Odysseyware®

CURRICULUM OVERVIEW

Introduction to Careers in the Health Sciences

Career and Technical Education Series

Table of Contents

Introduction to Careers in the Health Sciences Course Overview

This course is an overview of health careers and overriding principles central to all health professions. The course provides a foundation for further study in the field of health science. When students complete the course, they will be able to discuss the potential career choices and have an understanding of basic concepts that apply to these different choices.

- **Unit 1: Science and Technology in Human Health:** Many current practices can be traced to ancient ideas. During ancient times, religion and culture were very important factors in determining who could become a physician and in how the physicians and healers diagnosed and treated disease. During the seventeenth and eighteenth centuries, in medicine, there was a shift away from a focus on religion and culture to a more scientific approach. As a result, autopsies were performed, which changed the understanding of anatomy and disease. The shift to a scientific approach also helped physicians and scientists develop new procedures, treatments, and tools. The rise to modern medicine was facilitated by the introduction of technology and the ability to share resources. After the seventeenth and eighteenth centuries, there were some important discoveries. Watson and Crick were credited with discovering the structure of DNA. With today's technology and this knowledge, we are able to diagnose and treat genetic disorders and diseases. Advances in technology created opportunities for new forms of diagnostic techniques; new advances include the CT, MRI, Ultrasound, and PET Scanners. Organ transplant has been made possible by technological advances.

- **Unit 2: Anatomy and Physiology in Health and Disease:** Cells are the building blocks of all living things. Cells work together to build tissues. There are four types of tissue in the human body that work together to build organs: epithelial, nervous, muscular, and connective tissue. Organs work together to form systems. The systems work together to make up a human. Each system has a specific function, but all the systems are critical. Cancer, diabetes, and tuberculosis as representative diseases were discussed. Cancer is an abnormal growth in the body. The symptoms of cancer will vary depending on the type of cancer that is present. Cancer treatment will vary but can include surgery, radiation, chemotherapy, and in some cases, biological therapy. Diabetes is a chronic disease resulting in abnormal blood sugar levels. Diabetes is a disease where the pancreas does not produce enough insulin, or the cells stop responding to insulin. Type I diabetes occurs more often in childhood or adolescence; type II diabetes is more common and tends to present itself later in life than type I. Gestational diabetes only occurs during pregnancy. Tuberculosis (TB) is a bacterial infection caused by the Mycobacterium tuberculosis and is the second largest single agent killer worldwide; the first is HIV/AIDS. About one third of the Earth's population is infected with TB defining TB as a global pandemic. Smoking and HIV/AIDS increase your risk for contracting TB. When TB is not active, an individual may have no symptoms, but an individual with an active pulmonary TB infection will experience fever, cough, fatigue, night sweats, and weight loss. The treatment for TB is antibiotic therapy.

- **Unit 3: Privacy Ethics, and Safety:** The Patient's Bill of Rights bill of rights was written to standardize high quality care and protect the rights of the patient. The US Federal Government has included this bill of rights in health care law. The Health Insurance Portability and Accountability Act (HIPAA), restricts access to patient information and provides guidelines for insurance coverage. HIPAA is an important law that helps prevent discrimination based on health status and requires health care providers and institutions adopt operating procedures that protect the patient. Ethics are a personal moral code, but often, professional associations or groups of individuals with a common focus develop a code of ethics that as a group they agree to abide by. Any breech of this code could result in penalties. OSHA is the occupational safety and health organization established as a result of the Occupational Health and Safety Act passed by Congress in 1970. This act outlines rules and regulations relating to safety procedures and requirements, limits on chemical exposure in the work place, information privacy and employee access to information, requirements for the use of personal protective equipment, and requirements for hazard communication.

- **Unit 4: Communication and Teamwork in the Health Care Environment:** Communication and teamwork is imperative in the health care environment. While many organizations followed or may still follow a hierarchal structure, the hierarchal structure in healthcare is beginning put aside and health care teams are being formed. Health care teams use an interdisciplinary approach to patient care, shifting the focus from long-term care to prevention of adverse outcomes. Each team member has a different level of training and expertise and plays a different role in patient care. Health care teams bring together all the different roles and perspectives to build patient centered teams. Effective communication is critical for health care teams. Communication can be written, verbal, and non-verbal. Appearance, attitude and cultural norms are a part of non-verbal communication. It is important for team members to be aware of and embrace cultural differences. Privacy issues are critical when multiple individuals are interacting with patients, their families, and patient records. Professionalism is key in the success and effectiveness of the health care team and includes all aspects of behavior, appearance, and communication.

- **Unit 5: Health Careers:** Creating a Diverse Workforce Rapid advances in science and technology have changed the field of medicine, research, and other health sciences. If you decide to pursue a career in health science, math and science courses, as well as a college degree and perhaps an advanced degree will be required. You may be required to become licensed or earn a certification to practice in the field you have chosen. Be sure to understand the requirements of any career you choose. With rapid advances and changes in both medicine and technology, continuing education is increasingly important to keep individuals up-to-date with advances in their field. New discoveries, research, and inventions can also create new career paths. The goal of continuing education is to teach health science personnel new or recent advances in the field and may come in the form of books, videos, conferences, college classes, or online activities. Professional organizations or associations are also important in providing ongoing information and education to their members. An employer, agency like OSHA, or licensing or certification agency may require continuing education or specific training.

Intro. to Careers in the Health Sciences

Unit 1: Science and Technology

Assignments

1. Course Overview
2. Medicine From Ancient Times Through the Middle Ages
3. Medicine in the 17th and 18th Centuries
4. The Rise of Modern Medicine
5. Project: Ancient vs. Modern Medical Practices
6. Project: Different Health Career Possibilities
7. Quiz 1
8. Molecular Technology: Gene Chips
9. Advances in Medical Imaging
10. Innovations in Transplantation
11. Project: Genetics
12. Project: How Technology is Used in Medicine
13. Quiz 2
14. Special Project*
15. Test
16. Course Project Part - 1: 21st Century Skills*
17. Glossary and Credits

Intro. to Careers in the Health Sciences

Unit 2: Anatomy and Physiology in Health and Disease

Assignments

1. Microscopic and Macroscopic Organization of the Body
2. Organ Systems and Their Functions
3. Human Physiology
4. Project: Systems of The Human Body
5. Project: Research of Disease or Disorder
6. Quiz 1
7. The Pathophysiology of Cancer
8. Pathophysiology of Diabetes
9. Tuberculosis: A Worldwide Health Problem
10. Project: Creating a Care Plan
11. Project: Creating a Training Aid
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 2: 21st Century Skills*
16. Glossary and Credits

Intro. to Careers in the Health Sciences

Unit 3: Privacy, Ethics, and Safety

Assignments

1. The Patient's Bill of Rights
2. HIPAA
3. Ethics in Health Care
4. Project: The Patient's Bill of Rights Scenario
5. Project: Ethics and Morals
6. Quiz 1
7. Hazards and Exposures
8. OSHA Standards
9. Safety in the Workplace
10. Project: Disposing of Biological Waste
11. Project: Real World Examples
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 3: 21st Century Skills*
16. Glossary and Credits

Intro. to Careers in the Health Sciences

Unit 4: Communication and Teamwork in the Health Care Environment

Assignments

1. The Health Care Hierarchy â€“ A Thing of the Past
2. Project: Pre-lesson Activity Continued
3. The Evolution of Health Care Teams
4. Project: Research Health Care Teams
5. A Model of Success: Geriatric Teams
6. Quiz 1
7. Communication with Team Members
8. Project: Strategies For Effective Communication
9. Communication with Patients
10. Project: Mind Map of The Three Types of Communication
11. Communication with the General Public
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 4: 21st Century Skills*
16. Glossary and Credits

Intro. to Careers in the Health Sciences

Unit 5: Health Careers: Creating a Diverse Workforce of Lifelong Learners

Assignments

1. Academic Preparation for Careers in Health Science
2. Project: Planning Ahead
3. Licensure and Certification
4. Keeping up with Advances in your Field
5. Project: Exploring Careers
6. Quiz 1
7. Professional Organizations
8. Project: Comparing and Contrasting Health Science Careers
9. Finding the Right Career for You
10. Project: Writing a Health Science Job Description
11. Finding the Right School to Attend
12. Quiz 2
13. Special Project*
14. Test
15. Course Project Part - 5: 21st Century Skills*
16. Glossary and Credits

Unit 6: Course Review and Exam

Assignments

1. Course Project Part - 6: 21st Century Skills*
2. Review
3. Exam

(*) Indicates alternative assignment