Health Science Career Cluster
Cluster Knowledge and Skill Statements

The following Cluster (Foundation) Knowledge and Skill Chart provides statements that apply to all careers in the Health Science Cluster. Persons preparing for careers in the Health Science Cluster should be able to demonstrate these skills in addition to those found on the Essential Knowledge and Skills Chart. The Pathway Knowledge and Skill Charts are available in separate documents.

Cluster Topic HLC01	**ACADEMIC FOUNDATIONS:** *Achieve additional academic knowledge and skills required to pursue the full range of career and postsecondary education opportunities within a career cluster.*
HLC01.01	**Health care workers will know the academic subject matter required for proficiency within their area. They will use this knowledge as needed in their role. In addition to state high school graduation requirements, the following are included:**
HLC01.01.01	Use a knowledge of human structure and function to conduct health care role.
Sample indicators	Describe the basic structures and functions of cells, tissues, organs, and systems as they relate to homeostasis.
	Compare relationships among cells, tissues, organs, and systems.
	Explain body planes, directional terms, quadrants, and cavities.
	Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation.
HLC01.01.02	Use a knowledge of diseases and disorders to conduct health care role.
Sample indicators	Compare selected diseases/disorders including respective classification(s), causes, diagnoses, therapies, and care/rehabilitation to include biotechnological applications.
	Analyze methods to control the spread of pathogenic microorganisms.
	Contrast various types of immunities.
	Analyze body system changes in light of diseases, disorders and wellness.
	Compare the aging process among the body systems.

Cluster Topic HLC02	**COMMUNICATIONS:** *Use oral and written communication skills in creating, expressing and interpreting information and ideas including technical terminology and information.*
	No additional statements in the topic beyond those found in the Essential Knowledge and Skills Chart.

Cluster Topic HLC03	**PROBLEM-SOLVING AND CRITICAL THINKING:** *Solve problems using critical thinking skills (analyze, synthesize, and evaluate) independently and in teams. Solve problems using creativity and innovation.*
	No additional statements in the topic beyond those found in the Essential Knowledge and Skills Chart.

Cluster Topic HLC04	**INFORMATION TECHNOLOGY APPLICATIONS:** *Use information technology tools specific to the career cluster to access, manage, integrate, and create information.*

No additional statements in the topic beyond those found in the Essential Knowledge and Skills Chart.

Cluster Topic HLC05	**SYSTEMS:** *Understand roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment. Identify how key organizational systems affect organizational performance and the quality of products and services. Understand global context of industries and careers.*

HLC05.01	**Health care workers will understand how their role fits into their department, their organization and the overall health care environment. They will identify how key systems affect services they perform and quality of care.**
HLC05.01.01 *Sample indicators*	Explain systems theory as it applies to the health care environment. Describe systems theory and its components. Construct a general systems model using inputs, throughputs, and a feedback loop.
HLC05.01.02 *Sample indicators*	Explain the health care delivery system. Construct a healthcare delivery system model. Predict where and how factors such as cost, managed care, technology, an aging population, access to care, alternative therapies, and lifestyle/behavior changes may affect various health care delivery system models. Project outcomes as interconnected components of a modified health care system. Calculate the cost effectiveness of two separate health care delivery systems using the same client procedure.
HLC05.01.03 *Sample indicators*	Health care workers 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. Diagram the interdependence of health care professions within a given health care delivery system and pertaining to the delivery of quality health care. Design a system analysis process that evaluates the following outcomes; client satisfaction, productivity, cost effectiveness, and efficiency. Evaluate the impact of enhanced technology on the health care delivery system.
HLC05.01.04 *Sample indicators*	Explain the concept of system change as it applies to the health care environment. Analyze the cause and effect on health care system change based on the influence of technology, epidemiology, bio-ethics, socio-economics, and various forms of complimentary (non-traditional) medicine.

Cluster Topic HLC06	**SAFETY, HEALTH AND ENVIRONMENTAL:** *Understand the importance of health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance. Follow organizational policies and procedures and contribute to continuous improvement in performance and compliance.*

HLC06.01 **Health care workers 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.**

HLC06.01.01 Explain infection control practices and procedures.
Sample indicators
    Practice infection control procedures.
    Practice appropriate cleaning, disinfecting, and sterilizing processes.
    Contrast medical and surgical asepsis.

HLC06.01.02 Employ personal safety practices.
Sample indicators
    Manage a personal exposure incident in compliance with OSHA regulations.
    Apply principles of body mechanics and ergonomics.
    Use personal protective equipment as appropriate to the environment.

HLC06.01.03 Use techniques to insure environmental safety.
Sample indicators
    Modify the environment to create safe working conditions.
    Demonstrate methods of fire prevention in the health care setting.
    Prevent accidents by using proper safety techniques.
    Practice good housekeeping by maintaining a safe work environment.

HLC06.01.04 Identify common safety hazards.
Sample indicators
    Use Materials Safety Data Sheets (MSDS).
    Adhere to hazardous labeling requirements.
    Comply with safety signs, symbols, and labels.
    Take appropriate action when observing a hazardous material problem.
    Apply safety principles within given environment.
    Handle hazardous chemicals commonly used in the health care environment in an appropriate manner.

HLC06.01.05 Use emergency procedures and protocols.
Sample indicators
    Interpret the evacuation plan for the health care setting.
    Construct an emergency plan for a health care setting in response to a natural disaster or other emergency.
    Follow the facility procedure when a fire is discovered.

HLC06.01.06 Describe healthy behaviors.
Sample indicators
    Apply behaviors that promote health and wellness.
    Advocate available preventive health screening and examinations.
    Use practices that promote the prevention of disease and injury.
    Use appropriate safety practices as related to high-risk behaviors.
    Evaluate the validity of alternative health practices.

Cluster Topic HLC07	**LEADERSHIP AND TEAMWORK:** *Use leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.*

HLC07.01 **Health care workers will understand the roles and responsibilities of individual members as part of the health care team, including their ability to promote the delivery of quality health care.**

HLC07.01.01 Describe health care teams.
Sample indicators
    Apply the team concept in providing quality patient/client care.
    Recognize characteristics of effective teams.

Analyze roles of various team participants.

Respond to given critical situations appropriately as a team member/leader.

Accept compromise as necessary to ensure a best outcome.

HLC07.01.02	Describe team member participation.

Sample indicators

Communicate verbally and nonverbally with team colleagues to assure a best result for the client.

Collaborate with others to formulate team objectives.

Act responsibly as a team member, completing assigned tasks in a timely and effective manner.

Actively listen to other team members.

Exercise leadership skills as appropriate.

Respect and value the expertise and contributions of all team members.

Work collaboratively with persons from diverse backgrounds to accomplish a common goal.

Apply corrective action to an acknowledged conflict situation.

Exhibit a strong sense of team identity and commitment to purpose.

Cluster Topic HLC08	**ETHICS AND LEGAL RESPONSIBILITIES:** *Know and understand the importance of professional ethics and legal responsibilities.*
HLC08.01	**Health care workers will understand the legal responsibilities, limitations, and implications of their actions within the health care delivery setting in order to deliver services within legal requirements.**

HLC08.01.01	Describe legal implications affecting health care workers.
Sample indicators	Analyze legal responsibilities, limitations, and implications of actions.

Use problem-solving techniques when confronted with legal dilemmas or issues.

Compare and contrast behaviors and practices that could result in malpractice, liability, or negligence.

Comply with policies and requirements for documentation and record keeping.

Comply with established risk management criteria and procedures.

Determine when an incident is reportable.

Comply with non-discriminatory laws.

Comply with institutional policy and procedure.

HLC08.01.02	Describe legal practices employed by health care workers.

Sample indicators

Perform duties according to regulations, policies, laws, and legislated rights of clients.

Maintain clients' rights according to the Patients' Bill of Rights.

Maintain confidentiality according to Health Information Portability Access Act (HIPAA) .

Practice within licensure, certification, registration, and legislated scope of practice.

Apply the doctrine of informed consent.

Evaluate technological threats to confidentiality.

Follow mandated standards for workplace safety, i.e., OSHA, CDC, CLIA.

Apply mandated standards for harassment, labor, and employment laws.

HLC08.02	**Health care workers will understand accepted ethical practices with respect to cultural, social, and ethnic differences within the health care environment. They will perform quality health care delivery.**

HLC08.02.01	Describe legal and ethical boundaries in health care delivery.
Sample indicators	Differentiate between morality and ethics and the relationship of each to health care outcomes.
	Differentiate between ethical and legal issues impacting health care.
	Contract personal, professional, and organizational ethics.
	Analyze legal and ethical aspects of confidentiality.
	Discuss bio-ethical issues related to health care.
	Analyze and evaluate the implications of medical ethics.
HLC08.02.02	Describe ethical practice as it applies to health care delivery.
Sample indicators	Demonstrate professionalism when interacting with fellow students, patients/clients, co-workers, and the organization.
	Respect interdisciplinary roles of team members.
	Report activities and behaviors by self and others that adversely affect the health, safety, or welfare of students, patients/clients, or co-workers.
	Demonstrate fairness and equal treatment of all persons.
	Practice responsibly within the ethical framework of the Patients' Bill of Rights.
	Value clients' independence and determination.
HLC08.02.03	Explain cultural, social, and ethnic diversity as it applies to health care delivery.
Sample indicators	Discuss the impact of religions and cultures on those giving and receiving health care with an understanding of past and present events.
	Demonstrate respect of individual cultural, social, and ethnic diversity within the health care environment.

Cluster Topic EDC09	**EMPLOYABILITY AND CAREER DEVELOPMENT:** *Know and understand the importance of employability skills. Explore, plan, and effectively manage careers. Know and understand the importance of entrepreneurship skills.*
	No additional statements in the topic beyond those found in the Essential Knowledge and Skills Chart.

Cluster Topic EDC10	**TECHNICAL SKILLS:** *Use the technical knowledge and skills required to pursue the targeted careers for all pathways in the career cluster, including knowledge of design, operation, and maintenance of technological systems critical to the career cluster.*
HLC10.01	**Health care workers will apply technical skills required for all career specialties. They will demonstrate skills and knowledge as appropriate to conduct health care related tasks.**
HLC10.01.01	Employ occupational safety techniques.
Sample indicators	Apply Standard Precautions as described in the rules and regulations set forth by the Occupational Safety and Health Administration (OSHA).
	Demonstrate safety procedures to protect clients, co-workers, and self.
	Obtain Cardiopulmonary Resuscitation (CPR) certification.
	Obtain First Aid Certification.