



Health Science 1- 5550

Health Science 1 is the first of four courses offered to students interested in pursuing a career in the healthcare field. During this first course students are introduced to healthcare history, careers, law and ethics, cultural diversity, healthcare language and math, infection control, professionalism, communication, basics of the organization of healthcare facilities, and types of healthcare insurance. Students get a good grasp of where healthcare has been, where it's going and how professionalism and personal characteristics impact their success. Students will be introduced to "**Standard Precautions**" and learn about confidentiality through HIPPA. As students are guided through healthcare **career exploration**, they will discuss education levels, and requirements needed to be successful. Students will participate in a career project, and will hear from guest speakers in the healthcare field. Students will learn first-aid procedures and learn fire safety. The skills and knowledge that students learn in Health Science 1 serve to prepare them for future clinical experiences such as job shadowing or internships as they advance in the Health Science courses. To advance to Health Science 2, it is recommended that students should have an 80% score or higher in Health Science 1, or teacher recommendation

General Requirements – This course is recommended for students in grades 10-12. There are no pre- requisites required, however Biology is recommended as a pre or co- requisite. Students should have an interest in learning about all facets of healthcare.

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

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. **Identify** components and solve computations of the metric and household systems of measure.
2. **Calculate** mathematical conversions of temperature and weights and measures related to healthcare. **Conversions (height, weight/mass, length, volume, temperature, household measurements)**
3. **Record** time using 24-hour clock. **Demonstrate the use of the 24 hour clock/military time.**
4. **Recognize** and convert traditional numbers to roman numerals.
5. **Define** and recognize entry level Medical Terminology and terms related to healthcare.

Foundation Standard 2: Communications

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

1. **Interpret and model** verbal and nonverbal communication.
2. Recognize and **Identify common** barriers to communication.
 - a. **Physical disabilities (aphasia, hearing loss, impaired vision)**
 - b. **Psychological barriers (attitudes, bias, prejudice, stereotyping)**
3. Recognize and **Interpret** elements of communication using a sender-receiver model.
4. **Apply and Practice** speaking and active listening skills.
5. Recognize elements of written and electronic communication (spelling, grammar, formatting, and confidentiality).

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. Describe healthcare history and medical advances.
2. **Identify and Compare** healthcare delivery systems (public, private, government).
 - a. **profit and nonprofit-such as hospitals, ambulatory facilities, long term care facilities, home health, medical and dental offices, mental health services)** and explain factors that influence them. (including emerging issues)
 - b. **Government (such as: CDC, FDA, WHO, OSHA, Public Health Systems/Health Departments, Veteran's Administration)**
 - c. **Non-Profit (such as: March of Dimes, American Heart Association)**

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3. **Identify** the importance of an **organizational structure** in health care.

Foundation Standard 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.

1. **Identify and** Classify personal traits or attitudes desirable in a member of the **career ready** healthcare team.
 - a. Acceptance of criticism
 - b. Competence
 - c. Dependability
 - d. Discretion
 - e. Empathy
 - f. Enthusiasm
 - g. Honesty
 - h. Initiative
 - i. Patience
 - j. Responsibility
 - k. Self-motivation
 - l. Tact
 - m. Team Player
 - n. Willingness to learn
2. **Summarize and demonstrate** professional standards and characteristics as they apply to hygiene, dress, language, confidentiality, and behavior.
3. **Compare careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services, or biotechnology research and development).**
4. **Research and** Evaluate levels of education, credentialing requirements, employment **trends in health professions** (opportunities, workplace environments, and career earnings etc.).

Foundation Standard 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.

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 and scope of practice.**
2. **Describe and Apply** standards for **the safety, privacy and confidentiality of the** Health Insurance Portability and Accountability Act (HIPAA **privileged communication**).

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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.
2. **Recognize (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.)
3. **Identify and discuss** religious and cultural values as they impact healthcare (such as; ethnicity, race, religion, gender) and demonstrate respectful and empathetic interactions and treatment of all patients/clients within a diverse population (such as: customer service, patient satisfaction, civility).

Foundation Standard 7: Safety Practices

Healthcare professionals **will understand 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. **Identify** major classes of microorganisms and explain and demonstrate infection control principles. (hand washing and basic gloving)

Explain principles of infection control.

- a. Chain of infection
- b. Mode of transmission (direct, indirect, vectors, common vehicle [air, food, water], healthcare-associated infections [nosocomial], opportunistic)
- c. Microorganisms (non-pathogenic, pathogenic, aerobic, anaerobic)
- d. Classifications (bacteria, protozoa, fungi, viruses, parasites)

2. **Apply common** safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations and comply with safety signs, labels and symbols including all safety standards related to the Occupational Exposure to Hazardous Chemicals Standard (Safety Data Sheets (SDSs)).

1. **Apply** techniques pertaining to personal and environmental safety.
Personal Safety: demonstration of correct body mechanics.
Environmental Safety: Ergonomics, Safe operation of equipment and patient/client safety
2. **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).
3. **Practice** fire safety related to a healthcare setting.

Foundation Standard 8: Teamwork

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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.

1. **Explain and Evaluate** roles and responsibilities of team members.
 - a. Examples of healthcare teams
 - b. Responsibilities of team members
 - c. Benefits of teamwork
2. Respect interdisciplinary roles of team members and act responsibly as a team member.
3. Recognize characteristics of effective teams and methods for building positive team relationships.
 - a. Active participation
 - b. Commitment
 - c. Common goals
 - d. Cultural sensitivity
 - e. Flexibility
 - f. Open to feedback
 - g. Positive attitude
 - h. Reliability
 - i. Trust
 - j. Value individual contributions
4. **Collaborate** with others to formulate team objectives.
5. Explore **and analyze** attributes and attitudes of an effective leader:
 - a. Characteristics (interpersonal skills, focused on results, positive)
 - b. Types (autocratic, democratic, laissez faire)
 - c. Roles (sets vision, leads change, manages accountability)
6. Apply techniques for managing team conflict (**negotiation, assertive communication, gather the facts, clear expectations, mediation**). Recognize methods for building positive team relationships (such as: mentorships and teambuilding).

Foundation Standard 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.

1. **Discuss complementary and alternative health practices.**
Investigate complementary and alternative health practices as they relate to wellness and disease prevention (such as: Eastern medicine, holistic medicine, homeopathy, manipulative and natural therapies).
2. Discuss behaviors that are beneficial to health and wellness. (such as: nutrition, weight control, exercise, sleep habits).

Foundation Standard 10: Technical Skills

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

1. **Introduction to** procedures for measuring and recording vital signs.
2. **Demonstrate** procedure for taking and charting temperature and height and weight.
3. **Demonstrate** use of Snellen chart.
4. **Demonstrate** first aid procedures. (Certification optional in level 1)

Foundation Standard 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.

1. **Communicate** using technology (fax, e-mail, and Internet) to access and distribute data and other information. (including assignments and online assessments)

Basic Computer Skills

Apply basic computer concepts and terminology necessary to use computers and other mobile devices.

Demonstrate basic computer troubleshooting procedures (such as: restart, check power supply, refresh browser, check settings).

Demonstrate use of file organization and information storage.

Identify uses of basic word processing, spreadsheet, and database applications.

2. Demonstrate appropriate usage of email and social media in a work environment (such as: work-related communications, personal texting on own time, appropriate language and content, use full language sentences).
3. Recognize technology applications and key technology principles used in healthcare.
Identify types of data collected in Electronic Health Records/Electronic Medical Records (EHR or EMR) (such as: history and physical, medications, diagnostic tests, patient demographics).
4. Evaluate the validity of web-based resources.

Resources:

Browse catalog at 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>

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OTHER RESOURCES:

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

Today's Class

<http://www.toadysclass.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 www.ed.sc.gov

South Carolina Health Science Education Teacher Resource Guide

www.cateresources.net/HSTETeacherResourceGuide/index.html

Health Science Educator Resources www.HealthScienceTeacher.com

National HOSA www.hosa.org

SC HOSA www.schosa.org

National Consortium for Health Science Education

www.healthscienceconsortium.org

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South Carolina Occupational Information System (SCOIS)

www.scois.net

Personal Pathways to Success™

<http://www.palmettopathways.org/EEDA2/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.jhtml?identifier=1200000>

American Journal of Nursing

<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: InteliHealth

<http://www.intelihealth.com/IH/ihtIH/WSIHW000/408/408.html>

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/>

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Cancer.Net

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

Cardinal Health: Making healthcare safer and more productive

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

Career Voyages

<http://www.careervoyages.gov/healthcare-main.cfm>

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://www.explorehealthcareers.org/en/Index.aspx>

Health Answers Education

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

Health Central

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

Health Scout

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

JAMA: The Journal of the American Medical Association

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

Learn and Serve America's Service Learning Clearinghouse

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

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Medline Plus: Medical Encyclopedia

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

Medical Math Lesson Plans

<http://cehd.umn.edu/NRCCTE/Math-In/MathHealth.html>

Medical Mysteries on the Web

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

Medical Reserve Corps

<http://www.medicalreservecorps.gov/HomePage>

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/home.html>

MT Desk: Complete Online Resource Center for Medical Transcription Professionals

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

National Institutes of Health, Office of Science Education

<http://science.education.nih.gov/lifeworks>

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/biomed/bio_resources/rx.html

Nurse Spectrum | NurseWeek

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<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/login/Login.aspx>

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.reutershealth.com/en/index.html>

RxList: The Internet Drug Index

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

Starla's Creative Teaching Tips

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

States' Career Clusters

www.careerclusters.org

Stay Healthy

<http://www.stayhealthy.com/page/view.sh?id=home>

Texas Health Science

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

The Educator's Reference Desk

<http://ericir.syr.edu/>

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

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

U.S. Public Health Service

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

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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

[http://dir.yahoo.com/Health_ADD ~ www.healthscienceconsortium.org](http://dir.yahoo.com/Health_ADD~www.healthscienceconsortium.org)

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