



# What is the foundation “core” for health science - medical careers?

AUGUST 8, 2018


WA-ACTE SUMMER CONFERENCE

MARIANNA GOHEEN

HEALTH SCIENCE PROGRAM  
SUPERVISOR



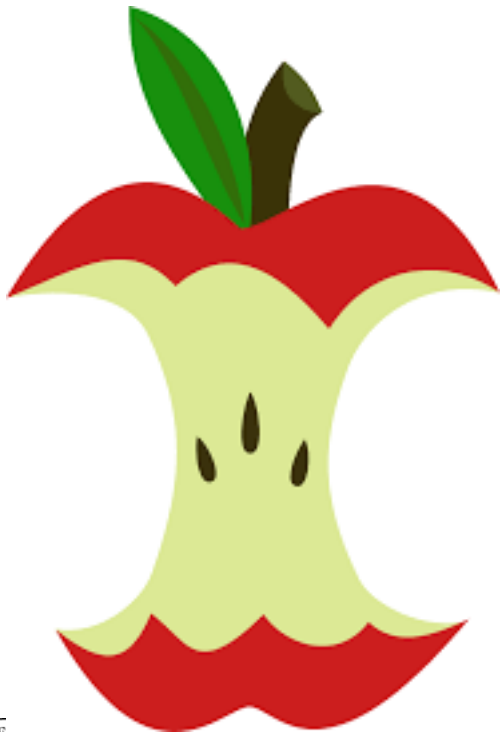
OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

 **CTE** Learning that works for Washington

# What is the central or most important part of health science – medical careers?

## National Health Science Standards

<https://www.healthscienceconsortium.org/wp-content/uploads/2015/07/NATIONAL-HEALTH-SCIENCE-STANDARDS-May-2015f1-PE2.pdf>



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# Preparing the Health Workforce of the Future



## The National Health Science Standards are:

- Based on a foundation set of standards that are common to all members of the healthcare community
- A clear consistent understanding of industry and post-secondary expectations for health science students and teachers.
- Designed to provide the essential knowledge common across health professions to prepare and increase the number of students that are college and career ready.
- A common language, common goal, and a common reference point for educators, employers, and consumers,



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# Represent core expectations most workers need to succeed in health careers.



- Students and parents have a clear direction to help set goals for future employment;
- Educators are able to design quality curriculum and instruction consistent with industry
- Consumers and employers benefit from high quality, efficient healthcare delivery from well-trained workers.



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# National Health Science



- Academic Foundation
- Communications
- Systems
- Employability Skills
- Legal Responsibilities
- Ethical Practice
- Safety Practices
- Teamwork
- Healthy Maintenance Practices
- Technical Skills
- Information Technology Applications



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# *Where is the “core” standard being taught and assessed?*

## **NATIONAL HEALTH SCIENCE STANDARDS**

**May 2015**

The National Health Science Standards provide a clear and consistent understanding of industry and post-secondary expectations for health science teachers and students. These standards are designed to provide the essential knowledge common across health professions to prepare and increase the number of students that are college and career ready.

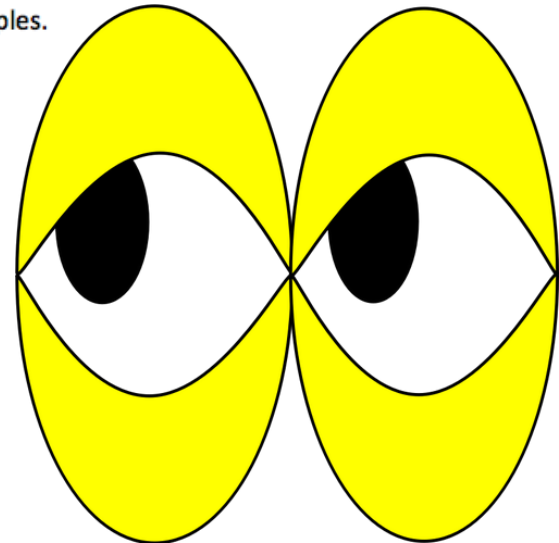
### **Foundation Standard 1: Academic Foundation**

Understand human anatomy, physiology, common diseases and disorders, and medical math principles.

#### **1.1 Human Anatomy and Physiology**

**1.11** Identify basic levels of organization of the human body.

- a. Chemical
- b. Cellular
- c. Tissue
- d. Organs
- e. Systems
- f. Organism



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# Activity

1. Working with a partner
  - a) Read through the standards
  - b) Identify the standards which are currently taught in your program, school or district
  - c) Identify the existing courses in your program, school or district where the standards are taught and assessed.
2. Share out which courses are currently offered that would provide the “core” knowledge and skills for health science.
3. Share out which standards are missing. What courses might the school or district need to create?



# Career Pathway Standards

Health care practices are organized into five pathways:



**5 Health Care Pathways**

*All Health Care occupations are organized into 5 pathways.*

- THERAPEUTIC SERVICES
- DIAGNOSTIC SERVICES
- HEALTH INFORMATICS
- SUPPORT SERVICES
- BIOTECHNOLOGY RESEARCH AND DEVELOPMENT

- Organized by similar functions, healthcare work environments, applications, process and procedures.
- Each has a specific set of technical skills and knowledge that enhances the foundation “core” standards.





# Career Pathway – Specialty Content Strands



## •Therapeutic Services Standards

These standards apply to occupations or functions primarily involved in changing the health status of the patient over time. The standards specify the knowledge and skills needed by professionals in the therapeutic services pathway.

## •Diagnostic Services Standards

These standards apply to occupations and functions primarily involved in creating a picture of the health status of the patient at a single point in time. The standards specify the knowledge and skills needed by professionals in the diagnostic services pathway.

## •Health Informatics Standards

These standards apply to occupations or functions that document patient care. The standards specify the knowledge and skills needed by professionals in the health informatics pathway.

## •Support Services Standards

These standards apply to occupations or functions involving direct or patient care that create a therapeutic environment of providing that care. The standards specify the knowledge and skills needed by professionals in the support services pathway.

## •Biotechnology Research & Development Standards

These standards apply to occupations and functions primarily involved in biotechnology research and development that applies to human health. The standards specify the knowledge and skills needed by professionals in the biotechnology research and development pathway.



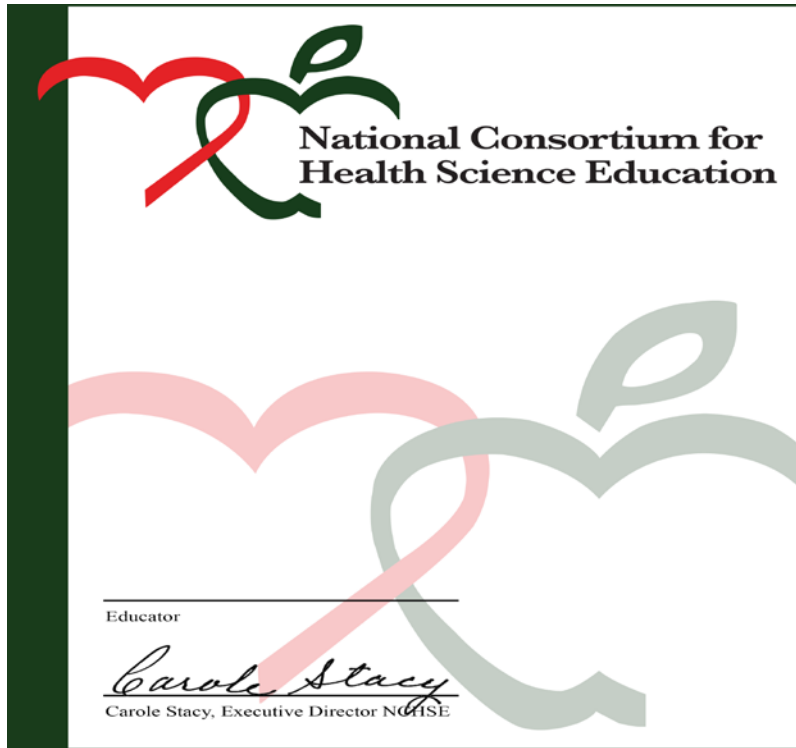
# *Essential Question: Where is the pathway standard being taught and assessed?*

1. Working with a partner
  - a) Read through the pathway standards that align with a program of study/health science pathway in your school and/or district.
  - b) Identify the standards which are currently taught in your program, school or district
  - c) Identify the existing courses in your program, school or district where the standards are taught and assessed.
2. Share out which courses are currently offered that would provide the pathway knowledge and skills for health science.
3. What course might the district need to create? Or how would the add the standards into their courses?



# National Health Science Assessment

- Nationally recognized end-of-pathway certificate
- Validates skills attained with standards listed
- Certificate for job interviews and resumes
- Recognition on college applications
- Easier articulation into college programs



# Back of Certificate

## Career Skills Certificate Report



### Exam Details

ELIANA WOZNACK  
National Health Science Assessment - Single

Test Date: 01/08/2015  
Health Sciences 2015  
Acme High School  
Acme Area School District

### Standards

#### Definition

1. 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.
2. Communications - Healthcare professionals will know the various methods of giving and obtaining information. They will communicate effectively, both orally and in writing.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. Technical Skills - Healthcare professionals will apply technical skills required for all career specialties. They will demonstrate skills and knowledge as appropriate.
11. Information Technology Applications - Healthcare professionals will use information technology applications required within all career specialties. They will demonstrate use as appropriate to healthcare applications.



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# Health Science Career Cluster

Preparatory:  
Specialty  
Courses –  
Pathway  
Content  
Standards

Exploratory:  
Introductory  
Level Courses –  
“Core” NCHSS  
standards

Preparatory:  
Occupation  
Specific Content  
Standards

Places of Learning

Elementary Middle High School Post secondary

Work Place Work Place

Places of Learning

## Employment in Career Specialties

### Career Preparation Pathway Standards

- Diagnostic
- Therapeutic
- Biotechnology Research and Development
- Health Informatics
- Support Services

### Career Orientation/Preparation Cluster Foundation Standards

- Academic Foundation
- Communications
- Systems
- Employability Skills
- Legal Responsibilities
- Ethics
- Safety Practices
- Teamwork
- Health Maintenance Practices
- Technical Skills
- Information Technology Applications

### Career Exploration/Orientation

### Career Awareness



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# NCHSE Instructional Materials/Resources Available

- Instructional Enhancements (was Supplements)
- Health Science Guide for Work Based and Service Learning
- Health Science Guide for Classroom Activities
- Free Downloads
- Professional Development Opportunities



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018

# Enhancements

- Enhance the curriculum being taught
- Correlates with the National Health Science Assessment
- Include:
  - Standards and Objectives (Content Outline)
  - Power Points
  - Activities
  - Assessments
  - Websites





# Health Science Curriculum Enhancements

## Introduction

1. Academic Foundations
2. Communications
3. Systems
4. Employability Skills
5. Legal Responsibilities
6. Ethics
7. Safety Practices
8. Teamwork
9. Health Maintenance Practices
10. Technical Skills
11. Information Technology Applications

TI = Teacher Information

## Introduction

1. Essential Information
2. Best Practices: Review and Test-Taking
3. Health Science Practice Post-Test
4. Website Disclaimer Statement
5. CCTC Alignment with HOSA Competitive Events
6. NHSS Alignment of HOSA Competitive Events
7. Acknowledgements





# Health Science Curriculum Enhancements

## Introduction

1. Academic Foundations
2. Communications
3. Systems
4. Employability Skills
5. Legal Responsibilities
6. Ethics
7. Safety Practices
8. Teamwork
9. Health Maintenance Practices
10. Technical Skills
11. Information Technology Applications

TI = Teacher Information

## Academic Foundations

1. Cardiovascular System
2. Urinary System
3. Medical Mathematics
4. **Activities**
  1. Content Outline: Cardiovascular System
  2. Blood Vessels do the Circulation
  3. As The Heart Pumps!
  4. Cardiovascular Disease Research
  5. The Cardiovascular System
  6. Blood Components - Making Blood
  7. Blood Components
  8. Giving Blood: The Rest of The Story
  9. Assessment Cardiovascular System
5. **PowerPoint**
  1. 1.13 Cardiovascular System.pptx

Close [X]

Urinary System

Medical Mathematics



# Partnerships: School, Community and Healthcare



# Guide to Work-based and Service Learning

## SERVICE LEARNING

1. [What is Service Learning](#)
2. [Standards](#)
3. [Components](#)
4. [Projects](#)

## WORK-BASED LEARNING

1. [Preparation](#)
2. [Career Exploration](#)



## Work-based and Service Learning

The National Consortium for Health Science Education (NCHSE) is a national partnership of individuals and organizations with a vested interest in health science education. The consortium was organized in 1991 to stimulate creative and innovative leadership for ensuring a well-prepared healthcare workforce.

The mission of NCHSE is to provide leadership and professional development for Health Science Education through collaboration among education, healthcare industry, policy makers and professional organizations. The consortium is a powerful resource for you, the health science educator, these enhancements are just one example of the many supportive health science services the consortium provides to ensure high quality health science education programs.

<http://www.healthscienceconsortium.org/>

**[Introduction to Work-based and Service Learning](#)**  
(click here)

Copyright © 2017, 3rd edition, by the National Consortium for Health Science Education (NCHSE)

All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher.





# Service Learning

- What is service learning?- community service, work-based learning, or service learning
- What are the components of a service learning program?
- What are the standards for an exemplary service learning program?
  - Power Points
  - Activities
  - Projects
  - Forms



# Work-based Learning

- Preparation-
  - HIPAA, Confidentiality
  - Legal/Ethical Issues
  - Professionalism
  - Teamwork
  - Safety
  - Assessment



# Work-based Learning

Forms and Documents

Rotations



# Rotations

- Biomedical Engineering
- Bone Marrow Transplant
- Central Supply
- Clinical Laboratory Services
  - 1 - Microbiology
  - 2 - Client Services and Specimen Processing
  - 3 - Transfusion Services
  - 4 - Chemistry
  - 5 - Hematology
- Dental Services
- Diagnostic Imaging Services
  - 1 - Radiology
  - 2 - Nuclear Medicine
  - 3 - Ultrasound
- Emergency Room
- Environmental Services
- Health Information Management Services
- Human Resources Specialty
- Intensive Care Unit
- Long Term Care





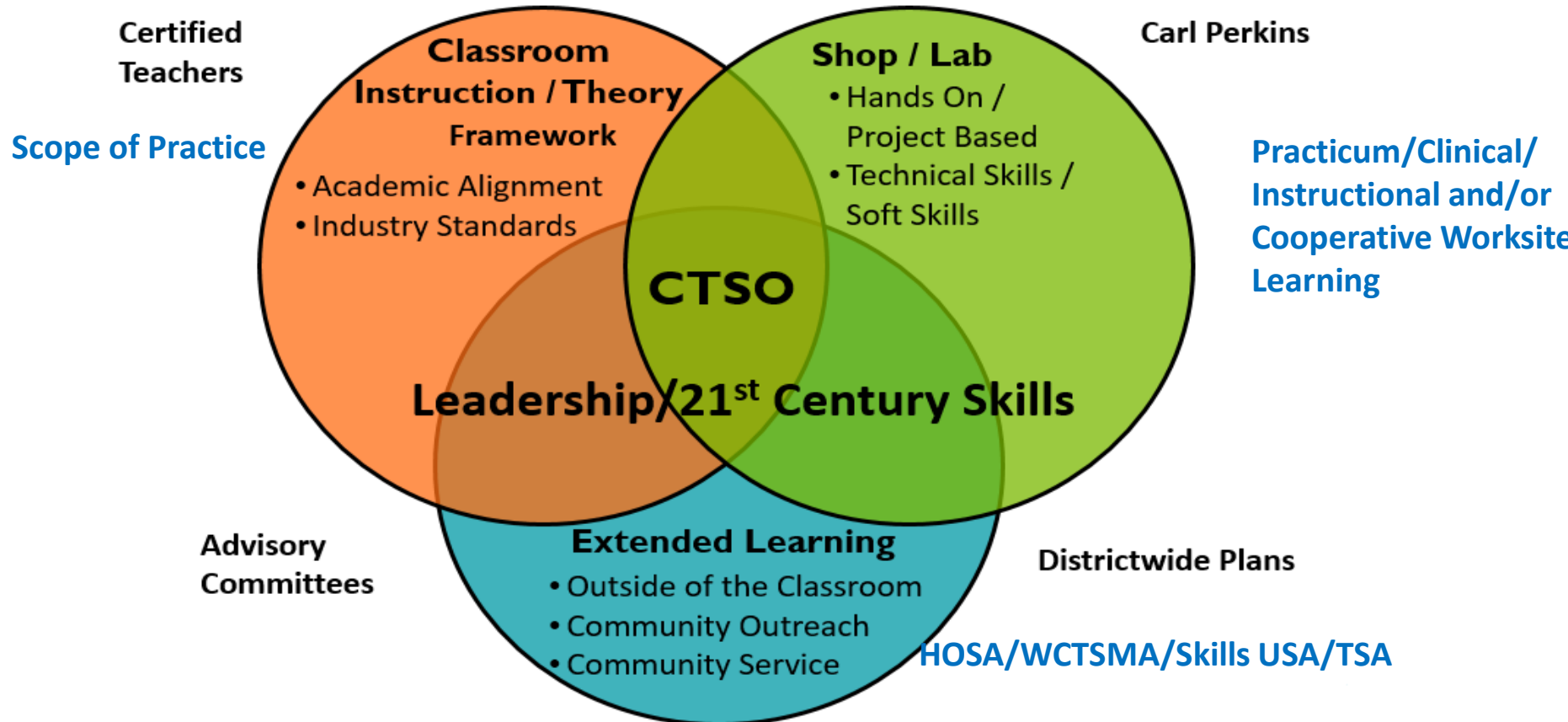
# Rotations

- Neurodiagnostic (EEG) Laboratory Service
- Non-Invasive Cardiology
- Nutrition Support Services
- Outpatient Surgery Specialty
- Pharmaceutical Services
- Plant Operations
- Post-Anesthesia Care Unit
- Respiratory Therapy
- Rehabilitation Services
  1. Physical Therapy
  2. Occupational Therapy
  3. Speech and Language Pathology
  4. Audiology
- Safety and Security
- Veterinary Care
- Volunteer Services



# CTE Model

## Career and College Readiness



# Discussion... Q&A



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/10/2018