Apply personal safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations

HSEI-7.4 Apply principles of body mechanics

HSEI-7.5 Apply safety techniques in the student laboratory environment

HSEI-7.6 Comply with safety signs, symbols, and labels

HSEI-7.7 Identify implications of exposure to hazardous materials

HSEI-7.8 Practice fire safety in a healthcare setting

HSEI-7.9 Apply principles of basic emergency response in natural disasters and other emergencies

Domain – Teamwork

Core Standard 8 Students analyze the roles and responsibilities of individual members of the healthcare team, to promote the delivery of quality healthcare.

Standards

HSEI-8.1 Define roles and responsibilities of team members

HSEI-8.2 Recognize characteristics of effective teams

HSEI-8.3 Recognize methods for building positive team relationships

HSEI-8.4 Analyze attributes and attitudes of an effective leader

HSEI-8.5 Apply effective techniques for managing conflict

Domain – Health Maintenance Practices

Core Standard 9 Students integrate fundamentals of wellness and the prevention of disease processes to promote personal health and to recognize wellness as a vital part of healthcare.

Standards

HSEI-9.1 Apply behaviors that promote health and wellness

HSEI-9.2 Indentify strategies for the prevention of diseases

HSEI-9.3 Discuss complementary (alternative) health practices as they relate to wellness and disease prevention

Domain – Technical Skills

Core Standard 10 Students prove competency in basic healthcare technical skills to demonstrate skills when assessing patients and delivering quality care.

Standards

HSEI-10.1 Apply and adapt procedures for measuring and recording vital signs including the normal ranges

HSEI-10.2 Apply and adapt skills to obtain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first aid

Domain – Information Technology Applications

Core Standard 11 Students apply and adapt information technology applications required within all career specialties to maintain continuity of patient care.

Standards

HSEI-11.1 Utilize current computer hardware and software.

HSEI-11.2 Communicate using technology (fax, e-mail, and Internet) to access and distribute data and other information

HSEI-11.3 Recognize technology applications in healthcare

Process Standards

Common Core Literacy Standards for Technical Subjects

Reading Standards for Literacy in Technical Subjects 11-12

The standards below begin at grade 11 and define what students should understand and be able to do by the end of grade 12. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations – the former providing broad standards, the latter providing additional specificity.

Key Ideas and Details

11-12.RT.1 Cite specific textual evidence to support analysis of technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

11-12.RT.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

11-12.RT.3 Follow precisely a complex multistep procedure when performing technical tasks; analyze the specific results based on explanations in the text.

Craft and Structure

11-12.RT.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific context relevant to *grades 11-12 texts and topics*.

11-12.RT.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

11-12.RT.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

Integration of Knowledge and Idea

11-12.RT.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

11-12.RT.8 Evaluate the hypotheses, data, analysis, and conclusions in a technical subject, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

11-12.RT.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

Range of Reading and Level of Text Complexity

11-12.RT.10 By the end of grade 12, read and comprehend technical texts in the grades 11-CCR text complexity band independently and proficiently.

Writing Standards for Literacy in Technical Subjects 11-12

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Text Types and Purposes

11-12.WT.1 Write arguments focused on *discipline-specific content*.

11-12.WT.2 Write informative/explanatory texts, including technical processes.

11-12.WT.3 Students will not write narratives in technical subjects. *Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In technical, students must be able to write precise enough descriptions of the step-by-step procedures they use in their technical work that others can replicate them and (possibly) reach the same results.*

Production and Distribution of Writing

11-12.WT.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

11-12.WT.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

11-12.WT.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Research to Build and Present Knowledge

11-12.WT.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

11-12.WT.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectivity to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation

11-12.WT.9 Draw evidence from informational texts to support analysis, reflection, and research.

Range of Writing

11-12.WT.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.