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. In this first course students are provided an overview of healthcare history, cultural diversity, medical terminology, medical math, infection control, basics of the organization of healthcare facilities, and personal health and lifestyle choices. A major focus is placed on introduction to health careers, professionalism and employability skills. Students achieve an understanding 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 learn from guest speakers in the healthcare field. F irst-aid procedures and fire safety are introduced.   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 through the Health Science courses. To advance to Health Science 2, students must achieve a score of 75% or higher in Health Science 1.

General Requirements – This course is recommended for students in grades 9-12. 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)

Recommended Class Size – 24 students

Foundation Standard 1: Academic Foundation

Healthcare professionals will know the academic subject matter, including medical math principles, 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. **Describe** healthcare history and medical advances.
2. **Identify** components and solve computations of the metric and household systems of measure.
3. **Calculate** mathematical conversions of temperature and weights and measures related to healthcare such as height, weight/mass, length, volume, temperature, and household measurements.
4. **Demonstrate** recording time using 24-hour clock/military time.
5. **Recognize and convert** traditional numbers to roman numerals.
6. **Define and recognize** entry level Medical Terminology and terms related to healthcare.
7. **Identify** body planes, directional terms, cavities, and quadrants.

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-message-feedback model.
4. **Apply and practice** speaking and active listening skills.
5. **Recognize** elements of written and electronic communication (spelling, grammar, formatting, and confidentiality).
6. **Use** appropriate medical terminology to communicate information in both oral and written forms.
   a. Common root prefixes and suffixes to communicate information
   b. Medical abbreviations
   c. Common Abbreviations
   d. Joint Commission Official "Do Not Use List"

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. **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. Regulatory bodies such as: CDC, FDA, WHO, OSHA, Public Health Systems/Health Departments, Veteran's Administration

    c. Non-Profits such as March of Dimes, American Heart Association

2. **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 apply** personal traits or attitudes desirable as a career ready member of the healthcare team to include

    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. **Identify and apply** employability skills desirable as a career ready member of the healthcare team.
    a. Chain of command
    b. Correct grammar
    c. Decision making
    d. Flexibility
    e. Initiative
    f. Loyalty
    g. Positive attitude

h. Professional characteristics
　　　　i. Promptness and preparedness
　　　　j. Responsibility
　　　　k. Scope of practice
　　　　l. Teamwork
　　　　m. Willingness to learn

　　3. **Summarize and demonstrate** professional standards and characteristics as they apply to hygiene, dress, language, confidentiality, and behavior.
　　4. **Compare** careers within the health science career pathways (diagnostic services, therapeutic services, health informatics, support services, or biotechnology research and development).
　　5. **Research and evaluate** levels of education, credentialing requirements, employment trends in health professions (opportunities, workplace environments, and career earnings etc.).
　　6. **Initiate** development of components of a personal portfolio (healthcare project, writing sample, work-based learning, oral presentation, service learning, credentials, technology, and leadership experience).
　　7. **Demonstrate** professional and leadership skills by actively participating in learning experiences through HOSA Future Health Professionals, student organization. (either as a member or as a participant in some of their sponsored activities)

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.

** ***THIS STANDARD IS COVERED IN HEALTH SCIENCE 2.***

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. **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

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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 describe the chain of infection.
2. **Demonstrate** infection control principles. (such as handwashing, gloving, environmental cleaning)
3. **Apply** techniques pertaining to personal and environmental safety. (body mechanics, ergonomics, safe operation of equipment, patient safety)
4. **Apply** common safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations.
5. **Comply** with safety signs, labels, and symbols including all safety standards related to the Occupational Exposure to Hazardous Chemicals Standard (Safety Data Sheets).
6. **Practice** fire safety related to a healthcare setting.
7. **Summarize** principles of basic emergency response in natural disasters or other emergencies (safe location, bioterrorism, active shooter, contact emergency personnel, following protocol).

Foundation Standard 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.

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.

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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. **Apply** behaviors that promote health and wellness (such as: nutrition, weight control, exercise, sleep habits).
2. Describe strategies for prevention of diseases.

   • Routine physical exams
   • Medical, dental, and mental health screenings
   • Community health education outreach programs
   • Immunizations
   • Stress management
   • Avoid risky behaviors

3. **Investigate** complementary and alternative health practices as they relate to wellness and disease such as Eastern medicine, holistic medicine, homeopathy, manipulative and natural therapies.

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. **Explore** procedures for measuring and recording vital signs and height/weight including normal ranges.
2. **Demonstrate** use of Snellen chart.
3. **Introduction to** 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).

    a. **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

7. **Demonstrate** basic computer skills.
    a. Apply basic computer concepts and terminology necessary to use computers and other mobile devices.
    b. Demonstrate basic computer troubleshooting procedures (such as: restart, check power supply, refresh browser, and check settings).
    c. **Demonstrate** use of file organization and information storage.
    d. **Identify** uses of basic word processing, spreadsheet, and database applications.
8. **Recognize** technology applications and key technology principles used in healthcare.

    a. **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.

    b. **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

OTHER RESOURCES:

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

Today's Class

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https://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
 www.ed.sc.gov

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

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Assessment: Motivational Appraisal of Personal Potential
http://student.assessment.com/

Aetna: InteliHealth
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/

Career Voyages
http://webarchive.library.unt.edu/eot2008/20080916
003633/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
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

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/

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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
http://www.starlasteachtips.com/

States' Career Clusters
www.careerclusters.org

Stay Healthy
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

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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/