

Interested in a Career in Health Care or Medicine?

Academy of Health Professions

**Become a Certified Nursing Assistant; learn about
the field of pharmacy,
and earn college credit in high school.**



**Pharmacy and Pharmaceutical Sciences and
Medical Science Pathways available
at Paint Branch High School**

**Begin the pathway to your career
in your freshman or sophomore year.**

Pharmacy and Pharmaceutical Sciences



Program Overview

The Pharmacy and Pharmaceutical Sciences pathway prepares students to pursue further education in the field of pharmaceutical sciences. The pathway consists of four courses, including two courses that provide students with foundational skills in health care (Foundations of Medicine and Health Sciences and Structure and Functions of the Human Body), followed by Fundamentals of Pharmacy, and a culminating internship/industry-mentored capstone project. The Pharmacy and Pharmaceutical Sciences pathway is based on existing academic standards in science, math, and English as well as workplace standards from the National Consortium on Health Science Technology Education (NCHSTE) and the American Society of Health System Pharmacists (ASHSP).

Foundations of Medicine and Health Sciences

[Course Number 4044/4045]

This first course in the series is designed to provide students with an overview of the therapeutic, diagnostic, environmental and information systems of the health care industry. Students will begin to prepare for a medical or health science career by developing a broad understanding of the cluster and pathways in the Health and Bioscience cluster. Students will learn about ethical and legal responsibilities, as well as the history and economics of healthcare. As students learn to use medical terminology within a variety of medical and health care environments, they will begin to develop the academic and technical skills necessary to function as a health professional.

Grade: 9 or 10

Required Co-requisite: Biology or Honors Physics

Structures and Function of the Human Body

[Course Number 4042/4043]

This course is designed to provide students with an overview of the structures and function of the human body, including cellular biology and histology. Systematic study involves homeostatic mechanisms of the integumentary, skeletal, muscular, cardiovascular, pulmonary, nervous, urinary, endocrine, lymphatic, and immune systems. Students will investigate the body's responses to the external environment, maintenance of homeostasis, electrical interactions, transport systems, and energy processes. Students will conduct laboratory investigations and fieldwork, use scientific methods during investigations to solve problems and make informed decisions. Students will learn the medical terminology related to body systems.

Grade: 10 or 11

Prerequisite: Completion of Foundations of Medicine and Health Science

Required Co-requisite: Algebra 2 or a higher level math course, and Biology if not previously completed

Fundamentals of Pharmacy

[Course Number 3684/3685]

This course is intended to introduce students to the world of pharmaceutical sciences. The majority of this course will be spent in a lab-based classroom setting for hands-on, relevant training and will utilize the PassAssured Pharmacy Training CD-ROM/web based program. On average, students will participate in 1 to 2 lab activities per week to extend knowledge.

Grade: 11 or 12

Prerequisite: Completion of Foundations of Medicine and Health Science, Structures and Function of the Human Body and Chemistry

Required Co-requisite: Enrollment in an advanced-level science course such as AP Chemistry, AP Biology, Physics/AP Physics

Guided Research in Health Professions and Biosciences

This course involves an application of the skills and knowledge acquired in previous courses. Students will have the option of completing an internship that includes an industry-mentored project or enrolling in a post-secondary pharmacy related course. Students, parents, and instructors will play an integral part in determining which type of experience will be most beneficial and supportive of their individual goals. Students opting for an internship experience will be guided by a work-based learning agreement developed in partnership with industry, the instructor and the student.

Grade: 12

Prerequisite: Completion of Fundamentals of Pharmacy

Medical Science



Program Overview

The Medical Science pathway provides students with certified health care skills that enable them to train and work alongside health care professionals in various settings. Instruction focuses on anatomy, physiology, related-disease conditions, medical terminology, patient care skills, and current health care issues. Other areas of emphasis include body mechanics, vital signs, principals of infection control, and care of the hospitalized patient. The Medical Science pathway prepares students for a career as a doctor, nurse, therapist or a variety of other health care related careers. The pathway consists of four courses, including two courses that provide students with foundational skills in health care (Foundations of Medicine and Health Sciences and Structures and Function of the Human Body), followed by Medical Science with Clinical Applications and Medical Internship.

Foundations of Medicine and Health Sciences

[Course Number 4044/4045]

This first course in the series is designed to provide students with an overview of the therapeutic, diagnostic, environmental and information systems of the health care industry. Students will begin to prepare for a medical or health science career by developing a broad understanding of the cluster and pathways in the Health and Bioscience cluster. Students will learn about ethical and legal responsibilities, as well as the history and economics of healthcare. As students learn to use medical terminology within a variety of medical and health care environments, they will begin to develop the academic and technical skills necessary to function as a health professional.

Grade: 9 or 10

Required Co-requisite: Biology or Honors Physics

Structures and Function of the Human Body

[Course Number 4042/4043]

This course is designed to provide students with an overview of the structures and function of the human body, including cellular biology and histology. Systematic study involves homeostatic mechanisms of the integumentary, skeletal, muscular, cardiovascular, pulmonary, nervous, urinary, endocrine, lymphatic, and immune systems. Students will investigate the body's responses to the external environment, maintenance of homeostasis, electrical interactions, transport systems, and energy processes. Students will conduct laboratory investigations and fieldwork, use scientific methods during investigations to solve problems and make informed decisions. Students will learn the medical terminology related to body systems.

Grade: 10 or 11

Prerequisite: Completion of Foundations of Medicine and Health Science

Required Co-requisite: Algebra 2 or a higher level math course, and Biology if not previously completed

Medical Science with Clinical Applications

[Course Number 3889/3890]

This double period course engages students in the study of disease, disease processes, and patient care. It prepares students to approach complex patient issues systematically. Students will use their knowledge of anatomy and physiology and client care concept mapping to examine the impact of disease on body systems and overall homeostasis. Key concepts embedded in the curriculum include modalities to conduct in-depth case analysis, pathophysiological changes, associated signs and symptoms, and relevant treatment and care. In addition, students will apply their knowledge and skills in a healthcare facility and will have the opportunity to earn Basic Life Support and Nursing Assistant Certifications.

Grade: 11 or 12

Prerequisite: Biology A/B with a minimum grade of B, Foundations of Medicine and Health Science, and Structures and Function of the Human Body

Required Co-requisite: Chemistry A/B and Medical Terminology

Age requirement: Students must reach the age of 16 years by the first day of the spring semester.

(Students may need to allow a period for travel to and from the clinical site during the second semester.)

Please Note: *Space in this class is very limited. Students will be screened for both grades and attendance. Minimum cumulative nonweighted GPA of 2.5 is required for consideration. To apply to this program, students must complete the county-wide medical careers application form available on the MCPS and Paint Branch websites.*

Concurrent Enrollment Science (Medical Terminology)

Students enrolled in Medical Science with Clinical Applications [Course Number 3889] will be co-enrolled in Medical Terminology, also known as Montgomery College HINM 115 Medical Terminology I. This is a rigorous one semester college level course. Upon completion of this course with a 78% or above the student should take the Montgomery College challenge exam. Two college credits will be awarded for passing the exam. Students will learn to use medical terminology with an emphasis on building the vocabulary required of the beginning medical professional.

Grade: 11 or 12

Prerequisite: Biology A/B with a minimum grade of B and a minimum cumulative GPA of 2.5

(This course is only offered in the first semester.)

Medical Careers Internship

[Course Number 5415]

Students who have successfully completed medical Science with Clinical Applications and have earned Maryland State Certification as a Nursing Assistant in 11th grade may elect an internship in the 12th grade for two periods under the supervision of the Medical Science teacher. These internships are specifically related to a chosen medical profession.

Grade: 12

Prerequisite: Completion of Medical Science with Clinical Applications A/B with a minimum grade of B, recommendation of the Medical Science teacher, and Maryland Board of Nursing Certification as a Nursing Assistant