Health Care Science Technology: Career Foundations

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Health Care Science Technology: Career Foundations is an introductory textbook on careers in health care, written with the specific aim of addressing the 2002 National Health Care Skills and Standards of the National Consortium on Health Science and Technology Education (NCHSTE), which has developed required knowledge and skill standards for 5 recognized career pathway clusters: therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development. The textbook and associated instructional aids are designed to equip undergraduate students with the necessary entry-level skills for any of the first 4 career pathways, with some basic information on the fifth also provided.

The author of this textbook has more than 2 decades of teaching experience in the fields of health care and nursing education. Contributions from 23 other educators and health care professionals are acknowledged, as well as reviews by 40 additional individuals. The textbook consists of 32 chapters, divided into 5 major units. The first, and largest, unit (12 chapters, 403 pages) contains an overview of the health care career clusters and skills standards developed by the NCHSTE, as well as specific information on knowledge and skills common to all clusters (e.g., health care systems, safety and infection control practices, medical terminology, anatomy and physiology, vital signs, and legal and ethical responsibilities). Each of the 4 other units is dedicated to entry-level knowledge and skills specific to 1 of the first 4 career clusters and contains 1 chapter for each career path within each cluster. The unit pertaining to therapeutic services is significantly larger than the other 3 (11 chapters, 321 pages), as that particular cluster consists of a much larger number and wider range of career paths. The book has a modular design that allows it to be adapted to specific course organizations and requirements.

In the front of the book are both a brief (unit and chapter level) and a detailed (unit, chapter, and section level) table of contents, as well as indices of described procedures and tables contained within each chapter (i.e., career path). An index of features contained throughout the book is also provided, arranged in 9 categories ranging from safety to human relations to math. All of these sections are nicely indexed and multicolored, and fairly large fonts are used, which should make browsing for specific topics easier and quicker. The book also contains a detailed glossary and index in the back. The teacher-annotated edition includes descriptions of the NCHSTE career cluster pathways, specialties and standards, a course program and textbook overview, teaching strategies, and guidelines on using the various instructional aids, including student tutorial, additional career skills, and effective instruction CD-ROMs and a program Web site. (The author recognizes that changes to the career clusters and skill standards will occur and encourages the use of the program Web site, www.hcst.glencoe.com, to keep pace with changes.)

Each chapter follows a common format and covers 1 career path. The chapters begin with objectives and key terms, followed by sections describing specific occupations and detailing an example procedure within the path, and a chapter review. For instance, the chapter on radiology covers the occupations radiologist, radiation oncologist, the radiologic technologist subspecialties, and radiology aide and details the posteroanterior chest radiography procedure. For each occupation, brief descriptions are provided of job responsibilities, procedures performed, equipment used, and employment prospects. A table of educational requirements, certification or licensing agencies, and job outlook is also included, as are several tables and figures illustrating various devices used, procedures performed, and results of procedures. Pertinent scientific, mathematic, historical, future, safety, and human relations information is inserted throughout the text, as well as suggestions on where and how to obtain additional information. For example, the respective inserts for the radiology chapter are the basic operation of an x-ray tube, the inverse square law, the discovery of x-rays, picture archiving and communication systems, allergic reactions to contrast media, and skills related to managing a radiology department and interacting with patients while performing radiologic procedures on them.

I only have 2 criticisms of the textbook. The first is the exclusion of a unit covering biotechnology research and development. There may be legitimate reasons for the exclusion, such as a limit on scope or total number of pages, or the required skills’ not being considered entry-level, but
no clear reasons are given. Second, in the radiology chapter, the role of the medical physicist is briefly mentioned in the text but omitted from the list of occupations. This surprised me, as the medical physicist is an integral part of the radiology team, especially in radiation oncology, and that career field is currently experiencing a significant shortage during a period of growth, with approximately 200 positions remaining unfilled at any one time.

In summary, I give *Health Care Science Technology: Career Foundations* a positive recommendation as a resource for undergraduate health care educators. It should help provide students with the basic information and necessary entry-level skills to pursue just about any of the more than 100 career fields in health care. The book and associated program appear quite comprehensive, have a modular design for flexibility of use, and have a modern design that uses electronic media (CD-ROMs and the Internet) to enhance their effectiveness and keep pace with changes in health care careers.

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