Virginia Aerospace Science and Technology Scholars Summary

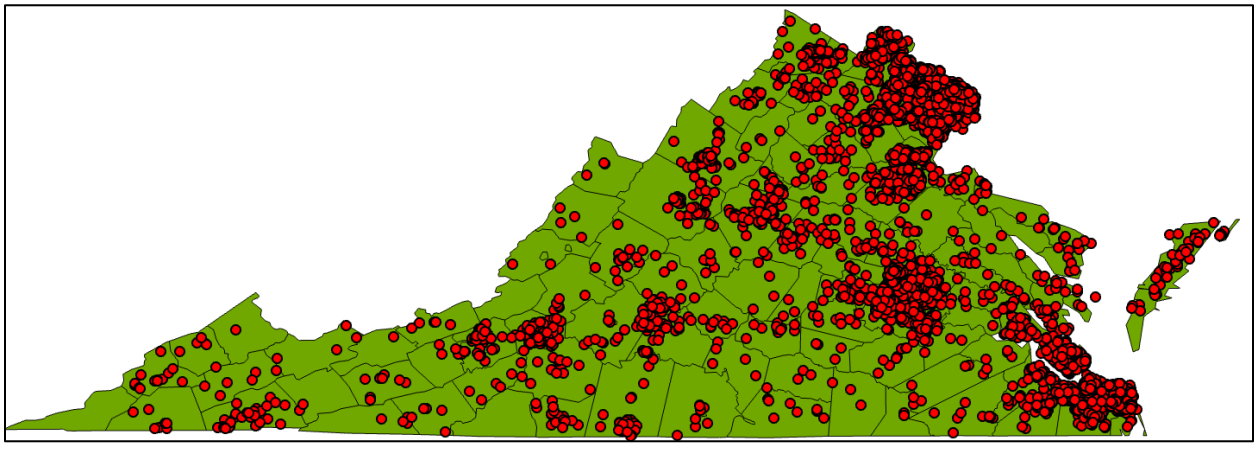
The Virginia Aerospace Science and Technology Scholars (VASTS), run by the Virginia Space Grant Consortium (VSGC), is an interactive semester long on-line science, technology, engineering and mathematics learning experience for 11th and 12th grade students in Virginia, highlighted by a seven-day residential summer academy at NASA Langley Research Center in Hampton, Virginia. Students apply to the program in the early fall of each year, and the online portion of the program runs November through April. Thanks to support by NASA Langley Research Center and the Commonwealth of Virginia, we are able to offer the program at no costs to a student, which opens this opportunity to students who do not have the means to pay for such an opportunity. To date, nearly 6200 students have engaged in the VASTS Online Course and over 2400 students have engaged in the VASTS Summer Academy. Students participating in VASTS have represented all Virginia State Senate and Virginia State Delegate districts.

VASTS Demographics

	2008-2017	2018	2019	2020	2021	2022
Total Participants	3941	485	421	422	495	414
Males (%)	65.6	62	58	61	56	57
Females (%)	34.4	38	42	39	44	43
Underrepresented Minorities (%)*	17	20	19	17	21	22
Career and Technical Education-track Students (%)	35	47	45	37	44	44
Virginia Senate Districts Represented (%)	100	95	100	100	100	97.5
Virginia House Districts Represented (%)	100	90	86	88	90	91

**Self Reported. Up to 12% of students have indicated "Other"*

VASTS Geographic Distribution
2008-2022



VASTS Summer Academy Specifics

In May of each year, high performing students from the VASTS online course are selected to attend the prestigious VASTS Summer Academy. Students selected to participate in the Summer Academy are immersed in the design of a hypothetical human sample return mission to Mars through interaction with NASA Langley Research Center scientists, engineers and technologists. At the culmination of the Summer Academy, students present their Mars mission design to a panel of NASA and aerospace industry experts. Starting in 2008, VASTS was originally modeled after the highly successful, NASA award winning Texas Aerospace Scholars program developed by NASA Johnson Space Center. Virginia Space Grant Consortium has continued to modify and refine the experience in the VASTS program to fulfill the needs of Virginia's students.

The VASTS program aims to impact students in the fields of Engineering and Technical Writing, preparing students for entry into the modern STEM workforce, development of engineering workplace "soft skills", and introducing Aerospace concepts that are not adequately covered by the traditional high school classroom curriculum. To measure these impacts, students are longitudinally tracked for 6 years beyond their participation in the program. Students have reported increased confidence in their writing abilities and their soft skills. Further results from the program's longitudinal tracking also show that VASTS alumni overwhelmingly (approximately 95%) choose STEM disciplines as college majors, and a number of students have already entered into the STEM workforce at NASA and related employers. External evaluation has shown that the impacts of the VASTS program have shown to be meaningful and on target, making it a point of pride for the VSGC and its partners, NASA Langley Research Center, the Commonwealth of Virginia, and aerospace companies.

VASTS has won a number of awards throughout its 14-year history. In 2009, VASTS was awarded a NASA Langley Research Center Team Award, and in 2014 VASTS was awarded a Virginia Math-Science Coalition "Programs That Work" award.

For more information on the Virginia Space Grant Consortium, please visit http://vsgc.odu.edu/ or contact VSGC Director Mary Sandy at msandy@odu.edu.