



## Health Science 2 - 5551

**Description:** Health Science 2 applies the knowledge and skills that were learned in Health Science 1 while further challenging the students to learn more about the healthcare field. Health Science 2, will continue teaching in more detail, the units of study that include advanced study of infection control. They will learn about **“Transmission Based Precautions”** and become more familiar with OSHA, HIPPA, and the CDC. Students in Health Science 2 will learn how to take vital signs, record them and learn what the data means. Students will learn how law and ethics are **applied** in the healthcare setting. This course will introduce students to basic patient care skills. Medical terminology, medical math and pharmacology are incorporated throughout the lessons being taught. Students will have the opportunity to become certified in **First Aid and CPR**. Career pathways and scenarios are introduced through each section. Students in this course will further their knowledge of healthcare careers and future goals by participating in a **job shadowing experiences**. This course provides a foundation for further advancement in Health Science. It is recommended that students should score a 75% or higher in this course to advance to any upper level course including Clinical Study if all pre-requisites are met.

**General Requirements:** This course is recommended for students in grades 10-12. The pre-requisites to this course are successful completion of Health Science 1 with a grade of 75% or higher.

**Credit:** CP - 1 unit = (120 hours) or 2 units = (240 hours).

**NOTE:** *In schools/districts/career centers - that only offer HS1 & HS2 for 2 units each (and therefore HS completers) should incorporate more detailed instruction on body systems into Academic Foundation Standard 1, to prepare the students for the end of program assessment.* Students enrolled in this course as their 4th earned unit are considered completers in the Health Science Program and are expected to take the end of program National Health Science Assessment. This assessment is a Perkins fund 2S1 indicator and is required for all students who **earn** 4 units of credit in the Health Science subject area, including Health Science 1 & Health Science 2.)

## **Foundation Standard 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.

1. **Demonstrate** the ability to analyze diagrams, charts, graphs, and tables to interpret healthcare results.
2. **Demonstrate** competency in basic math skills and conversions as they relate to healthcare.
  - a. The Metric System, i.e. centi-, milli-, and kilo-
  - b. Mathematical (average, ratios, fractions, percentages, addition, subtraction, multiplication, division).
  - c. Conversions (height, weight/mass, length, volume, temperature, household measurements)
  - d. Perform mathematical applications to determine vital sign applications and basic pharmacology equations.
3. **Identify** basic levels of organization of the human body.
  - a. **Identify** the major human body systems and their basic function.

## **Foundation Standard 2: Communications**

Healthcare professionals will know and demonstrate the various methods of giving and obtaining information. They will communicate effectively, both orally and in writing.

1. **Report and identify** subjective and objective information.
2. **Recognize and interpret** elements of written and electronic communication (spelling, grammar, formatting, and confidentiality).
3. **Prepare** examples of technical, informative and creative writing.
4. **Document, report, and communicate** in a straightforward, understandable, accurate, and timely manner (such as: how to correct errors, read labels, report information and data, and provide hand-off reports).
5. **Apply and practice** active speaking and listening skills.
6. **Modify** communication to meet the needs of the patient/client and be appropriate to the situation.

## **Foundation Standard 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.

1. **Explain** factors influencing healthcare delivery systems. (Example: Affordable Care Act, aging populations etc.)

Updated July, 2016

2. **Discuss** common methods of payment for healthcare to include Medicaid, Medicare, TRICARE, private insurance, worker's compensation, etc.
3. **Describe** responsibilities of consumers within the healthcare system related to admission, discharge, and follow-up (such as: self-advocacy, patient compliance, provider and consumer obligations).
4. **Assess and explain** the impact of emerging issues such as technology, epidemiology, genetics, bioethics, and socioeconomics on healthcare delivery systems.

#### **Foundation Standard 4: Employability Skills**

Healthcare professionals will understand and utilize employability skills to enhance their employment opportunities and job satisfaction. They will **demonstrate key employability skills**, and will maintain and upgrade skills, as needed.

1. **Participate** in job-based scenarios (role play, case studies, job shadowing) that allow for application of personal traits, attitudes, and employability skills desirable in a member of the healthcare team. (such as: dealing with the tardy employee, satisfying the unhappy patient, conflict resolution with a fellow team member)
2. **Demonstrate** process and strategies for obtaining and retaining employment. (proper use of social media, personal networking, soft skills, job sites, internships).
3. **Develop and expand** components of a personal portfolio (letter of introduction, resume, healthcare project, writing sample, work-based learning, oral presentation, service learning, credentials, technology, and leadership experience).
4. **Showcase** personal traits, attitudes, and employability skills desirable in a member of the healthcare team through participation in healthcare work-based learning experiences (guest speakers, virtual tours, job shadowing, virtual job shadowing, blood drives, community service projects, HOSA, etc.).
5. **Expand** upon components of a personal portfolio (letter of introduction, resume, healthcare project, writing sample, work-based learning, oral presentation, service learning, credentials, technology, and leadership experience).
6. **Demonstrate** professional and leadership skills by participating in experiences through HOSA. (whether as a member or as a participant in a HOSA sponsored event)

#### **Foundation Standard 5: Legal Responsibilities**

Healthcare professionals will **understand and describe** 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.

1. **Explain** practices that could result in malpractice, liability, and/or negligence (to include civil law, criminal law, torts, and contracts.) Summarize laws governing harassment, labor, and scope of practice.

Updated July, 2016

2. **Apply** procedures for accurate documentation and record keeping (for example, legally correcting errors on medical records, etc.)
3. **Describe and apply** standards for safety, privacy, and confidentiality of the Health Insurance Portability and Accountability Act (HIPAA privileged communication).
4. **Describe advance directives**, informed consent and explore the Patient's and Residents Bill of Rights.

### **Foundation Standard 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.

1. **Differentiate** between ethical and legal issues impacting healthcare.
  - a. **Recognize and identify** ethical and legal issues and their implications related to healthcare (such as organ donation, in vitro fertilization, euthanasia, scope of practice, ethics committee, etc.)
2. **Discuss** bioethical issues related to healthcare.
3. **Apply** ethical behaviors in healthcare including personal, professional, and organizational ethics.
4. **Discuss and utilize** procedures for reporting activities and behaviors that affect health, safety, and welfare of others (such as an incident report)
5. **Identify** stages of death and dying.

### **Foundation Standard 7: Safety Practices**

Healthcare professionals will **understand and be able to identify the existing and potential hazards** to clients, coworkers, and self. They will prevent injury or illness through safe work practices and follow health and safety policies and procedures.

1. **Differentiate** methods of controlling the spread and growth of microorganisms. (aseptic vs. sterile technique, antisepsis, disinfection, sterilization, standard vs. transmission-based precautions, and blood-borne pathogens)
2. **Apply** principles of body mechanics and patient safety during transfers, ambulation, and positioning.
3. **Apply** standard precautions as described in the rules and regulations set forth by the Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC).

### **Foundation Standard 8: Teamwork**

Healthcare professionals will understand and identify the roles and responsibilities of individual members as part of the healthcare team, including their ability to promote the

Updated July, 2016

delivery of quality healthcare. They will interact effectively and sensitively with all members of the healthcare team.

1. **Act** responsibly as a team member, including gaining practice employing leadership skills when acting as team leader.
2. **Collaborate** with others to formulate team objectives and accomplish team goals utilizing the characteristics of effective teamwork.
3. **Apply** effective techniques for managing team conflict.
4. **Apply** principles of teamwork.

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

Healthcare professionals will understand and be able to differentiate between the fundamentals of wellness and the prevention of disease processes. They will practice and promote disease prevention and model healthy behaviors.

**\*\* THIS STANDARD IS COVERED HS 1.**

### **\*Foundation Standard 10: Technical Skills**

Healthcare professionals will apply technical skills required for all career specialties. They will demonstrate skills and knowledge as appropriate.

1. **Demonstrate** procedures for measuring and recording vital signs (temperature, pulse, respirations, blood pressure, pain, and height/weight) including recognition of normal ranges, data interpretation, reporting of abnormal values, and documentation of values received.
2. **Apply** skills to obtain Heartsaver or BLS training or certification in adult, child, and infant cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED).
3. **Demonstrate** First Aid skills for recommended certification.
4. **Demonstrate** Special Health Care Skills as needed in the medical field for several different career paths, such as, but not limited to, Laboratory, Dental, Medical Assisting, Nurse Assisting, Physical Therapy, Patient Care Technician, Allied Health occupations or Office Management/Business and Accounting. The specific skills and care paths chosen may differ as to the teacher's professional certification area. (See additional skill *example addendum*).

### **Foundation Standard 11: Information Technology Applications**

Healthcare professionals will apply technology skills required for all career specialties. They will demonstrate use as appropriate to healthcare applications.

1. **Identify** records and files common to the healthcare setting including electronic health record - EHR).
  - a. **Identify** and **differentiate** types and content of health records (including EHR), i.e.

Updated July, 2016

- patient, pharmacy, laboratory radiology, etc.
- b. **Recognize** technology applications in healthcare including file storage.
2. **Create** documentation in the health record (EHR/MHR) that reflects timeliness, completeness, and accuracy while adhering to information systems policies and procedures at the local, state, and national and organizational level
    - a. **Use** health record data collection tools (such as input screens, document templates)
    - b. **Understand** the principle and **demonstrate** the appropriate methods to correct inaccurate information/errors personally entered into EHR/MHR, such as adding, clarifying, and correcting information.
  3. **Explore** different types of health record data collection tools such as patient monitoring equipment, telemedicine, phone application, and medical wearable devices).
  4. **Identify** common policies and procedures for proper access, disclosure and protection of personal information such as: passwords, administrative safeguards, database security.
    - a. **Apply** fundamentals of privacy and confidentiality policies and procedures (HIPAA).
    - b. **Identify** legal and regulatory requirements related to the use of personal health information (such as: Health Information Technology Act [HITECH Act], American Recovery and Reinvestment Act [ARRA]).
    - c. **Describe** consequences of inappropriate use of health data in terms of disciplinary action.

#### **\*Additional Skill Example Addendum:**

##### **\*Foundation Standard 10 – South Carolina**

Basic General skills that include vital signs, CPR, and FA will be taught, practiced and demonstrated along with basic skills that may come from specific areas in health care.

*Examples:* Dental: demonstrating brushing and flossing; Laboratory: operating a microscope, or testing urine; Medical Assisting: Suture removal, or sterile procedure/gloving; Nurse Assisting: feeding a patient, positioning a patient, I's and O's; Physical Therapy; ambulating with crutches, walkers or canes; Healthcare Office Management: Filing, Using the telephone. There are many other basic skills that instructors may draw from within the healthcare field. Which technical skills will be added to HS2 will be at the discretion of the instructor and taking into account time management for the course. The main thing is to reinforce a skill associated with a career or careers.

#### **Resources:**

Browse catalog at [www.mysctextbooks.com](http://www.mysctextbooks.com) for latest instructional materials available to South Carolina public schools for health science technology courses.

Simmers, Louise. Diversified Health Occupations. Albany, New York: Delmar,

latest edition.

--. -----: Teacher's Resource Kit, latest edition.

-----, -----: Workbook, latest edition.

HealthCenter21 (SC Gerontology)

<https://learn.aeseducation.com>

### **OTHER RESOURCES:**

Colbert, Bruce J. Workplace Readiness for Health Occupations: A Foundation for Excellence. Delmar, latest edition.

Today's Class

<http://www.todaysclass.com>

Benjamin-Chung, Michele. Math Principles and Practice, Preparing for Health Career Success. Upper Saddle River: NJ: Prentice Hall, latest edition.

Haroun, Lee and Royce, Susan. Delmar's Teaching Ideas and Classroom Activities or Health Care. Albany, NY: Delmar, latest edition.

Toner, Patricia Rizzo, Consumer Health and Safety Activities, The Center for Applied Research in Education, latest edition.

Toner, Patricia Rizzo, Relationships and Communication Activities, The Center for Applied Research in Education, latest edition.

Toner, Patricia Rizzo, Stress Management and Self- Esteem Activities, The Center for Applied Research in Education, latest edition.

Umstatter, Jack. Brain Games: Ready-to-Use Activities That Make Thinking Fun for Grades 6-12. San Francisco: Jossey-Bass, latest edition.

Zedlitz, Robert H. How to Get a Job in Health Care. Albany, NY: Delmar, latest edition.

### **WEB SITES:**

South Carolina Department of Education

Updated July, 2016

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

South Carolina Health Science Education Teacher Resource Guide

[www.cateresources.net/HSTETeacherResourceGuide/index.html](http://www.cateresources.net/HSTETeacherResourceGuide/index.html)

Health Science Educator Resources

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

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)

Personal Pathways to Success™

<http://www.palmettopathways.org/EEEDA2/default.aspx>

## **EDUCATIONAL/CLASSROOM RESOURCES**

American Medical Association: Careers in Healthcare

<http://www.ama-assn.org/ama/pub/education-careers/careers-health-care.shtml>

America's Career InfoNet

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

American Heart Association

<http://www.americanheart.org/presenter.ihtml?identifier=1200000>

American Journal of Nursing

Updated July, 2016



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

American Red Cross

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

Annals of Internal Medicine

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

Anatomy in Clay

<http://www.anatomyinclay.com/>

Ask Dr. Math

<http://mathforum.org/dr.math/dr-math.html>

Assessment: Motivational Appraisal of Personal Potential

<http://student.assessment.com/>

Aetna: IntelliHealth

<http://custom.aetna.com/Inova/intelihealth.shtml>

Become an RN

<http://www.becomern.com/>

Be Something Amazing – Video of Virtual Surgeries and Occupations in healthcare <http://besomethingamazing.com/>

Body Works: A toolkit for healthy teens and strong families

<http://www.womenshealth.gov/bodyworks/>

Cancer.Net

<http://www.cancer.net/portal/site/patient>

Cardinal Health: Making healthcare safer and more productive

<http://www.cardinal.com/>

Updated July, 2016

Career Voyages

<http://webarchive.library.unt.edu/eot2008/20080916003633/http://careervoyages.gov/>

CNN Health

<http://www.cnn.com/HEALTH/>

CollegeNet

<http://www.collegenet.com/elect/app/app>

CreativEd Services

<http://www.creativedservices.com/>

Dr. Greene.....Caring for the Next Generation

<http://www.drgreene.com/>

Estronaut: A Forum for Women's Health

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

Explore Health Careers

<http://explorehealthcareers.org/en/home>

Health Answers Education

<http://www.healthanswers.com/>

Health Central

<http://www.healthcentral.com/>

JAMA: The Journal of the American Medical Association

<http://jama.ama-assn.org/>

Learn and Serve America's Service Learning Clearinghouse

Updated July, 2016

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

Medline Plus: Medical Encyclopedia

<http://www.nlm.nih.gov/medlineplus/encyclopedia.html>

Medical Math Lesson Plans

<http://www.nrccte.org/resources/lesson-plans/health-science/health-science-back-basics>

Medical Mysteries on the Web

<http://medmyst.rice.edu/>

Medical Reserve Corps

<http://www.medicalreservecorps.gov/volunteerfldr/AboutVolunteering>

MedicineNet: We Bring Doctors' Knowledge to You (Medical Dictionary)

<http://www.medterms.com/script/main/hp.asp>

MedlinePlus: Trusted Health Information for You

<http://medlineplus.gov/>

Medscape from WebMD

<http://www.medscape.com/>

Merck: A Global Research-Driven Pharmaceutical Company

<http://www.merck.com/index.html>

MT Desk: Complete Online Resource Center for Medical Transcription Professionals

<http://www.mtdesk.com/>

National Institutes of Health, Office of Science Education

<https://www.nih.gov/research-training/science-education>

Updated July, 2016

New England Journal of Medicine

<http://content.nejm.org/>

NORD: National Organization for Rare Disorders

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

North Carolina Association for Biomedical Research

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

Nurse Spectrum | NurseWeek

<http://www.nurse.com/>

OncoLink: Abramson Cancer Center of the University of Pennsylvania

<http://www.oncolink.upenn.edu/>

Physicians' Desk Reference

<http://www.pdr.net/browse-by-drug-name>

Pregnancy and Parenting for Today's Mom

<http://parenting.ivillage.com/>

PubMed: A service of the US National Library of Medicine and the National Institutes of Health

<http://www.ncbi.nlm.nih.gov/PubMed>

Reuters Health: The premier supplier of health and medical news

<http://www.reuters.com/news/health>

RxList: The Internet Drug Index

<http://www.rxlist.com/script/main/hp.asp>

Starla's Creative Teaching Tips

Updated July, 2016

<http://www.starlasteachtips.com/>

States' Career Clusters

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

Stay Healthy

[https://www.stayhealthy.com/en\\_us/main/index.html](https://www.stayhealthy.com/en_us/main/index.html)

Texas Health Science

<http://www.texashste.com/>

The Educator's Reference Desk

<http://www.eduref.net/>

The Riley Guide: Employment Opportunities  
and Job Resources on the Internet

<http://www.rileyguide.com/>

U.S. Public Health Service

<http://www.usphs.gov/>

Us TOO International Prostate Cancer Education and Support Network

<http://www.ustoo.com/>

Web MD

<http://www.webmd.com/>

Weil (Andrew Weil, MD) Your Trusted Health Advisor

<http://www.drweil.com/>

Wellness Web

<http://www.wellweb.com/>

World Health Online

<http://www.healthy.net/>

Yahoo Health

<https://www.yahoo.com/beauty/tagged/health/>

Updated July, 2016