Health Science Cluster Knowledge and Skill Statements

Each Knowledge and Skill Statement has three levels of detail. The first column (on both Cluster and Pathway Knowledge and Skill documents) is represented by a Knowledge and Skill statement that is a broad statement of expectation that describes a set of knowledge and or skills applicable to the cluster and, or pathway. These statements are not intended to be measurable. They basically begin with a description of a set of knowledge and skills and end with a statement that explains how those knowledge and skills are applied within the context of the cluster or pathway.

The second column is a level of detail within the Knowledge and Skill Statement and is referred to as the Performance Elements. The Performance Elements outline specific and measurable outcomes related to each Knowledge and Skill statement. The Performance Elements are not sequenced or leveled. All decisions about sequencing and leveling are to be made at the local level and will depend upon resources, program structure, and a variety of other factors.

The next level of detail provided for each Knowledge and Skill Statement are the Sample Indicators, which are not included on the template for each cluster and pathway knowledge and skill These statements provide examples of activities or products that may indicate proficiency with each respective performance element. Sample Indicators are provided on [www.careerclusters.org](http://www.careerclusters.org) for each cluster and pathway knowledge and skill set, however, they are simply samples for further exploration by the local areas in order to determine proficiency in each program area. Local areas will need to further define sample indicators as they are pertinent to the Program of Study in which will be developed through.

***HEALTH SCIENCE CLUSTER LEVEL KNOWLEDGE AND SKILL STATEMENTS***

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| ***ACADEMIC FOUNDATION***  ***Knowledge and Skill Statement*** | ***ACADEMIC FOUNDATION***  ***Performance Elements*** |
| Achieve additional academic knowledge and skills required to pursue the full range of career and postsecondary education opportunities within a career cluster.  Healthcare workers will know the academic subject matter required for proficiency within their area, in addition to state high school graduation requirements. They will use this knowledge as needed in their role. | * Use a knowledge of human structure and function. * Use a knowledge of diseases and disorders.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Identify required training, education, and certification to prepare and continue employment in a particular career field. * Model behaviors that demonstrate active listening. * Awareness of mathematics knowledge and skills required to pursue the full range of postsecondary education and career opportunities. * Awareness of science knowledge and skills required to pursue the full range of postsecondary education and career opportunities. |

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| ***COMMUNICATION***  ***Knowledge and Skill Statement*** | ***COMMUNICATION***  ***Performance Elements*** |
| Use oral and written communication skills in creating, expressing, and interpreting information and ideas including technical terminology and information.  Healthcare workers will know the various methods of giving and obtaining information. They will communicate effectively, both orally and in writing. | * Use communication skills. * Demonstrate written communication skills.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Locate, organize, and reference written information from various sources to communicate with co-workers and clients/participants. * Locate written information used to communicate with co-workers and customers. * Organize information to use in written and oral communications. * Reference the sources of information. * Prepare oral presentations to provide information for specific purposes and audiences. |

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| ***PROBLEM SOLVING AND CRITICAL THINKING***  ***Knowledge and Skill Statement*** | ***PROBLEM SOLVING AND CRITICAL THINKING***  ***Performance Elements*** |
| Solve problems using critical thinking skills (analysis, synthesize, and evaluate) independently and in teams. Solve problems using creativity and innovation. | ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Employ critical thinking skills independently and in teams to solve problems and make decisions (e.g., analyze, synthesize, and evaluate). * Identify common tasks that require employees to use problem-related skills. * Conduct technical research to gather information necessary for decision-making. * Align the information gathered to the needs of the audience. |

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| ***INFORMATION TECHNOLOGY APPLICATIONS***  ***Knowledge and Skill Statement*** | ***INFORMATION TECHNOLOGY APPLICATIONS***  ***Performance Elements*** |
| Use information technology tools specific to the career cluster to assess, manage, integrate, and create information.  Healthcare workers will use information technology applications required within all career specialties. They will demonstrate use as appropriate for health care applications. | ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Awareness of information technology tools to manage and perform work responsibilities. |

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| ***SYSTEMS***  ***Knowledge and Skill Statements*** | ***SYSTEMS***  ***Performance Elements*** |
| 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 industry and careers. | * Understand Systems Theory.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Describe the nature and types of business organizations to build an understanding of the scope of organizations. * List the types and functions of businesses. * Describe the types and functions of businesses. |

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| ***SAFETY, HEALTH, AND ENVIRONMENTAL***  ***Knowledge and Skill Statement*** | ***SAFETY, HEALTH AND ENVIRONMENTAL***  ***Performance Elements*** |
| 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.  Healthcare workers will understand the existing and potential hazards to patients, co-workers, and self. They will prevent injury or illness through safe work practices and follow health and safety policies and procedures. Healthcare workers will understand the fundamentals of wellness and the prevention of disease processes. They will practice preventive health behaviors among the patients. | * Explain infection control. * Employ personal safety practices. * Use techniques to insure environmental safety. * Identify common safety hazards. * Use emergency procedures and protocols. * Describe healthy behaviors.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Identify rules and laws designed to promote safety and health in the workplace. |

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| ***LEADERSHIP AND TEAMWORK***  ***Knowledge and Skill Statement*** | ***LEADERSHIP AND TEAMWORK***  ***Performance Elements*** |
| Use leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.  Healthcare 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 healthcare. | * Describe healthcare teams. * Describe team member participation.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Employ leadership skills to accomplish organizational goals and objectives. * Employ teamwork skills to achieve collective goals and use team members’ talents effectively. * Establish and maintain effective working relationships with all levels of personnel and other departments in order to accomplish objectives and tasks. * Use positive interpersonal skills. * Manage personal skills to accomplish assignments. * Treat people with respect. * Provide constructive praise and criticism. * Demonstrate sensitivity to and value for diversity. * Manage stress and control emotions. |

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| ***ETHICS & LEGAL RESPONSIBILITY***  ***Knowledge and Skill Statement*** | ***ETHICS & LEGAL RESPONSIBILITY***  ***Performance Elements*** |
| Know and understand the importance of professional ethics and legal responsibilities.  Healthcare 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.  Healthcare workers will understand accepted ethical practices with respect to cultural, social, and ethnic differences within the healthcare environment. They will perform quality healthcare delivery. | * Describe legal implications affecting healthcare workers. * Describe legal practices employed by healthcare workers. * Describe ethical practice as it applies to healthcare delivery. * Understand cultural, social, and ethnic diversity as it applies to healthcare delivery.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Apply ethical reasoning to a variety of workplace situations in order to make ethical decisions. * Evaluate alternative responses to workplace situations based on legal responsibilities and employer policies. * Evaluate alternative responses to workplace situations based on personal or professional ethical responsibilities. * Identify personal and long-term workplace consequences of unethical or illegal behaviors. |

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| ***EMPLOYABILITY AND CAREER DEVELOPMENT***  ***Knowledge and Skill Statement*** | ***EMPLOYABILITY AND CAREER DEVELOPMENT***  ***Performance Elements*** |
| Know and understand the importance of employability skills. Explore, plan, and effectively manage careers. Know and understand the importance of entrepreneurship skills.  Healthcare workers 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. | * Use key employability skills. * Use interpersonal communication. * Evaluate need for personal growth and development. * Utilize decision making strategies. * Exhibit commitment to the profession/organization.   ***The following specific Essential Knowledge and Skills were identified as fundamental for attainment of health science cluster foundation skills:***   * Demonstrate self-discipline, self-worth, positive attitude, and integrity in a work situation. * Demonstrate flexibility and willingness to learn new knowledge and skills. * Identify how work varies with regard to site, from indoor confined spaces to outdoor areas, including aerial space and a variety of climatic and physical conditions. * Apply communication strategies when adapting to a culturally diverse environment. * Develop a personal career plan to meet career goals and objectives. * Develop career goals and objectives as part of a plan for future career direction. * Develop strategies to reach career objectives. * Maintain a career portfolio to document knowledge, skills, and experience in a career field. * Select educational and work history highlights to include in a career portfolio. * Identify and explore career opportunities in one or more career pathways to build an understanding of the opportunities available. * Locate and identify career opportunities that appeal to personal career goals. * Match personal interest and aptitudes to selected careers. * Aware of licensing, certification, and credentialing requirements at the national, state, and local levels to maintain compliance with industry requirements. |

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| ***TECHNICAL SKILLS***  ***Knowledge and Skill Statement*** | ***TECHNICAL SKILLS***  ***Performance Elements*** |
| Use 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.  Healthcare workers will apply technical skills for all career specialties. They will demonstrate skills and knowledge as appropriate to conduct healthcare related tasks. | * Employ occupational safety techniques. * Demonstrate the minimal requirements necessary for safe practice. |