



HEALTH SCIENCE 1 - 5550 Foundations of Healthcare Professions

Course Description: Health Science 1, Foundations of Healthcare Professions, is an introductory course designed to provide students with an overview of the healthcare careers and foundational skills to begin their journey towards the future as a healthcare professional.

Course objectives: Upon completion of this course proficient students will be able to identify careers in these fields, compare and contrast the features of healthcare systems and begin to provide foundational health care skills. This course will serve as a foundation for all Health Science programs of study.

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 designed for students in grades 9-12. Students must have completed Biology 1 or be enrolled concurrently in Biology 1 to take this course.

Pre-requisites: Biology 1

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

Recommended Class Size – 24 students

NOTE: *Please refer to the completer requirements found on the SC Health Science website. [Health Science Completer Requirements](#)*

Foundation Standard 1: Academic Foundation

Identify trends and changes in the healthcare industry. Understand basic medical terminology and mathematical calculations as they correspond to the healthcare field.

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 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.

Foundation Standard 2: Communications

Demonstrate methods of delivering and obtaining information, while communicating effectively.

1. **Interpret** and model verbal and nonverbal communication.
2. **Recognize and interpret** elements of communication using a sender-receiver-message- feedback model.
3. **Apply and practice** speaking and active listening skills.
4. **Use** proper elements of written and electronic communication (spelling, grammar, and formatting).
5. **Prepare** examples of technical and informative writing.
6. **Demonstrate** appropriate use of digital communication in a work environment, such as email, text, and social media.
7. **Use** appropriate medical terminology to communicate information in both oral and written forms utilizing common root prefixes and suffixes to communicate.

Foundation Standard 3: Systems

Identify how key systems affect services performed and quality of care.

Identify and compare healthcare delivery systems (public, private, government, and related organizations).

- a. Types of practice settings
 - Acute care
 - Ambulatory care
 - Behavioral and mental health services
 - Home care
 - Long-term care
 - Medical and dental practices
- b. Specialty medical and dental practices
 - Cosmetic surgery
 - Pulmonology
 - Surgical
 - Orthodontics
- c. Government
 - Veterans Administration (VA)
 - The Centers for Disease Control and Prevention (CDC)
 - Food and Drug Administration (FDA)
 - Occupational Safety and Health Administration (OSHA)
 - Public Health Service (PHS)
- d. Related organizations
 - American Cancer Society
 - American Heart Association (AHA)

- American Red Cross (ARC)
- March of Dimes
- World Health Organization (WHO)

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

Foundation Standard 4: Employability Skills

Use employability skills to enhance employment opportunities and job satisfaction.

1. **Identify** employability skills as a career ready member of the 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. **Apply** employability skills as a member of the healthcare team.
 - a. Chain of command
 - b. Communication Skills
 - c. Correct grammar
 - d. Decision making
 - e. Flexibility
 - f. Initiative
 - g. Loyalty
 - h. Organization
 - i. Positive attitude
 - j. Problem Solving
 - k. Professional characteristics
 - l. Promptness and preparedness
 - m. Responsibility
 - n. Scope of practice
 - o. Teamwork
 - p. Time Management
 - q. Willingness to learn
 - r. Work Ethic

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

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

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

Foundation Standard 6: Ethics

Understand accepted ethical practices with respect to cultural, social, and ethnic differences within the healthcare environment.

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

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.

1. Infection Control
 - a. Explain principles of infection transmission.
 - Identify classifications of pathogens
 - Bacteria
 - Fungi
 - Parasites
 - Protozoa
 - Viruses
 - b. Describe characteristics of microorganisms
 - Aerobic
 - Anaerobic
 - Non-pathogenic
 - Pathogenic
 - c. Recognize chain of infection
2. Differentiate methods of controlling the spread and growth of pathogens.
 - a. Standard precautions
 - Handwashing
 - Gloving

- Personal Protective Equipment (PPE)
 - Environmental cleaning
- 3. Personal Safety
 - a. Apply personal safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations.
 - b. Demonstrate and apply the use of personal protective equipment (PPE).
- 4. Environmental Safety
 - a. Apply safety techniques in the work environment.
 - Ergonomics
 - Safe operation of equipment
 - Patient/client/employee safety measures
- 5. Common Safety Hazards
 - a. Observe all safety standards related to occupational exposure to hazardous chemicals standard (safety data sheets [SDS]).
 - b. Comply with safety signs, symbols, and labels.
- 6. Emergency Procedures and Protocols
 - a. Practice fire safety in a healthcare setting.
 - b. Apply principles of basic emergency response in natural disasters and other emergencies (safe location, contact emergency personnel, follow facility protocols).

Foundation Standard 8: Teamwork

Identify roles and responsibilities of individual members as part 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. Defined roles
 - b. Common purpose
 - c. Effective communication
 - d. Effective leadership
 - e. Measurable processes and outcomes
 - f. Mutual respect
 - g. Shared goals
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

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

1. **Apply** behaviors that promote health and wellness.
 - a. Promote behaviors of health and wellness.
 - Exercise
 - Nutrition
 - Relationships
 - Sleep habits
 - Stress management
 - Weight control
 - b. Examine various aspects of behavioral health.
 - Anxiety
 - Depression
 - Substance abuse
 - Suicide
2. **Describe** strategies for prevention of diseases.
 - Community health education outreach programs
 - Immunizations
 - Medical, dental, and mental health screenings
 - Routine physical exams
 - Stress management
3. **Investigate** complementary and alternative health practices as they relate to wellness and disease such as :
 - a. Acupuncture
 - b. Eastern medicine
 - c. Holistic medicine
 - d. Homeopathy
 - e. Manipulative therapies
 - f. Natural therapies

Foundation Standard 10: Technical Skills

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

1. **Explore** procedures for measuring and recording vital signs including the normal ranges.
 - Blood pressure
 - Temperature
 - Oxygen saturation
 - Pain
 - Pulse
 - Respirations
 - Snellen chart.

2. **Introduction to CPR/first aid procedures and Stop The Bleed Training.** (Certification optional in-Health Science 1)

Foundation Standard 11: Information Technology Applications

Apply information technology practices common across health professions.

1. **Communicate** using technology (fax, e-mail, and Internet) to access and distribute data and other information (including assignments and online assessments).
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
6. **Recognize** technology applications and key technology principles used in healthcare.
7. **Adhere** to information systems policies, procedures, and regulations as required by national, state, and local entities.
8. **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. ---
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--. -----: 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

<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

July, 2019

www.HealthScienceTeacher.com

National HOSA

www.hosa.org

SC HOSA

www.schosa.org

National Consortium for Health Science Education

www.healthscienceconsortium.org

South Carolina Occupational Information System (SCOIS)

www.scois.net

Personal Pathways to Success™ (This link no longer works!)

<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>

American Medical Association: Career Planning Resource

<https://www.ama-assn.org/amaone/career-planning-resource>

CareerOneStop formerly known as America's Career InfoNet

<https://www.careeronestop.org/Toolkit/ACINet.aspx>

American Heart Association

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

American Journal of Nursing

<https://www.jstor.org/journal/americanj nursing>

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

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

Aetna: InteliHealth

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

Become an RN

<https://www.learnhowtobecome.org/nurse/registered-nurse/>

Be Something Amazing – Video of Virtual Surgeries and Occupations in Healthcare

<https://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

<https://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

July, 2019

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

Explore Health Careers

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

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://webadventures.rice.edu/stu/Games/MedMyst/>

Medical Reserve Corps

<https://mrc.hhs.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/index.html>

Transcription 411: The Online Resource Center for Medical Transcription Students and Professionals

<http://transcription411.com/>

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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
<https://www.pennmedicine.org/cancer/navigating-cancer-care/getting-started/patient-education/oncolink-cancer-education>

Physicians' Desk Reference
<http://www.pdr.net/browse-by-drug-name>

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/>

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
<https://www.myperfectresume.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 (no longer in existence)
<http://www.wellweb.com/>

Health World Online
<http://www.healthy.net/>

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