AAES Mission & Vision

The mission of the Aerospace Academy of the Eastern Shore (AAES) is to provide at-risk and/or underrepresented populations access to the knowledge, skills and abilities needed to be successful in aerospace and adjacent industries identified as priorities by the GoVA Region 5 Economic Development Authority.

It is our vision that AAES will be an innovative, interdisciplinary school and the regional standard of excellence in preparation for the high-tech jobs in these high growth fields.

We seek to inspire students as future leaders in the aerospace industry; provide a dynamic laboratory for innovation in education; and collaborate around research to build and share knowledge of transformative practices.

Student Pathways & Instructional Model

Aerospace Academy of the Eastern Shore
(Students choose 1 of 2 pathways)

Pathway 1: Aerospace Information & Security Systems

Grade 9
- IT Fundamentals
- English 9: Ethics in Engineering & Technology

Grade 10
Cybersecurity Fundamentals

Grade 11
- Cybersecurity Operations
- Engineering Computer Science

Grade 12
Advanced Cybersecurity Operations & Capstone Project

Pathway 2: Aerospace Engineering & Explorations

Grade 9
- Intro to Aerospace Engineering Design
- English 9: Ethics in Engineering & Technology

Grade 10
Technical Drawing & Design

Grade 11
- Principles of Engineering
- Engineering Computer Science

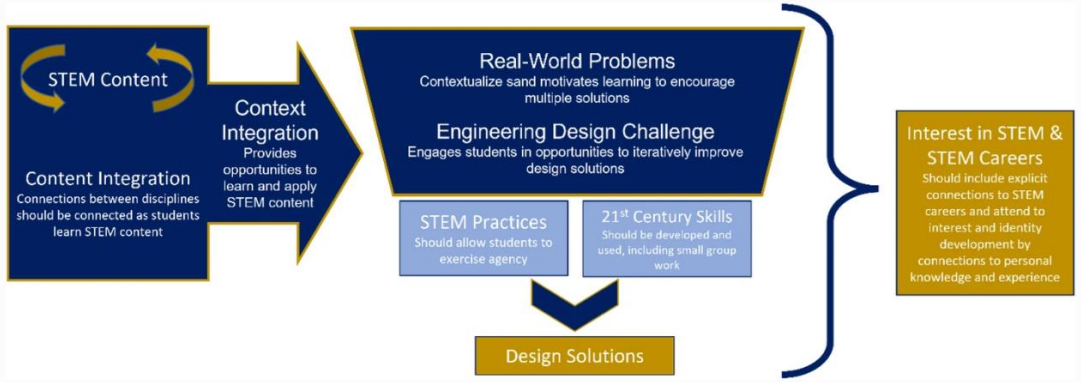
Grade 12
- Aerospace Engineering
- Engineering Design & Development Capstone Project

Grade 11
- Unmanned Aircraft Systems
- Geospatial Technology

Grade 12
- Unmanned Aircraft Systems II
- Geospatial Technology II & Capstone Project

Fig. 1

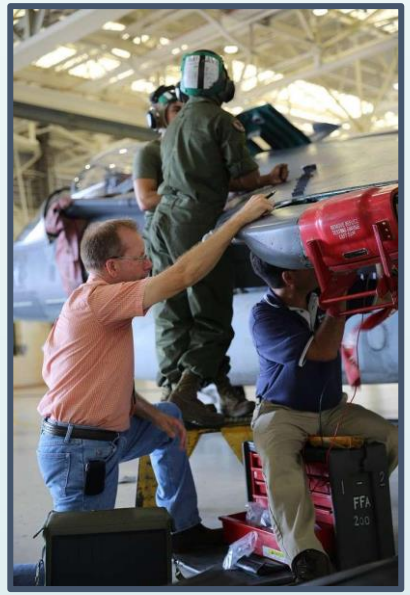
From: Beyond the basics: a detailed conceptual framework of integrated STEM



Interactions between critical characteristics of integrated STEM

Business & Industry Partners

- National Aeronautics and Space Administration (NASA) Wallops Flight Facility
- Hampton Roads Workforce Council
- Virginia Spaceport Authority
- The Nature Conservancy's (TNC) Virginia Coast Reserve
- Luminary Air Group
- Virginia Space Grant Consortium
- Hampton Roads Executive Roundtable
- Sentinel Robotic Solutions
- Virginia Space Flight Academy
- Amazon



Budget Summary & Sustainability

$ in 000's	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
Lab School Operating Costs							
Personnel	$ 382	$ 480	$ 591	$ 607	$ 616	$ 622	$ 3,298
Non-personnel Expenses	$ 252	$ 98	$ 138	$ 173	$ 183	$ 245	$ 1,089
Staff development	$ 106	$ 43	$ 55	$ 55	$ 55	$ 40	$ 354
Equip/Tech/Furniture	$ 200	$ 50	$ 50	$ 48	$ 48	$ 45	$ 441
Admin Fee	$ 60	$ 60	$ 50	$ 50	$ 50	$ 10	$ 280
Total Lab School Operating Costs	**$ 1,000**	**$ 731**	**$ 884**	**$ 933**	**$ 952**	**$ 962**	**$ 5,462**
Annual Enrollment (# of pupils)		50	100	150	200	200	200
Cost per pupil ($)		$14,620	$8,840	$6,220	$4,760	$4,810	$5,462
Estimated Lab School Funding							
Planning Grant							$ -
Start-up	$ 1,000						$ 1,000
Operating		$ 611	$ 758	$ 804	$ 827		$ 3,000
Subtotal College Partnership Lab School Fund	**$ 1,000**	**$ 611**	**$ 758**	**$ 804**	**$ 827**	**$ -**	**$ 4,000**
Outside Funding							
Grant funding		$ 25	$ 50	$ 50	$ 75	$ 100	$ 300
Philanthropic funding		$ 50	$ 50	$ 75	$ 100	$ 150	$ 425
Business & industry partner contributions		$ 50	$ 150	$ 200	$ 250	$ 300	$ 950
Subtotal Other Funding	**$ -**	**$ 125**	**$ 250**	**$ 325**	**$ 425**	**$ 550**	**$ 1,675**
Total Funding	**$ 1,000**	**$ 736**	**$ 1,008**	**$ 1,129**	**$ 1,252**	**$ 550**	**$ 5,675**
						Funding Sustainability?	**Yes**

Braided sustainability approach leveraging our Aerospace & STEM Regional Ecosystem

- Grants
- Development
- Fundraising
- Partnership position base funding
- Institutional commitment

Outcomes

Metric 1: 90% of participants graduating from the Aerospace Academy of the Eastern Shore will earn three or more college credits through the program.

Metric 2: 96% of participants graduating from the Aerospace Academy of the Eastern Shore will have completed a work based student externship.

Metric 3: 96% of participants graduating from the Aerospace Academy of the Eastern Shore will enroll in post-secondary education, join the military, or join the workforce.

- The students graduating from the Aerospace Academy of the Eastern Shore will be college, career, and citizen-ready.
- Developing a robust teacher educator pipeline.
- Generate research that will focus on areas such as inter-organizational collaboration, effectiveness of lab schools, teacher and professional learning for lab school success, student learning and engagement, and college and career readiness.