

HEALTH SCIENCE AND MEDICINE PROGRAM OF STUDY

Pathway Description

The health care industry is one of the fastest growing sectors in the realm of employment opportunities, as well as the number one employer in Cumberland County. The overall health, both of New Jersey's economy and its people, is clearly tied to the capabilities of this evolving profession. Our program will help to prepare students for a wide array of career opportunities in the health care field including: nurses, surgical technicians, physicians, dentists, pediatricians, physical therapists, dietitians, pharmacists, and various other health care occupations. The curriculum provides an overview of the different fields present in the health care sector along with targeted courses on systems of the human body, medical terminology, and various aspects of clinical research and emergency care.

This pathway includes a rigorous series of courses including: Introduction to the Healthcare Profession, Dynamics of HealthCare, Medical Terminology, Emergency Clinical Care, Anatomy and Physiology I & II, and Introduction to Clinical Research.

Students additionally will have the opportunity to earn dual credit by taking these classes through CCTEC's partnership with Rutgers University. As an additional program feature, students will be able to gain certifications for entry-level health care positions upon high school graduation.

HEALTH SCIENCE AND MEDICINE PROGRAM OF STUDY
Course Sequence

CORE	GRADE 9	GRADE 10	GRADE 11	GRADE 12
ENGLISH	ENGLISH I	ENGLISH II	ENGLISH III OR AP LANGUAGE/COMP	ENGLISH IV OR AP LITERATURE/COMP
SOCIAL STUDIES	WORLD HISTORY	US HISTORY I OR PRE AP US HISTORY I	US HISTORY II OR AP US HISTORY II	AP HISTORY OR SS ELECTIVE OR FINANCIAL LITERACY*
MATHEMATICS	ALGEBRA I OR GEOMETRY	GEOMETRY OR ALGEBRA II	ALGEBRA II OR PRECALCULUS	PRECALCULUS OR AP CALCULUS AB/BC OR MATH ELECTIVE
SCIENCE	BIOLOGY	CHEMISTRY	PHYSICS OR AP PHYSICS I	AP BIOLOGY OR SCIENCE ELECTIVE
HEALTH/PHYSICAL EDUCATION	FITNESS AND HEALTH I	FITNESS AND HEALTH II	FITNESS AND HEALTH III	FITNESS AND HEALTH IV
CTE MAJOR	INTRODUCTION TO THE HEALTHCARE PROFESSION	MEDICAL TERMINOLOGY	EMERGENCY CLINICAL CARE* & INTRODUCTION TO CLINICAL RESEARCH*	ANATOMY AND PHYSIOLOGY II*
INTERDISCIPLINARY STUDIES	APPLICATIONS IN ART	DYNAMICS OF HEALTH CARE*	ANATOMY AND PHYSIOLOGY I*	CNA, SPORTS MEDICINE, OR CCMA ELECTIVE
WORLD LANGUAGE	SPANISH I	SPANISH II	SPANISH III	AP SPANISH OR ELECTIVE

** Articulated Credits with Rutgers University – Students will receive a Rutgers transcript for the 5 displayed courses (upon successful course and exam completion). *Students must also take Financial Literacy senior year in place of History, Math, or World Language (NJ State Graduation Requirement).*

Health Science and Medicine Program of Study
Course Credits

Freshman

English I	5 credits
World History	5 credits
Algebra I or Geometry	5 credits
Biology	5 credits
Spanish I	5 credits
Fitness and Health I	5 credits
Applications in Art	5 credits
Introduction to the Healthcare Profession	5 credits

Sophomore

English II	5 credits
US History I or Pre-AP US History I	5 credits
Geometry or Algebra II	5 credits
Chemistry	5 credits
Spanish II	5 credits
Fitness and Health II	5 credits
Dynamics of Healthcare	5 credits
Medical Terminology	5 credits

Junior

English III or AP Language/Comp	5 credits
US History II or AP US History II	5 credits
Algebra II or Pre-calculus	5 credits
Physics or AP Physics I	5 credits
Spanish III	5 credits
Fitness and Health III	5 credits
Anatomy and Physiology I	5 credits
Introduction to Clinical Research	2.5 credits
Emergency Clinical Care	2.5 credits

Senior

English IV or AP Literature /Comp	5 credits
AP History or SS Elective or Financial Literacy	5 credits
Pre-calculus or AP Calculus AB/ BC or Math Elective or Financial Literacy	5 credits
AP Biology or Science Elective	5 credits
AP Spanish or Elective or Financial Literacy	5 credits
Anatomy and Physiology II	5 credits
Fitness and Health IV	5 credits
CNA, Sports Medicine, or CCMA Elective	5 credits

Health Science and Medicine Program of Study
Course Descriptions

Course Title: Introduction to the Healthcare Profession

Grade Level: 9

Credits: 5

This first year course is intended for students who are planning for a career in health care or a health related field. It provides students with a foundation for high school success, as well as an introduction to the various health professions, resources for career planning, and the concepts of professionalism, health care ethics, cultural competence, interdisciplinary health care teams, world health issues and health care policies.

Course Title: Dynamics of Health Care in Society

Grade Level: 10

Credits: 5

Dynamics of Health Care in Society is an orientation to health care and delivery, from an interdisciplinary perspective, with a focus on process skills to include critical thinking, ethical reasoning, effective communication, and self-directed learning abilities. The professional competencies stress application to general issues and topics common to all health care providers. Emphasis is placed on the role of the health care practitioner as both provider and consumer of health care services.

Course Title: Medical Terminology

Grade Level: 10

Credits: 5

Medical Terminology is the study of words that pertain to body systems, anatomy, physiology, medical processes and procedures and a variety of diseases. It provides specialized language for the health care team, enabling health care workers to communicate in an accurate, articulate and concise manner. This course is designed to give the students a comprehensive knowledge of word construction, definition and use of terms related to all areas of medical science. The course includes but is not limited to terms related to anatomy of the human body, functions of health and disease, and the use of language in processing medical/dental records and claim forms.

Course Title: Anatomy and Physiology I

Grade Level: 11

Credits: 5

Anatomy and Physiology is the study of the structure and function of the human body. This course follows a sequential development of the major body systems in an organized and structured curriculum. The course is designed to give the students a selective overview of human anatomical structure and an analysis of human physiological principles. Labs will include slide work, dissection of various animals and studies of the human skeleton. The course will also use computer simulated dissection.

Course Title: Emergency and Clinical Care

Grade Level: 11

Credits: 2.5

Emergency and Clinical Care is a course that describes how to respond to emergencies before medical help arrives. The course is designed to give the students the knowledge of how to recognize and respond to an emergency. The intent of the course is to help the students feel more confident in their ability to act appropriately in the event of an emergency. Students are prepared to 1) obtain a patient medical history, 2) take and record vital signs relative to medical/dental treatment, and 3) acquire cardiopulmonary resuscitation certification.

Course Title: Introduction to Clinical Research

Grade Level: 11

Credits: 2.5

This course is designed to provide students with a basic understanding of what clinical research is and the scientific principles on which it is based. The course starts with a historical perspective on clinical research and then goes on to explore in detail the following topics: purpose and phases of clinical research, clinical trial development and conduct, ethical and regulatory implications, and the roles and responsibilities of all parties involved in clinical research.

Course Title: Anatomy and Physiology II

Grade Level: 12

Credits: 5

Anatomy and Physiology II is a continuation of the study of structures and functions of the body from part one. The course examines various systems of the body that were not previously studied in Anatomy and Physiology I. Students gain greater insight into the functioning of the body as a whole and develop a broader perspective on homeostatic imbalances.

Course Title: Certified Nursing Assistant (CNA) Elective

Grade Level: 12

Credits: 5

This course is a New Jersey Department of Health approved training course for nurse's aides. The purposes of the course are to provide the caregiver with the basic nurse aide knowledge and skills needed to care for residents of long-term care facilities and to prepare the nurse's aide to assume the responsibilities of a trained caregiver. Instructional topics will include: introduction to the concept of long-term care, responsibilities of the nurse's aide, institutionalization, rights of patients, communication and interpersonal skills, universal precautions, proper disposal, safety, sanitation, infection control, positive work environment, accident prevention, protective devices, and mental health. . It consists of 90 hours of training including 50 hours of classroom instruction and 40 hours of clinical experience in a New Jersey licensed long-term care facility. Federal Regulations require at least a total of 16 hours of training in the areas of: communication and interpersonal skills, infection control, promoting residents independence and respecting residents' rights, and safety/emergency procedures including Heimlich maneuver, be taught to the student prior to any direct contact with a resident.

Course Title: Sports Medicine Elective

Grade Level: 12

Credits: 5

Sports Medicine is a course designed for students interested in pursuing careers in fields such as athletic training, physical therapy, medicine, fitness, physiology of exercise, and kinesiology, as well as other related fields. The course includes theory and practical applications in the following areas: prevention, treatment, and rehabilitation of sports injuries, taping and wrapping of injuries, first aid, CPR, and anatomy and physiology. This program will also offer practical experiences with local sports medicine specialists. Completers of the Sports Medicine program will possess the skills and competencies required for entry level work as well as a foundation for pursuing post-secondary education. As a specific course feature, students will be able to earn a certification as a Personal Trainer.

Course Title: Certified Clinical Medical Assistant (CCMA) Elective

Grade Level: 12

Credits: 5

This Medical Assisting course is designed to teach students the skills necessary for employment in a modern medical facility. A qualified medical assistant is capable of performing a wide range of duties. Medical assistants provide important health care services when they perform phlebotomy procedures and assist in the collection and processing of patient specimens. Students will learn about patient care which encompasses more than just what patients experience after entering a physician's office, hospital, clinic, or other medical care setting. They will also learn that during all procedures, aseptic techniques should be maintained to help prevent infection. Furthermore, students will learn about verification of correct dosages and medication, proper patient identification, test requisition review, and site choices all in the realm of performing blood draws. This course will also provide an overview of information necessary to systematically approach the EKG and interpret arrhythmias encountered in the clinical setting.