

## PHYSICAL HEALTHCARE SUBCLUSTER HEALTHCARE SCIENCE CLINICAL STUDY – 5560

**COURSE DESCRIPTION:** This healthcare capstone course guides students to make connections from the classroom to the healthcare industry through clinical experiences/activities. This course is designed to provide for further development and application of knowledge and skills common to a wide variety of healthcare professions. The students in this course will review and build on all the information and skills presented in the previously required course foundation standards.

The students, teachers, and work-based learning coordinators will work together to create opportunities for the students to get the best experience available in the district's geographic region.

**GENERAL REQUIREMENTS:** Students are required to be in grade 12 and be a completer in any Physical Healthcare Subcluster program or have met all the prerequisites before enrolling in this clinical course. Students who are completers in the healthcare science program pathway may have priority consideration.

**OTHER REQUIREMENTS:** Students enrolled in this course must become BLS Healthcare Providers CPR certified, and HIPAA trained before participating in any healthcare experience outside of the classroom. Bloodborne Pathogen training is required. OSHA HEALTHCARE Safety Training –is highly recommended.

**PRE-REQUISITES:** The clinical study student must be a successful three or four- unit completer in any health science pathway (with an overall course average of **75% or higher or with the approval of the health science clinical teacher**). Alternate approval may be made for students who are concentrators in any pathway and then take the approved anatomy substitution course. (*\*For Clinical Study admission requirement purposes - HS Human Structure Function and Disease may be substituted with the following courses: PLTW Human Body Systems, Science-based Anatomy, and Physiology, AP Biology, or Medical Terminology including AHS 102 & 104.*) **\*\*Please note:** Only HS Human Structure, Function, & Disease, Medical Terminology, PLTW HBS, AHS 102 or AHS 104 will count as a unit in the completer path for the Clinical Study. (AP Biology or Science A&P, **will not**).

**CREDIT:** CP - 1 unit = (120 hours or more) or 2 units = (240 hours or more)

(Schools offering career ready credentials should offer this course for 240 hours for students to have the best chance of being successful).



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**CONCENTRATOR:** Completes the two required courses in the Physical Healthcare Subcluster.

**COMPLETERS:** For a full explanation of completers visit the Student Reporting Procedures Guide (SRPG) or the SCDE program specific web page.

**Three Course Completer Sample:**

HS1, HS 2, HS Human Structure, Function and Disease

**OR Four Course Completer Sample:**

HS 1, HS 2, HS WBL, Behavioral Health

**STACKABLE CREDENTIALS:** Please refer to the updated tired credential list on the SCDE Website.

**Required Stackable Credentials to be renewed in this course:**

Healthcare Providers BLS CPR

Bloodborne Pathogens

**Other Stackable Credentials that may be used include:**

Paid Feeding Assistant (PFA)

OSHA 10- Healthcare

**SCHOOL CHOICE CAREER READY CREDENTIALS THAT MAY BE OFFERED TO STUDENTS WITHIN THIS COURSE INCLUDE:**

1. Certified Nurse Aide (CNA)
2. Certified Clinical Medical Assistant (CCMA or CMA)
3. Certified Patient Care Technician / Assistant (CPCT/A)
4. Certified Medical Administrative Assistant (CMAA)
5. Certified Phlebotomist (CPT)
6. Certified EKG Technician (CET)
7. Certified Emergency Medical Technician (EMT)

Multiple credentials may be offered at schools through this course code. All credentials are offered and certified through outside vendors, agencies, or post-secondary institutions. Outside rules must be followed if using any of the above vendor/agency/post-secondary driven credentials. All questions should be directed towards the credentialing manager. See company/contacts below in the resources.

**VENDOR/AGENCY AGREEMENTS OR POST SECONDARY MOU'S**

All agreements with vendors, agencies or post-secondary institutions are at the school/district level. Certifications are in addition to the clinical study standards and are an option that



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schools have if they want to participate. If there are questions or issues with the certification that you are offering, you will need to contact the vendor, agency, or post-secondary program that you have an agreement with. Although websites of vendors may be included as samples for each certification, SCDE does not have an agreement with these vendors.

## **CLINICAL FACILITY REQUIREMENTS:**

For in person clinical rotations, whether leading to a student credential or not, *the facility that offers the opportunity for the rotation may have specific facility requirements that must be met by students prior and /or during the rotation. Facility requirements may include background checks, TB tests, drug testing, and required immunizations.*

## **NOT OFFERING ANY CAREER READY CERTIFICATIONS?**

On your own, or in conjunction with your WBL coordinators, you can still create quality worked-based learning /clinical opportunities for students who have satisfactorily demonstrated the professional qualities, and the technical skills needed. Students may go on extended rotations to the hospital, dental, veterinary, chiropractic, pharmacy, medical clinic, and doctor office settings (etc.) during the designated class time for a minimum of 40 hours. To count the 40 hours as a work-based learning “experience” the student must complete the 40 hours in the same facility.

Also, all students must have common learning goals and assignments, based on the standards. All should have the same training and review in the classroom for testing purposes. BLS certification is still required if you go out to any clinical situation. HIPAA training and review must be a component of all programs with clinical components. Bloodborne pathogen training is still required, and OSHA 10 Healthcare is recommended.

## **CURRICULAR ACTIVITIES: HOSA–Future Health Professionals, Service-Learning Projects**

### **STANDARDS**

The following standards should be utilized for Healthcare Science Clinical courses that do not end with a Career Ready Credential (CNA, CCMA, CET, CPCT, etc.) and should supplement content in Career Ready Credentials as appropriate.

### **FOUNDATION STANDARD 1: ACADEMIC FOUNDATIONS**

Review and apply human anatomy, physiology, common diseases and disorders, and medical math principles prior to students participating in their assigned clinical experience.

#### **Medical Mathematics**

- 1.3.1 Demonstrate competency using basic math skills and mathematical conversions as they relate to healthcare.

- Metric system
  - Basic medical math
  - Conversions
- 1.3.2 Demonstrate the ability to analyze diagrams, charts, graphs, and tables to interpret healthcare results.
- 1.3.3 Demonstrate use of the 24-hour clock/military time.

## **FOUNDATION STANDARD 2: COMMUNICATIONS**

Demonstrate methods of delivering and obtaining information, while communicating effectively during the clinical experience.

### **2.1 Concepts of Effective Communication in the clinical setting.**

- 2.1.1 Model verbal and nonverbal therapeutic communication.
- Active listening
  - Reflecting
  - Silence
  - Summarizing
- 2.1.2 Identify common barriers to communication.
- a. Physical disabilities
    - Aphasia
    - Developmental level
    - Hearing loss
    - Impaired vision
  - b. Psychological barriers
    - Attitudes
    - Bias
    - Prejudice
    - Stereotyping
  - c. Language barriers
- 2.1.3 Distinguish between subjective and objective information.
- 2.1.4 Interpret elements of the communication process using sender-message-receiver feedback model.
- 2.1.5 Modify communication to meet the needs of the patient/client and to be appropriate to the situation.
- 2.1.6 Describe appropriate interactions with patients throughout various stages of psychosocial development.

### **2.2 Medical Terminology**

- 2.2.1 Use common roots, prefixes, and suffixes to communicate information.
- 2.2.2 Interpret common medical abbreviations to communicate information.



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## 2.3 Written Communication Skills

- 2.2.3 Use proper elements of written and electronic communication (spelling, grammar, and formatting).
- 2.2.4 Prepare examples of technical and informative writing.
- 2.2.5 Demonstrate appropriate use of digital communication in a work environment, such as email, text, and social media.

## FOUNDATION STANDARD 3: SYSTEMS

Discuss how key systems affect services performed and quality of care in relation to the clinical experience that students are assigned. (This may become clear to students after their participation in the clinical experience).

## FOUNDATION STANDARD 4: EMPLOYABILITY SKILLS

Use employability skills to enhance employment opportunities and job satisfaction.

### 4.1 Personal Traits of the Health Professional

- 4.1.1 Review personal traits and attitudes desirable in a career ready member of a health team.
- 4.1.2 Summarize professional standards as they apply to hygiene, dress, language, confidentiality, and behavior.

### 4.2 Employability Skills

- 4.2.1 Apply employability/soft skills in healthcare during the clinical rotation.
  - Chain of command
  - Communication skills
  - Customer service
  - Decision making
  - Emotional intelligence
  - Flexible
  - Organization
  - Problem solving
  - Scope of practice
  - Time management
  - Work ethic

### 4.3 Career Decision-making

- 4.3.1 Distinguish differences among careers within a health science pathway.
  - Biotechnology research and development
  - Diagnostic services
  - Health Informatics

- Support services
- Therapeutic services

#### **4.4 Employability Preparation**

4.4.1 Continue to develop components of a personal portfolio.

- Community service / Service learning
- Identify strategies for pursuing employment.
  - Employer websites
  - Internships
  - Personal networking
  - Social media

### **FOUNDATION STANDARD 5: LEGAL RESPONSIBILITIES**

Describe legal responsibilities, limitations, and implications on healthcare worker actions.

#### **5.1 Legal Practices (Review Prior to Clinical Rotations)**

5.1.1 Apply standards for safety, privacy, and confidentiality of health information.

- HIPAA
- Privileged communication

5.1.2 Describe Advance Directives.

5.1.3 Summarize the essential characteristics of a patient's basic rights within a healthcare setting.

5.1.4 Differentiate informed and implied consent.

5.1.5 Describe the concept of scope of practice.

5.1.6 Interpret procedures for reporting activities and behaviors that affect the health, safety, and welfare of others (incident report).

5.2. Apply and discuss experiences through work-based learning opportunities that students are currently participating in.

### **FOUNDATION STANDARD 6: ETHICS**

Review and apply accepted ethical practices with respect to cultural, social, and ethnic differences within the healthcare environment prior to the clinical experience.

#### **6.1 Work-based learning experience**

- Apply real life experiences through the work-based learning opportunity in which students are currently participating.
- Discuss and expand on experiences that students may have questions about.

#### **6.2 Cultural, Social, and Ethnic Diversity**

- Discuss religious, social, and cultural values as they impact healthcare.
  - Ageism



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- Ethnicity
- Gender
- Race
- Religion
- Demonstrate respectful and empathetic treatment of all patients/clients/families.
  - Civility
  - Customer service
  - Patient satisfaction

## FOUNDATION STANDARD 7: SAFETY PRACTICES

Identify existing and potential hazards to clients, co-workers, and self. Employ safe work practices and follow health and safety policies and procedures to prevent injury and illness.

### 7.1 Infection Control

7.1.1 Review the principles of infection transmission.

7.1.2 Describe characteristics of microorganisms.

- Aerobic
- Anaerobic
- Non-pathogenic
- Pathogenic

7.1.3 Recognize the chain of infection.

7.1.4 Review of the modes of transmission

- Common vehicles (air, food, water)
- Direct
- Healthcare-associated infections (nosocomial)
- Indirect
- Opportunistic
- Vectors

7.1.2 Recognize and review methods of controlling the spread and growth of pathogens.

- Asepsis
- Antisepsis
- Disinfection
- Sanitization
- Sterile technique
- Sterilization
- Standard precautions
- Environmental cleaning
- Gloving
- Handwashing
- Personal Protective Equipment (PPE)

- Isolation precautions
- Transmission-based contact
- Bloodborne pathogen precautions
- Vaccination

## **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 Demonstrate principles of body mechanics during patient care.

- Ambulating
- Lifting
- Positioning

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.

- Ergonomics
- Patient/client/employee safety measures
- Safe operation of equipment

## **7.4 Common Safety Hazards**

7.4.1 Observe all safety standards related to the occupational exposure to hazardous chemicals standard (Safety Data Sheets [SDS]).

7.4.2 Comply with safety signs, symbols, and labels.

## **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 (safe location, contact emergency personnel, follow facility protocols).

- Review and apply existing and potential hazards to clients, co-workers, and self.
- Employ safe work practices and follow health and safety policies and procedures to prevent injury and illness.

## **FOUNDATION STANDARD 8: TEAMWORK**

Recognize methods for building positive team relationships.

### **8.1 Analyze attributes and attitudes of an effective leader.**

- Characteristics
  - Focused and driven
  - Interpersonal skills
  - Motivates and inspires
  - Organized and balanced



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## **8.2.1 Evaluate why teamwork is an important part of healthcare and how it improves patient care.**

- Review and apply roles and responsibilities of individual members as part of the healthcare team.
- Discuss the experience of working as a team member during the assigned clinical experience.

## **Foundation Standard 9: Health Maintenance Practices:**

Differentiate between wellness and disease. Promote disease prevention and model healthy behaviors

### **9.1 Healthy Behaviors**

- Differentiate between wellness and disease.
- Promote disease prevention and model healthy behaviors.
  - Exercise
  - Nutrition
  - Relationships
  - Sleep Habits
  - Weight Control
- Discuss how stress and anxiety can play a role in wellness and disease
  - Stress management
- Discuss and demonstrate activities that may decrease stress and anxiety

### **9.2 Describe public health strategies for prevention of disease.**

- Immunizations
- Medical, dental, and mental health screenings
- Routine physical exams
- Self-care behaviors

## **FOUNDATION STANDARD 10: TECHNICAL SKILLS:**

Apply and demonstrate technical skills and knowledge common to health career specialties.

### **10.1 Technical Skills:**

10.1.1 Demonstrate procedures for measuring and recording vital signs in both normal and abnormal ranges - including but not limited to:

- Blood Pressure
- Temperature
- Pulse
- Respirations
- Height and weight
- Pain



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10.1.2 Obtaining training or certification or renewal in the following.

- Automated external defibrillator (AED)
- BLS Cardiopulmonary resuscitation (BLS- CPR)
- First aid
- Foreign body airway obstruction (FBAO)
- Responding to emergencies such as performing first aid or CPR/AED skills.

10.1.3 Additionally, students in career ready credential pathways will follow the objectives of the agency/vendor/post-secondary institution where they are enrolled.

## FOUNDATION STANDARD 11: INFORMATION TECHNOLOGY IN HEALTHCARE

Apply information technology practices common across health professions.

### 11.1 Key principles, components, and practices of health information systems (HIS)

11.1.1 Identify components of an electronic health record (EHR) and/or electronic medical record (EMR).

- Diagnostic tests
- History and physical
- Medications
- Patient demographics
- Progress notes
- Treatment plan

11.1.2 Explore different types of health data collection tools.

- Medical wearable devices
- Patient monitoring equipment
- Phone apps

11.1.3 Create electronic documentation that reflects timeliness, completeness, and accuracy.

11.1.4 Examine information systems policies, procedures, and regulations as required by national, state, and local entities.

- Facility policies
- HIPAA
- Medical coding
- Social media

### CAREER READY CREDENTIALING OPTIONS:

*Should a school choose a certification path of Nurse Aide, Patient Care Tech, Clinical Medical Assistant, etc., the clinical experiences should follow the guidelines of the testing agency/vendor and tie into the skills needed for the certifications. Experiences that are at the same facility for a minimum of 40 hours logged may count this experience as WBL career*

## SC'S MOST POPULAR CERTIFICATIONS INCLUDE:

**1. SC Certified Nurse Aide** (Teacher must be RN or LPN working under the supervision of an RN, with at least 1-2 years of long-term care experience). Under the direction and supervision of a registered nurse, students are prepared to perform nursing-related services to patients and residents in hospitals or long-term care facilities. For Nurse –Aide programs students will review all foundation standards in the clinical study program, as well as the addition of the South Carolina Nurse Aide Curriculum, found in the training program packet.

- For the most up to date and current nurse aide training program information and application please contact the nurse aide training program at the SC Department of Health and Human Services (SC DHHS) or check their website: [Nurses Aid FAQs | SC DHHS](#). Check the resources link under Health Science Clinical on the table of standards to see the last correspondence information sent to SCDE. All correspondence about nurse aid should be directed to:

Division of Long -Term Living, 7th Floor  
PO Box 8206  
Columbia, SC 29202  
Phone: 803-898-2590  
Fax: 803-255-8290  
Email: [scnar@scdhhs.gov](mailto:scnar@scdhhs.gov)

- *South Carolina requires that a certified Nurse Aide Training Program consist of a minimum of one- hundred (100) hours. This is to include forty (40) hours of classroom instruction, twenty (20) hours of documented skills practicum and forty (40) hours of clinical experience in a long-term care (LTC) facility.*

**An approved application for a Nurse Aide course meets all DHHS federal and state requirements for a certified nurse aide program in an approved NA training facility (NA program is optional in SC and requires an RN with long term care experience or an LPN who is supervised by an RN, to instruct this course. The RN in charge must apply and be approved by DHHS.)**

**1. Certified Patient Care Technician/Assistant (CPCT/A) candidates.** Under the direction and supervision of a RN or an LPN, students are prepared to perform patient care services in hospitals or other clinical settings, including phlebotomy and electrocardiogram skills. For Patient-Care Technician/Assistant programs, students will review all foundation standards in the clinical study program, as well as complete the objectives covered in the “NHA Test Plan.”

Patient Care Technician Certification | CPCT/A (nhanow.com) or Patient Care Technician Certification | AMCA (amcaexams.com) **This is a national certification. (CPCT/A program is optional and in South Carolina requires an RN or LPN with hospital experience to**



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**instruct this course. (Experience with trach tubes, stomas, phlebotomy, and EKG as well as other technical skills acquired in medical-surgical settings).**

**2. Certified Clinical Medical Assistant (CCMA).** Under the direction and supervision of a RN, an LPN, or an experienced certified or registered clinical medical assistant, students are prepared to perform in a variety of patient care services. A medical assistant is a multi-skilled allied health care professional that specializes in procedures commonly performed in the ambulatory health care setting. Medical assistants perform both clinical and administrative duties and assist a variety of providers including physicians, nurse practitioners and physician assistants. They typically work in medical offices, clinics, urgent care centers and may work in general medicine or specialty practices. Medical Assistant Certification | CCMA (nhanow.com) or Clinical Medical Assistant Certification | AMCA (amcaexams.com) **This is a national certification. (CCMA program is optional and in the SC Health Science pathway requires an RN or LPN to lead this course or a Health Science Certified Teacher with a clinical CMA certification and approved clinical medical assisting experience. It would be beneficial if the teacher had ambulatory care experience or experience working in a doctor's office).**

**3. Phlebotomy Technician Certification (CPT)** (Teacher must have approved experience or obtain certification). **This is a national certification. Instructors in the SC Health Science pathway, must be an RN, LPN, Phlebotomist or MA with blood draw experience or a Health Science Certified Teacher willing to obtain this certification, in order to instruct students.**

<http://www.nhanow.com/certifications/phlebotomy-technician>  
Phlebotomy Technician Certification | AMCA (amcaexams.com)

**4. BLS – Healthcare Providers CPR: Must be a trained BLS CPR Instructor**

Basic Life Support (BLS) | American Heart Association CPR & First Aid

**5. Certified EKG Technician (CET)** (Teacher must have approved experience or obtain certification) **This is a national certification. Instructors in the SC health science pathway should be an RN, LPN, or MA with EKG experience or a Health Science Certified Teacher willing to obtain this certification, in order to instruct students.**

<http://www.nhanow.com/certifications/ekg-technician>  
EKG Technician Exam | AMCA (amcaexams.com)

**6. Certified Medical Administrative Assistant. May be taught by any Health Science Certified teacher.** Medical Administrative Assistant Certification | CMAA (nhanow.com)  
Medical Administrative Assistant Certification | AMCA (amcaexams.com)

**7. Career Safe – Healthcare Providers OSHA – Includes HIPAA training**

CareerSafe | OSHA 10 General Industry (Healthcare) Course (careersafeonline.com)

**Other optional certifications that are available to obtain include:**

**8. Electronic Health Record Specialist (CEHRS)**

<http://www.nhanow.com/certifications/electronic-health-records-specialist>

[Electronic Health Record Certification | AMCA \(amcaexams.com\)](#)

**9. Paid Feeding Assistant (PFA). In SC a PFA must be trained and supervised by an RN or LPN in accordance with SCDHHS guidelines. [Microsoft Word - Bull NursFac-HosPaid Feeding Assistant Program etc..doc \(scdhhs.gov\)](#)**

**10. Direct Support Professional (DSP) NADSP – A Health Science Certified Teacher** may instruct students in this certification. An RN may be the best fit but not required.  
[Certification - NADSP](#)

**11. Emergency Medical Services – EMT** – This certification through the Physical Healthcare Subcluster -**may only be taught by a paramedic or an advanced EMT. A regular EMT is not approved in this cluster even though they are approved through DPH. Their overall knowledge level is not what we can approve of as this approval allows them to teach other courses.** Must be an approved DPH program at the secondary school or career center, or with dual enrollment through a technical college or with affiliation of a regional EMT training center. [Emergency Medical Technician \(EMT\) Certification Requirements | South Carolina Department of Public Health](#)

**Always check the most updated Student Reporting Guide for the certifications that are approved for the school year in question. Below is a partial list of vendors or agencies that are most commonly used for certifications.**

**Credentialing Contacts:**

Nurse Aide (CNA)-SCDHHS (Department of Health and Human Services)

<http://www.dhhs.state.sc.us>

Email: SCNAR@scdhhs.gov

Contact: Charlena Hunter Phone: 803-457-2656

National Healthcareer Association- NHA

<https://www.nhanow.com/>

Email: Tammy.stine@nhanow.com

Contact: Tammy Stine Phone: 913-225-5869



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Kaduceus-Hands on Career Training

[www.KaduceusInc.com](http://www.KaduceusInc.com)

Toll Free: 877-523-8238

American Medical Certification Association (AMCA)

<https://www.amcaexams.com/exam-candidates/certification-exam/>

American College of Sports Medicine (ACSM)

<https://www.acsm.org/get-stay-certified/get-certified>

CPR & FA

American Heart Association

<https://cpr.heart.org/>

<https://cpr.heart.org/en/training-programs/blended-learning-and-elearning-guide>

American Medical Technologists (AMT)

<https://americanmedtech.org/>

Pharmacy Technician Certification Board (PTCB)

<https://www.ptcb.org/>

## WEB SITES:

South Carolina Department of Education

[www.ed.sc.gov](http://www.ed.sc.gov)

National HOSA [www.hosa.org](http://www.hosa.org)

SC HOSA, [www.schosa.org](http://www.schosa.org)

National Consortium for Health Science Education

[www.healthscienceconsortium.org](http://www.healthscienceconsortium.org)

South Carolina Occupational Information System (SCOIS) [www.scois.net](http://www.scois.net)

YouScience [www.youscience.com](http://www.youscience.com)