

Health Sciences

Pathways and Courses	Grades	Prerequisites
Therapeutic Services		
Emergency Medical Responder (EMR)	11, 12	
Diagnostic Services		
Project Lead the Way: Principles of Biomedical Sciences (PBS)	9, 10, 11, 12	
Project Lead the Way: Human Body Systems (HBS)	10, 11, 12	Project Lead the Way: PBS
Project Lead the Way: Medical Interventions (MI)	11, 12	Project Lead the Way: PBS
Project Lead the Way: Biomedical Innovation (BI)	11, 12	Project Lead the Way: PBS
Foundational Knowledge and Skills		
Medical Terminology	9, 10, 11, 12	
Health Care Core	9, 10, 11, 12	
Health Careers Exploration Program and Health Internship	11, 12	Courses must be taken concurrently

Healthcare is the largest and fastest growing industry in the United States. In Health Science courses, students are prepared for a career that promotes health, wellness and diagnosis, and treats injuries and diseases. Some careers involve working directly with people, while others involve research into diseases or collecting and formatting data and information. You could work in hospitals, medical or dental offices, laboratories, communities, medivac units, or sports arenas.

THERAPEUTIC SERVICES

DISCOVERY ACADEMY: FIRST RESPONDER

Grade 10, 11, 12

Length of Course: Two trimesters

Students will be enabled to apply the fundamental skills and knowledge required to function as an entry level First Responder. Emphasis will be placed on skills needed for the recognition of, and emergency care of sick or injured people, utilizing basic EMS equipment and assisting Emergency Medical Technicians once they have arrived. This course is designed for non-ambulance personnel such as law enforcement, fire, rescue, DNR, industry, and private citizens who are involved in pre-hospital emergency care and are first on the scene in an emergency. This class will take place at Tech High School.

DIAGNOSTIC SERVICES

PROJECT LEAD THE WAY: PRINCIPLES OF BIOMEDICAL SCIENCES (PBS)

Elective: 9, 10, 11, 12

Offered: All Year

Meets Biology credit/standards

In the introductory course of the PLTW Biomedical Science Program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical Treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

PROJECT LEAD THE WAY: HUMAN BODY SYSTEMS (HBS)

Elective: 10, 11, 12

Trimester Offered: All Year

Prerequisite: Principles of the Biomedical Sciences (PBS)

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal manikin, use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real world medical cases.

PROJECT LEAD THE WAY: MEDICAL INTERVENTIONS (MI)

Elective: 10, 11, 12

Trimester Offered: All Year

Prerequisite: Principles of the Biomedical Sciences (PBS)

Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the cod in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

PROJECT LEAD THE WAY: BIOMEDICAL INNOVATION (BI)

Elective: 11, 12

Trimester Offered: All Year

Pre-Requisite: Principles of Biomedical Sciences (PBS)

In the final course of the PLTW Biomedical Science sequence, students build on the knowledge and skills gained from previous courses to design innovative solutions for the most pressing health challenges of the 21st century. Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology. They have the opportunity to work on an independent design project with a mentor or advisor from a university, medical facility, or research institution.

FOUNDATIONAL KNOWLEDGE AND SKILLS

MEDICAL TERMINOLOGY

Elective: 9, 10, 11, 12

Length of Course: One Trimester

Medical terminology is the study of the principles of medical word building to help the student develop the extensive medical vocabulary used in health care occupations. Students receive a thorough grounding in basic medical terminology through a study of root words, prefixes and suffixes.

HEALTH CARE CORE CURRICULUM

Elective: 9, 10, 11, 12

Length of Course: One Trimester

This course includes a series of entry-level modules that are essential and valued from all health career professionals found in any healthcare setting. This course is a standardized competency based Healthcare Curriculum that prepares students for the rapidly changing healthcare careers. Students will learn basic healthcare fundamentals that are common to all health care careers, knowledge to make career choices, and pathways to multiple health careers. This course answers the following question: "What does a worker need to know and be able to contribute to the delivery of safe and effective healthcare?"

HEALTH CAREERS EXPLORATION "T"

(Credit at SCTC is granted for HLTH 1825, Medical Terminology, if the student meets the Articulated Credit Requirements)

Elective: 11, 12

Length of Course: All Year

Prerequisite: Biology (A or B) Human Anatomy & Physiology is recommended.

Qualifications: Reliable transportation, Application with two letters of recommendation, and strong evidence of personal responsibility and professionalism.

Topics include: Resume writing, job applications, interviewing and employability skills, First Aid/CRP/AED, Bio-ethics, current events in healthcare, service learning (at long-term care facilities), exposure to post-secondary education and training, and Medical Terminology. Over 35 health career professionals serve as guest speakers and mock interviews throughout the course. The unique career exploration program provides invaluable opportunities for students to participate in two 25 hour job

shadow experiences at one of St. Cloud area's health care organizations. Please be advised there is a great deal of independent study in this course so person responsibility and maturity is essential for success.

HEALTH INTERNSHIP "T"

(Credit at SCTC is granted for HLTH 1825, Medical Terminology, if the student meets the Articulated Credit Requirements)

Elective: 11, 12

Length of Course: All Year

Prerequisite: This course MUST be taken with Health Careers

The course is designed to provide students with two off campus internships in a medical career field which begins in mid-October. The course offers guest speakers from various medical careers, long-term care facility experience, tours of medical facilities and other opportunities focused on health careers. Students must be able to provide their own transportation.