

J Harley Bonds Career Center Health Science Courses

Intro to Health Science / Intro to EMS The first course introduces students to the foundations of healthcare and the various career opportunities in the Healthcare field. Students explore careers currently available in the healthcare industry. The foundational aspect will include the health care systems, infection control, and legal issues facing the health care provider and patient. Intro to EMS 1 is designed to teach students about emergencies and how to overcome reluctance to act in emergency situations. The curriculum includes instruction in areas of healthy lifestyles, medical terminology, disaster preparedness, and injury prevention. Skills will include vital signs, adult/infant/child cardiopulmonary resuscitation (CPR), and adult/child automated external defibrillation (AED). These courses must be taken together in one semester. Each course is 1 unit.

Anatomy using clay^H Students will focus on the anatomy and physiology of the body using a creative hands-on approach. This is a structure and function based course. The pathology of disease processes will be discussed from the healthcare prospective. This hands-on approach allows students to “build” their own person that includes the majority of the body systems. This is a one semester course.

Medical Terminology^H This is an introduction to the language of medicine. The information learned will give students a definite advantage in college health science courses and in their future careers. Using computer software and interactive classroom games students learn the common prefixes, suffixes, and terms with each body system along with the basic anatomy and conditions of each system. This is a one semester course.

Health Science - Skills^H This is a hands-on skills course that focuses on the foundational skills needed for entry level nursing or medical assisting careers. Examples of some of the skills included are: blood pressure and pulse, temperature, respirations, bed making, and the transfer of patients. Students will also learn the academic foundations needed for these skills. This is a one semester course.

Pharmacology Tech^H This course is designed to provide seniors with information and knowledge to take the national certification exam for Pharmacy Tech. It is open only to seniors with the permission of the instructor. The student must pay \$250.00 to take this course. Students must sign up to take the National Pharmacy Technician Exam at their own expense after they have earned their high school diploma. This is a one semester course.

Sports Medicine 1^H This course focuses on the basic fundamentals of Sports Medicine including an anatomy overview, basic emergency procedures. Students will learn to tape, wrap and splint various injuries. CPR for the Professional Rescuer, and Standard First Aid Certifications offered by the American Red Cross are also part of this course. Students will learn through hands-on laboratory and classroom experiences. This is a one semester course.

Sports Medicine 2^H This course is designed to provide a broad understanding of the assessment and rehabilitation of athletic injuries as well as the assessment of other medical conditions. modalities and exercise in the care and rehabilitation of injuries will be covered during classroom discussions, activities, and physical activities will be discussed. The use of therapeutic laboratory experiences. This course is designed to provide the Specific conditions and injuries that may be experienced during

preliminary knowledge that will be necessary for health care careers that require hands-on assessments and evaluations. This is a one semester course.

PROJECT LEAD THE WAY (PLTW) Health Science Curriculum: All PLTW courses have an online component in addition to the lab component. This intense health science program is intended for 4-year college bound students who are interested in the upper level health science careers, such as physician, surgeon, pharmacy, biomedicine, nursing (RN), & nutrition.

1st PLTW course: Principles of the Biomedical Sciences

This course provides an introduction to the biomedical sciences through exciting hands-on projects and problems. Student work involves the study of human medicine, research processes and an introduction to bio-informatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. Key biological concepts including homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. This is a one semester course.

2nd PLTW course: Human Body Systems Students examine the processes, structures, and interactions of the human body systems to learn how they work together to maintain homeostasis (internal balance) and good health. Using real-world cases, students take the role of biomedical professionals and work together to solve medical mysteries. Hands-on projects include designing experiments, investigating the structures and functions of body systems, and using data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Important concepts covered in the course are communication, transport of substances, locomotion, metabolic processes, defense, and protection. This is a one semester course.

3rd PLTW course: Medical Interventions^H Student projects investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. The course explores the design and development of various medical interventions, including vascular stents, cochlear implants, and prosthetic limbs. In addition, students review the history of organ transplants and gene therapy, and stay updated on cutting-edge developments via current scientific literature. Using 3D imaging, data acquisition software, and current scientific research, students design a product that can be used as a medical intervention. This is a one semester level course. Prerequisite: Principles of the Biomedical Sciences AND Human Body Systems.

4th PLTW course: Biomedical Innovation^H Students design innovative solutions for the health challenges of the 21st century. They work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project with a mentor or advisor from a university, hospital, research institution, or the biomedical industry. Throughout the course, students are expected to present their work to an audience of STEM professionals. This course is designed for 12th grade students.

^H denotes that course is offered in the second year of the program and will be offered at an honors level.

^{EC} denotes that students have the opportunity to earn Early College credit through Greenville Technical College in this program.

** Bus Transportation is provided to and from Blue Ridge High, Eastside High, Greer High, Riverside High, and Wade Hampton High twice daily. Students may also drive their personal vehicle with approval from parents and high school.