



The Science and Medicine Academy at Deep Creek High School, established in 2011, is a school within a school. The goal of the program is to greatly enhance students' knowledge, attitudes and skills while introducing awareness of the vast opportunities available in the fields of science and medicine. Students throughout the city apply for admission into the academy in the spring of their eighth grade year, and up to sixty freshmen are accepted into the program each year. Students must have a 3.0 grade point average or higher, teacher recommendations, successful completion of Algebra I and evidence of interest in science or medicine as demonstrated through completing an applied science assessment. Students who are admitted into the program are provided a student-centered learning environment which prepares them for competitive post-secondary learning. This is accomplished by providing a specialized, rigorous curriculum which is heavily focused on the science and medical fields.

The intensified curriculum is one thing that sets the Science and Medicine Academy apart from other programs. It requires that students take a minimum of two science classes a year with the opportunity to take even more during their junior and senior years. A standard high school diploma only requires three credits of science; students in the Science and Medicine Academy graduate with at least eight science credits. In addition to typical Advanced Placement (AP) and Dual Enrollment (college credit) courses offered, the Science and Medicine Academy offers other specialized courses including but not limited to the following: Forensic Science, Astronomy, Human Anatomy and Pathophysiology of Human Systems, Animal Science, Molecular Genetics and Biotechnology, Sports Medicine and Athletic Injury, Medicinal Chemistry, AP Environmental Science, and Health, Wellness and Disease. Furthermore,

students enter the program having already completed Algebra I, so they are on track to complete the following math courses: Honors Geometry, Algebra II/Trigonometry, Math Analysis, Calculus, AP Calculus, and AP Statistics. The curriculum also requires students to complete a twenty hour job shadowing experience during their junior year and an Advanced Senior Seminar class which includes a sixty hour internship during their senior year. In order to be able to provide a plethora of learning opportunities for students, the Academy has many community partners including but not limited to: Plastic Surgery Associates of Tidewater; The Group for Women; U.S. Army Corps of Engineers; Lawrence Pharmacy; Frank Reidy Research Center for Bioelectrics; Sentara; NASA; Midway Veterinary Hospital; Virginia Eye Consultants; Tidewater Physical Therapy, Inc.; City of Chesapeake; Virginia Department of Health; Eastern Virginia Medical School (EVMS); Pariser Dermatology; Chesapeake Regional Medical Center; Children's Hospital of the King's Daughters (CHKD); and Virginia Modeling, Analysis and Simulation Center (VMASC). The Science and Medicine Academy gives students a chance to explore many different branches of science and medicine and gives them an opportunity to work with specialized equipment.

In addition to the intensified coursework, students participate in at least eight field trips which provide opportunities to see many different STEM related technologies and jobs and have varied hands-on experiences. Guest speakers play a large part in making the Science and Medicine Academy a unique program. While in the four year program, students will have the opportunity to hear many guest speakers representing a wide-range of fields. Recent guest speakers have included a Pediatric Infectious Disease Specialist, a Medical Examiner, a Physician's Assistant, a Gastroenterologist, a representative from the Forensics Lab, and a representative from NASA. These individuals presented information related to their fields and answer questions posed by students.

The success of the program can be measured in a variety of ways. Since the introduction of the program in 2011, interest throughout the city has increased. One hundred seventy-one students applied for admission the first year; the fifth year, two hundred ninety-eight students applied. In addition to the increased interest in the program, the quality of the program can also be measured by the retention rate. Of the three hundred students admitted over the last five years, thirteen have left because their families moved out of the area and only seven students have left the program to return to their home schools. Another indicator of success is how prepared students are to move on to undergraduate study upon completion of the program. The first group of students graduated from the Science and Medicine in June 2015. Each of the fifty-four graduates planned to attend college in the fall at schools such as Regent University, Virginia Commonwealth University, Old Dominion University, Virginia Tech University, James Madison University, University of Virginia, The College of William and Mary, George Mason University, Loyola University Pharmacy School, Florida Institute, Georgetown University, and Cornell University. The class as a whole earned \$3,577,751.00 in scholarship money! Many graduates planned on majoring in Biology, Chemistry, Human Nutrition/Food and Exercise Science, Psychology, Kinesiology, Biochemistry, Women and Gender Studies, and Exercise Science all with a Pre-Med track. Other majors included Animal and Poultry Science, Nursing, Physics, Forensic Science, Human Biology, Biomedical Engineering, Athletic Training, Biophysical Science, Communication Diseases and Disorders, Intelligence Analysis, Pre-Law with Integrated Science and Technology, Neuroscience, and Pre-Pharmacy.

Students who graduated in the spring of 2015 also filled out an evaluation of the program. Here is what a few of them had to say:

“My job shadowing experience was a once in a lifetime, behind the scenes look at the daily life of an equine veterinarian. I gained firsthand knowledge of veterinary medicine including vaccinations, surgical procedures and routine checkups. Job shadowing allowed me to

see whether being an equine veterinarian is the right career path to follow and for that I am truly grateful.”

“The thought of leaving high school is both scary and exciting, but I know I have been prepared to take on the challenges of post-secondary institutions through the rigorous coursework, job shadowing and internship. I am equipped to move on and leave my mark behind for the SMA underclassmen.”

“My internship gave me the opportunity to explore the field of plastic surgery. It provided me an experience that cannot be found or taught from any book.”

The Science and Medicine Academy offered by Chesapeake Public Schools is a permanent program which launches students on a path to many different STEM related careers. Through an intensive, rigorous curriculum including many field trips and guest speakers, students have the opportunity to explore and study a variety of sciences and have a myriad of hands-on, real world experiences before leaving high school. For the students who graduate from the program, participating in the Academy is life changing.