

# Health Science Course Descriptions

## Principles of Health Science

TEA # 13020200

Course # 0900

Grade Placement: 9-12

Credit: 1

The Principles of Health Science course is designed to provide an overview of the therapeutic, diagnostic, health informatics, support services, and biotechnology research and development systems of the healthcare industry.

## Principles of Nursing Science

TEA # N1302109

Course # 0902

Grade Placement: 10-12

Credit: 1

**Local Prerequisite: Principles of Health Science**

The Principles of Nursing Science course introduces students to basic principles of the profession of nursing. The goals/student outcomes for the course include knowledge of the history of nursing, an introduction to nursing theory, professionalism (teamwork, communication, conflict Page 96 of 213 Copyright © Texas Education Agency, 2020. All rights reserved. Revised 08/31/2023 resolution), legal/ethical issues in nursing, infection control, safety, and customer (patient) satisfaction. Skills learned include vital signs and how to document on a graphic record, patient positioning/transferring, bed-making, feeding, and personal protective equipment (PPE).

## Anatomy and Physiology

TEA # 13020600

Course # 0439

Grade Placement: 11-12

Credit: 1

**Prerequisite: Biology; and a second science credit**

**Recommended Prerequisite: A course from the Health and Science Career Cluster**

The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.

**Note: This course can satisfy a science credit requirement for students on the Foundation High School Program. Students are encouraged to meet with their Academic Counselor to ensure they are following the appropriate science course sequence and can apply this course to their science graduation requirements.**

## Anatomy and Physiology Honors

TEA # 13020600

Course # 0438

Grade Placement: 11-12

Credit: 1

**Prerequisite: Biology; and a second science credit**

**Recommended Prerequisite: A course from the Health and Science Career Cluster**

Anatomy and Physiology is a course designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. This course is similar to Anatomy and Physiology; however, it incorporates higher-order thinking skills through assessment and synthesis of the anatomical knowledge combined with exposure to clinical analysis and lab work. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis. Students are expected to work collaboratively as well as individually to reach specific course requirements.

**Note: This course can satisfy a science credit requirement for students on the Foundation High School Program. Students are encouraged to meet with their Academic Counselor to ensure they are following the appropriate science course sequence and can apply this course to their science graduation requirements.**

Health Science Theory/Health Science Clinical	TEA # 13020410	Course # 0903 & 2903
---	----------------	----------------------

**Grade Placement:** 11-12

**Credits:** 2

**Prerequisite:** Biology

**Local Prerequisites:** Principles of Health Science; and Medical Terminology

**Corequisite:** Health Science Theory

The Health Science Clinical course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development. Districts are encouraged to offer this course in a consecutive block with Health Science Theory to allow students sufficient time to master the content of both courses.

**Note:** This course requires a Course Interest Form to be submitted.

Medical Microbiology	TEA # 13020700	Course # 0907
----------------------	----------------	---------------

**Grade Placement:** 11-12

**Credit:** 1

**Prerequisites:** Biology; and Chemistry

**Recommended Prerequisites:** A course from the Health Science Career Cluster

The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases. Students must meet the 40% laboratory and fieldwork requirement.

**Note:** This course can satisfy a science credit requirement for students on the Foundation High School Program.

**Students are encouraged to meet with their Academic Counselor to ensure they are following the appropriate science course sequence and can apply this course to their science graduation requirements.**

Medical Microbiology Honors	TEA # 13020700	Course # 0909
-----------------------------	----------------	---------------

**Grade Placement:** 11-12

**Credit:** 1

**Prerequisites:** Biology; and Chemistry

**Recommended Prerequisites:** A course from the Health Science Career Cluster

The Medical Microbiology course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases. This course is similar to Medical Microbiology; however, it incorporates higher-order thinking skills through assessment and synthesis of the presented knowledge combined with exposure to clinical analysis and lab work. Students must meet the 40% laboratory and fieldwork requirement. Students are expected to work collaboratively as well as individually to reach specific course requirements.

**Note:** This course can satisfy a science credit requirement for students on the Foundation High School Program.

**Students are encouraged to meet with their Academic Counselor to ensure they are following the appropriate science course sequence and can apply this course to their science graduation requirements.**

Medical Terminology	TEA # 13020300	Course # 0901
---------------------	----------------	---------------

**Grade Placement:** 10-12

**Credit:** 1

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

Pharmacology	TEA # 13020950	Course # 0905
--------------	----------------	---------------

**Grade Placement:** 12

**Credit:** 1

**Prerequisites:** Biology and Chemistry

**Local Prerequisites:** Algebra II; Principles of Health Science; and Medical Terminology

The Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers.

**Note: This course requires a Course Interest Form to be submitted.**

## Pharmacy I

TEA # N1302127

Course # 2905

**Grade Placement: 12**

**Credit: 1**

**Local Prerequisites: Biology; Chemistry; Algebra II; Principles of Health Science; Medical Terminology; and Pharmacology**

In Pharmacy I students build on their existing foundation of knowledge and skills needed to pursue a career in the pharmaceutical field such as a pharmacy technician or pharmacist). Instruction includes pharmacokinetics, pharmacy law, medication safety, the dispensing process, and inventory. This course is aligned with the standards of the national certification exams that students might take, such as Pharmacy Technician Certification Examination (PTCE) and/or Exam for the Certification of Pharmacy Technicians (ExCPT). Recommended participants are students who wish to become certified pharmacy technicians.

**Note: This course requires a Course Interest Form to be submitted.**

## Practicum in Health Science

TEA # 13020500

Course # 0904 & 2904

### Emergency Medical Technician (EMT) Program

**Grade Placement: 12**

**Credits: 2**

**Prerequisites: Biology; and Health Science Theory-Fall**

**Local Prerequisites: Principles of Health Science; and Medical Terminology**

**Recommended Prerequisite: Anatomy & Physiology; and Health Science Clinicals-Spring**

This course is designed to equip students with knowledge, technical skills, and work habits required for an entry-level Emergency Medical Technician (EMT). This course encourages active student participation and may include group discussions and projects, laboratory work, simulations, demonstrations, field trips, guest speakers, and lectures. A strong emphasis is placed on ethics, accountability, professionalism, and the individual's commitment to pursue lifelong personal and professional development.

**Note: This course requires a Course Interest Form to be submitted.**

## Science of Nursing

TEA # N1302129

Course # 0937

**Grade Placement: 12**

**Credits: 1**

**Local Prerequisites: Principles of Health Science; Principles of Nursing Science; and Anatomy & Physiology**

The Science of Nursing course introduces students to basic research-based concepts in nursing. Topics include the nursing process, the importance of critical thinking to patient care, regulatory agencies, and professional organizations. Instruction includes skills needed to pursue a nursing degree and training requirements required for specialty nursing roles. Knowledge and skills learned will include emergency care, patient assessment, basic interpretation of vital signs, identification of patients with physical and mental disabilities, patient positioning, use of assistive devices, and application of nursing theories in patient care plans.

**Note: This course requires a Course Interest Form to be submitted.**

## South Texas College General Medical Science Pathway

Course # Various

**Grade Placement: 10-12**

**Credits: Various**

**Prerequisite: Meet South Texas College acceptance criteria**

**Local Prerequisites: Biology; Principles of Health Science; and Medical Terminology**

This pathway enables students to take general prerequisite coursework that is common to many medical degree programs.

Students are encouraged to investigate what exact coursework comprises the bachelor's degree program they intend to pursue after high school to ensure that the prerequisite coursework they take as part of this pathway will be applicable. Students are also encouraged to call the post-secondary college or university they intend to enroll into after high school to find out whether the courses they are planning to take as part of this track will be able to transfer into their desired degree program. Contact your school Counselor for more information on how to enroll into this pathway.

**Note: This program has an STC application process in place.**

## STC Dual Enrollment Medical Science Academy (DEMSA)

Course # 1008 & 2008

**Grade Placement: 11-12**

**Credit: 1 per course**

**Prerequisite: Meet South Texas College acceptance criteria; 2-Year Commitment**

This South Texas College (STC) Dual Enrollment Medical Science Academy (DEMSA) is a two year-round dual enrollment program developed for high school juniors and seniors who are seriously interested in pursuing a career in health care. The purpose of this academy is to increase the number of rural area students committed to careers and service in Medicine, Pharmacy Dentistry, Nursing, Allied Health, and others. This academy is designed to encourage area high school students into the health care professions by providing college coursework and health related opportunities that will motivate, educate, and prepare students for higher education in the field of medicine. With the support of the local health providers, the Dual Enrollment Medical Science Academy will promote and participate in efforts that will reinforce the schools' and communities' commitment to prepare students for careers in health care. Contact your school Counselor for more information on how to enroll into this program.

**Note: This program has an STC application process in place.**