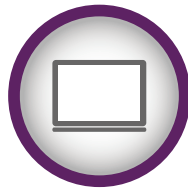


IOWA CAREER AND TECHNICAL EDUCATION STANDARDS

FINAL REPORT 2019



BUSINESS, MANAGEMENT & ADMINISTRATION • AGRICULTURE, FOOD & NATURAL
RESOURCES • INFORMATION SOLUTIONS • APPLIED SCIENCES, TECHNOLOGY,
ENGINEERING & MANUFACTURING • HEALTH SCIENCES • HUMAN SERVICES



Health Science Foundational Standards	
1.0	Academic Foundation: Healthcare professionals will know the academic subject matter required for proficiency within their area. They will use this knowledge as needed in their role. The following accountability criteria are considered essential for students in a health science program of study.
1.1	Human Structure and Function
1.1.1	Classify the basic structural and functional organization of the human body (tissue, organ, and system).
1.1.2	Recognize body planes, directional terms, quadrants, and cavities.
1.1.3	Analyze the basic structure and function of the human body.
1.1.4	Demonstrate anatomical position.
1.2	Diseases and Disorders
1.2.1	Describe common diseases and disorders of each body system (prevention, pathology, diagnosis, and treatment).
1.2.2	Recognize emerging diseases and disorders.
1.2.3	Investigate biomedical therapies as they relate to the prevention, pathology, and treatment of disease.
1.3	Medical Mathematics
1.3.1	Apply mathematical computations related to healthcare procedures (metric and household, conversions and measurements).
1.3.2	Analyze diagrams, charts, graphs, and tables to interpret healthcare results.
1.3.3	Record time using the 24-hour clock.
2.0	Communications: Healthcare professionals will know the various methods of giving and obtaining information. They will communicate effectively, both orally and in writing.
2.1	Concepts of Effective Communication
2.1.1	Interpret verbal and nonverbal communication.
2.1.2	Recognize barriers to communication.
2.1.3	Report subjective and objective information.
2.1.4	Recognize the elements of communication using a sender-receiver model.
2.1.5	Apply speaking and active listening skills.
2.1.6	Distinguish professional communications style from conversational or informal communications style.
2.1.7	Describe appropriate interactions with patients throughout various stages of psychosocial Development.
2.2	Medical Terminology
2.2.1	Use standardized roots, prefixes, and suffixes for healthcare related communications.
2.2.2	Use standardized medical abbreviations, when appropriate, to communicate information.
2.3	Written Communication Skills
2.3.1	Recognize elements of written and electronic communication (spelling, grammar, and formatting).
2.3.2	Demonstrate appropriate use of digital communication in a work environment, such as email, text, and social media.

Health Science Foundational Standards	
3.0	Systems: Healthcare professionals will understand how their role fits into their department, their organization and the overall healthcare environment. They will identify how key systems affect services they perform and quality of care.
3.1	Healthcare Delivery Systems
3.1.1	Understand the healthcare delivery system (public, private, government, and non-profit, specialty medical and dental practices).
3.1.2	Explain the factors influencing healthcare delivery systems.
3.1.3	Explore the roles and responsibilities of provider and support personnel in healthcare delivery systems.
3.1.4	Describe the rights and responsibilities of consumers within the healthcare system.
3.1.5	Explain the impact of emerging issues such as technology, epidemiology, bioethics, and socioeconomics on healthcare delivery systems.
3.1.6	Discuss healthcare payment sources and the impact of under-insured and uninsured on healthcare finances.
3.1.7	Explain the history and role of health insurance and employer/employee benefits.
3.1.7	Explain fundamental terms related to health insurance (claim, coinsurance, fraud, HIPAA, premium).
4.0	Employability Skills: Healthcare professionals will understand how employability skills enhance their employment opportunities and job satisfaction. They will demonstrate key employability skills and will maintain and upgrade skills, as needed.
4.1	Personal Traits of the Healthcare Professional
4.1.1	Classify the personal traits and attitudes desirable in a member of the healthcare team.
4.1.2	Summarize professional standards as they apply to hygiene, dress, language, confidentiality and behavior.
4.2	Employability Skills
4.2.1	Investigate transferable or employability skills to determine those essential in healthcare Settings.
4.2.2	Demonstrate key transferable or employability skills in healthcare settings.
4.3	Career Decision-Making
4.3.1	Discuss levels of education, credentialing requirements, and employment trends in Healthcare.
4.3.2	Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services, or biotechnology research and development).
4.4	Employability Preparation
4.4.1	Develop components of a personal portfolio.
4.4.2	Demonstrate the process for obtaining employment.
5.0	Legal Responsibilities: Healthcare professionals will understand the legal responsibilities, limitations, and implications of their actions within the healthcare delivery setting. They will perform their duties according to regulations, policies, laws and legislated rights of clients.

Health Science Foundational Standards	
5.1	Legal Implications
5.1.1	Analyze legal responsibilities.
5.1.2	Apply procedures for accurate documentation and record keeping.
5.2	Legal Practices
5.2.1	Apply Health Insurance Portability and Accountability Act (HIPAA) standards for privacy and security of healthcare information.
5.2.2	Describe advance directives.
5.2.3	Summarize the Patient’s Bill of Rights.
5.2.4	Understand informed consent.
5.2.5	Explain laws governing harassment, labor management, scope of practice, negligence and malpractice.
6.0	Ethics: Healthcare professionals will understand accepted ethical practices with respect to cultural, social, and ethnic differences within the healthcare environment. They will perform quality healthcare delivery.
6.1	Ethical Boundaries
6.1.1	Differentiate between ethical and legal issues impacting healthcare.
6.1.2	Recognize ethical issues and their implications related to healthcare.
6.2	Ethical Practice
6.2.1	Apply procedures for reporting activities and behaviors that affect the health, safety, and welfare of others.
6.2.2	Apply principles of ethical behavior to healthcare situations.
6.3	Cultural, Social, and Ethnic Diversity
6.3.1	Understand religious and cultural values as they impact healthcare.
6.3.2	Demonstrate respectful, empathetic, patient-centered treatment of ALL patients/clients.
7.0	Safety Practices: Healthcare professionals will understand the existing and potential hazards to clients, co-workers, and self. They will prevent injury or illness through safe work practices and follow health and safety policies and procedures.
7.1	Infection Control
7.1.1	Explain principles of infection control.
7.1.2	Describe methods of controlling the spread and growth of microorganisms.
7.2	Personal Safety
7.2.1	Apply personal safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations.
7.2.2	Apply principles of body mechanics.
7.2.3	Demonstrate and apply the use of personal protective equipment (PPE).
7.3	Environmental Safety
7.3.1	Apply safety techniques in the work environment.
7.4	Common Safety Hazards
7.4.1	Comply with safety signs, symbols, and labels.
7.4.2	Understand implications of hazardous materials.

Health Science Foundational Standards	
7.5	Emergency Procedures and Protocols
7.5.1	Practice fire safety in a healthcare setting.
7.5.2	Apply principles of basic emergency response in natural disasters and other emergencies.
8.0	Teamwork: Healthcare professionals will understand the roles and responsibilities of individual members as part of the healthcare team, including their ability to promote the delivery of quality healthcare. They will interact effectively and sensitively with all members of the healthcare team.
8.1	Healthcare Teams
8.1.1	Understand roles and responsibilities of team members.
8.1.2	Identify characteristics of effective teams and team members in various roles.
8.2	Team Member Participation
8.2.1	Recognize methods for building positive team relationships.
8.2.2	Analyze attributes and attitudes of effective team leaders and team members.
8.2.3	Apply effective techniques for managing team conflict.
8.2.4	Evaluate why teamwork is an important part of healthcare and how it improves patient Care.
9.0	Health Maintenance Practices: Healthcare professionals will understand the fundamentals of wellness and the prevention of disease processes. They will practice preventive health behaviors among the clients.
9.1	Healthy Behaviors
9.1.1	Apply behaviors that promote health and wellness.
9.1.2	Describe strategies for the prevention of diseases including health screenings and Examinations.
9.1.3	Discuss complementary (alternative) health practices as they relate to wellness and disease prevention.
9.1.4	Examine aspects of behavioral health (anxiety, depression, substance abuse, suicide).
9.2	Healthcare Across the Lifespan
9.2.1	Discuss impact of physical, mental, social and behavioral development across the lifespan on healthcare.
10.0	Technical Skills: Healthcare professionals will apply technical skills required for all career specialties. They will demonstrate skills and knowledge as appropriate.
10.1	Technical Skills
10.1.1	Apply procedures for measuring and recording vital signs including the normal ranges.
10.1.2	Apply skills to obtain training or certification in cardiopulmonary resuscitation (CPR), automated external defibrillator (AED), foreign body airway obstruction (FBAO) and first Aid.
11.0	Information Technology Applications: Healthcare professionals will use information technology applications required within all career specialties. They will demonstrate use as appropriate to healthcare applications.
11.1	Health Information Literacy and Skills
11.1.1	Identify methods and types of data collected in healthcare.

Health Science Foundational Standards	
11.1.2	Use health record data collection tools (such as input screens, document templates).
11.1.3	Differentiate between types and content of health records (patient, pharmacy, and laboratory).
11.1.4	Ensure that documentation in the health record reflects timeliness, completeness, and accuracy.
11.1.5	Adhere to information systems policies and procedures as required by national, state, local, and organizational levels.
11.2	Privacy and Confidentiality of Health Information
11.2.1	Apply the fundamentals of privacy and confidentiality policies and procedures.
11.2.2	Identify legal and regulatory requirements related to the use of personal health Information.
11.2.3	Identify and apply policies and procedures for access and disclosure of personal health Information.
11.2.4	Describe the consequences of inappropriate use of health data in terms of disciplinary Action.
11.2.5	Describe appropriate methods to correct inaccurate information/errors personally entered into an electronic health record (HER).
11.3	Basic Computer Literacy Skills
11.3.1	Apply basic computer concepts and terminology in order to use computers and other mobile devices.
11.3.2	Demonstrate basic computer operating procedures.
11.3.3	Demonstrate use of file organization and information storage.
11.3.4	Use basic word processing, spreadsheet, and database applications.
11.3.5	Evaluate the validity of web-based resources.
11.3.6	Demonstrate use of appropriate email and social media usage.

Therapeutic Services	
TS-1.0	Client Interaction: Therapeutic services professionals will be able to explain planned procedures and goals to patients and other clients. They will use various strategies to respond to questions and concerns of patients and other clients.
TS-1.1	Oral Communication
TS-1.1.1	Evaluate patient or other client’s ability to understand information given.
TS-1.1.2	Demonstrate empathy for patients and other clients.
TS-1.1.3	Choose jargon-free language appropriate to the situation.
TS-1.1.4	Adjust communication to the needs of the patient or other clients.
TS-2.0	Intra Team Communication: Therapeutic services professionals will be able to communicate patient and other client information within a team.
TS-2.1	Team Interactions
TS-2.1.1	Distinguish appropriate role and responsibilities of each team member.
TS-2.1.2	Respect and value the expertise and contributions of all team members.
TS-2.1.3	Evaluate relevancy of information to be conveyed.
TS-2.1.4	Formulate and report information in a way that is clear and concise.
TS-3.0	Information Collection: Therapeutic services professionals will understand the facility protocol and regulatory guidelines for collecting patient and other client information. They will participate in identifying and responding to patient and other client health care needs, strengths, problems and report results.
TS-3.1	Information Collection
TS-3.1.1	Select appropriate tools for information to be collected.
TS-3.1.2	Collect and format information using facility protocols and regulatory guidelines.
TS-4.0	Treatment Planning and Implementation: Therapeutic services professionals will understand the general purpose and components of the treatment plan. They will collaborate in planning procedures according to facility protocol and regulatory guidelines. They will understand how these procedures support the goals and objectives of the treatment plan of the patient or other client and implement the procedures within their scope of practice.
TS-4.1	Planning
TS-4.1.1	Design the treatment plan incorporating patient or other client input.
TS-4.1.2	Create a treatment plan using a problem-solving model and evaluate for intervention opportunities.
TS-4.1.3	Select appropriate resources to implement treatment plan.
TS-4.2	Implementation
TS-4.2.1	Evaluate priorities in order to organize work.
TS-4.2.2	Use equipment and instruments according to the manufacturer’s guidelines and accepted safety practice.
TS-4.2.3	Document actions according to facility protocol and regulatory guidelines.
TS-5.0	Monitoring Client Status: Therapeutic services professionals will understand the process for monitoring patient and other client health status. They will assess health status and report the results to a treatment team.

TS-5.1	Procedures for Monitoring
TS-5.1.1	Evaluate patient and client response to administered treatments and procedures.
TS-5.1.2	Analyze and report patient and other client response.
TS-5.1.3	Assess need for follow up and alternative care.
TS-6.0	Patient and other Client Status Evaluation: Therapeutic services professionals will evaluate patient and other client needs, strengths and problems in order to determine if treatment goals are being reached.
TS-6.1	Evaluation
TS-6.1.1	Choose appropriate evaluation tools to assess patient and other client response to treatment plan.
TS-6.1.2	Analyze information gathered.
TS-6.1.3	Revise or create modifications to treatment plan based on information gathered.

Health Informatics	
HI-1.0	Communication: Health informatics professionals will understand the need to communicate health/medical information accurately and within legal/regulatory bounds across the organization.
HI-1.1	Communication
HI-1.1.1	Manage the accuracy, effectiveness, and timeliness of the transfer of information.
HI-1.1.2	Evaluate legal and regulatory requirements for the transfer of information.
HI-1.1.3	Distinguish who in the organization needs information and when they need it.
HI-2.0	Analysis: Health informatics professionals will know the quantitative and qualitative requirements for information. They will analyze the information for designated purposes.
HI-2.1	Analysis
HI-2.1.1	Synthesize information to determine the best course of action.
HI-2.1.2	Assess health information required by patients, staff, and the community.
HI-2.1.3	Assemble all necessary data components for successful completion of tasks.
HI-2.1.4	Appraise the accuracy and completeness of data.
HI-2.1.5	Assess whether information is reported and disseminated within legal and regulatory bounds.
HI-3.0	Abstracting and Coding: Health informatics professionals will know how to read and interpret a medical record or other medical documents, applying knowledge of medical terminology and codes. They will extract required information from a medical record and other medical documents for a variety of purposes, upon regulatory or legal request.
HI-3.1	Abstracting and Coding
HI-3.1.1	Assemble appropriate, accurate information to record charges and reimbursement.
HI-3.1.2	Choose accurate medical terminology.
HI-3.1.3	Assess and apply information for regulatory and legal purposes.
HI-4.0	Information Systems: Health informatics professionals will understand the resources, routes and flow of information within the health care system. They will participate in the design and implementation of effective systems or processes.
HI-4.1	Information Systems
HI-4.1.1	Synthesize the information systems utilized by the organization.
HI-4.1.2	Assess how systems interact to facilitate the timely and accurate flow.
HI-4.1.3	Organize information within the parameters of the information systems.
HI-4.1.4	Integrate information for timely, accurate dissemination.
HI-4.1.5	Evaluate effectiveness of systems.
HI-4.1.6	Assess and recommend systems for improvement.
HI-5.0	Documentation: Health informatics professionals will understand the content and diverse uses of health information. They will accurately document and communicate appropriate information using legal and regulatory processes.
HI-5.1	Documentation
HI-5.1.1	Assemble and accurately document required information.

Health Informatics	
HI-5.1.2	Interpret information that has been collected.
HI-5.1.3	Differentiate the various purposes and audiences for whom the information is collected.
HI-5.1.4	Prepare accurate documentation for various audiences within legal and regulatory requirements.
HI-5.1.5	Disseminate information to various audiences using established systems and guidelines.
HI-5.1.6	Assess and recommend processes for improvement.
HI-6.0	Operations: Health informatics professionals will understand the broad scope of operations in which health care services are delivered. They will know the systems operations used to capture, retrieve, and maintain information from internal and external sources. They will utilize internal and external information and resources accurately and efficiently.
HI-6.1	Operations
HI-6.1.1	Analyzing the internal and external sources of information and resources available.
HI-6.1.2	Project outcomes as interconnected components of a modified health care system.
HI-6.1.3	Select the systems and sources of information necessary for the successful completion of the task.
HI-6.1.4	Participate in the design of operational systems and processes.
HI-6.1.5	Evaluate operational systems and processes for improvement.

Support Services	
SS-1.0	Operations: Support services professionals will examine, differentiate, and enhance the responsibilities of their roles. They will perform their tasks safely following established internal and external guidelines.
SS-1.1	Administration
SS-1.1.1	Develop/implement departmental mission statement, goals, objectives, and strategic plan.
SS-1.1.2	Develop/implement departmental policies, procedures, processes and modify as needed.
SS-1.1.3	Coordinate departmental activities with other departments, outside agencies and contractors, including event planning and logistics.
SS-1.1.4	Develop/implement new and existing services.
SS-1.1.5	Design and implement an employee recognition program.
SS-1.2	Quality Measurement and Improvement
SS-1.2.1	Monitor customer expectations through satisfaction plans and measurement tools to assure adequacy of products and services.
SS-1.2.2	Participate and provide support standardization, consolidation and/or re-engineering processes.
SS-1.2.3	Evaluate cost effectiveness of alternative methodologies.
SS-1.2.4	Perform quality management activities.
SS-1.2.5	Monitor customer expectations through satisfaction plans and measurement tools to assure adequacy of service.
SS-1.3	Compliance
SS-1.3.1	Adhere to a code of ethics to ensure corporate compliance.
SS-1.3.2	Ensure compliance with legal, regulatory, and accreditation standards or codes. Administer the hazardous materials management program.
SS-1.3.3	Coordinate with physicians, departmental directors/managers, and outside agencies in the development of Emergency Preparedness Plans.
SS-1.3.4	Inspect buildings/facilities and grounds to ensure compliance with standards, regulations, and codes.
SS-1.3.5	Check work of staff to ensure compliance with applicable safety and building regulations.
SS-2.0	Aseptic Procedures: Support services professionals will adopt work practices that maintain a clean and healthy environment. They will demonstrate best practices to reduce or eliminate pathogenic organisms.
SS-2.1	Cleaning and Decontamination
SS-2.1.1	Demonstrate various decontamination techniques and procedures.
SS-2.1.2	Demonstrate knowledge of standards precaution guidelines.
SS-2.1.3	Select procedures and precautions to be followed when using chemicals.
SS-2.1.4	Demonstrate techniques for mechanical and manual cleaning procedures.
SS-2.1.5	Evaluate potential causes and methods of transmitting infection (e.g., contact, airborne, common vehicle, vector-borne).
SS-2.1.6	Integrate all infection control standards with design and construction activities.
SS-2.2	Hazardous Materials and Waste Management

Support Services	
SS-2.2.1	Develop, implement, and monitor hazardous waste disposal policies and procedures in accordance with regulatory requirements.
SS-2.2.2	Assess and monitor the operations of a waste management program, including recycling and reduction of regulated medical, solid, hazardous chemical and radioactive waste materials.
SS-2.2.3	Develop systems and procedures that minimize customer cost of ordering, storing, and using supplies, services, and equipment.
SS-2.2.4	Ensure that regulated waste is handled, packaged, stored and disposed of in accordance with federal, state, and local regulations and maintain appropriate documentation.
SS-2.3	Materials Handling and Storage
SS-2.3.1	Demonstrate process and environmental requirements for proper handling and storage of sterile and non-sterile items.
SS-2.3.2	Demonstrate appropriate inventory control and distribution systems.
SS-2.3.3	Describe and implement a program to purchase materials, supplies, and capital equipment within allocated resources.
SS-2.3.4	Apply optimal material flow and layout.
SS-2.3.5	Adopt policies and procedures to monitor distribution, consumption, and pilferage or materials.
SS-2.3.6	Provide adequate space to meet standards for storage.
SS-3.0	Resource Management: Support services professionals will evaluate the principles and techniques of resource management. They will make appropriate decisions to maximize the use of available resources.
SS-3.1	Finance
SS-3.1.1	Participate and evaluate purchasing processes and agreements.
SS-3.1.2	Evaluate audit activities, including the review of discrepancies, purchase orders, and invoices.
SS-3.1.3	Assess cost benefits that support best product recommendations.
SS-3.1.4	Explain competitive pricing, terms, and service levels.
SS-3.1.5	Identify opportunities for reduction in resource consumption.
SS-3.1.6	Develop inventory reduction targets and process to achieve targets.
SS-3.2	Acquisition and Distribution
SS-3.2.1	Implement purchasing and procurement techniques that improve the overall supply chain.
SS-3.2.2	Analyze timely order placement, supplier performance, and continuously review for effectiveness.
SS-3.2.3	Assess a supplier performance standards program.
SS-3.2.5	Provide consultation to departments requiring assistance in resource allocation.
SS-3.2.6	Assess the integration of resource functions.
SS-3.2.7	Implement appropriate distribution strategies and systems to ensure optimal materials flow.
SS-3.2.8	Organize adequate quantities of supplies, equipment, instruments and medical devices are maintained.

Support Services	
SS-3.3	Equipment and Maintenance
SS-3.3.1	Participate in capital purchasing processes.
SS-3.3.2	Assess procedures and processes for the selection, acquisition, distribution, and maintenance of equipment.
SS-3.3.3	Apply written instructions for the equipment manufactures operations manual, departmental policies and procedures.
SS-3.3.4	Implement a preventive maintenance (PM) process for buildings, equipment, parts, supplies, and utilities as appropriate.
SS-3.3.5	Implement a preventive maintenance (PM) process for buildings, equipment, parts, supplies, and utilities as appropriate.
SS-3.3.6	Participate in equipment and systems training programs for maintenance staff and user groups.
SS-3.4	Staffing and Productivity
SS-3.4.1	Participate in a comprehensive training and education program, covering such aspects as safety, infection control, hazardous materials, and new equipment use.
SS-3.4.2	Analyze labor distribution for projects and operations.
SS-3.4.3	Adopt reporting mechanisms for departmental functions.
SS-4.0	Aesthetics: Support services professionals will defend the establishment, maintenance, and improvement of the environment. They will assist in the development and implementation of facility standards.
SS-4.1	Physical Environment and Presentation
SS-4.1.1	Coordinate with other departments to select facility finishes and furnishings within appropriate safety codes.
SS-4.1.2	Participate in the development of design and construction plans.
SS-4.1.3	Analyze the therapeutic and functional aspects of color décor and furnishing.
SS-4.1.4	Provide facility accessibility through appropriate way finding and maintaining a clutter free environment.
SS-4.1.5	Maintain facility in good repair.
SS-4.1.6	Organize, deliver and present products and services in a quality manner.

For additional information: <https://www.healthscienceconsortium.org/standards>



COMMUNITY COLLEGES & WORKFORCE PREPARATION

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The Division of Community Colleges and Workforce Preparation within the Iowa Department of Education administers a variety of diverse programs that enhance Iowa's educational system and help to prepare a skilled and knowledgeable workforce. Divided between two bureaus — the Bureau of Community Colleges and the Bureau of Career and Technical Education — the Division is committed to providing and supporting opportunities for lifelong learning. In addition to working with Iowa's 15 public community colleges on state accreditation, program approval, equity review, and data reporting, guidance is also provided in the areas of career and technical education, workforce training and economic development, adult education and literacy, military education, the state mandated OWI education program, the GAP Tuition and PACE programs, Senior Year Plus, the National Crosswalk Service Center, and the Statewide Intermediary Network program.