

**VIRGINIA DEPARTMENT OF EDUCATION**

Planning Grant Application for a College Partnership Laboratory School

**GENERAL INFORMATION**

**Name of Eligible Entity (Planning Grant Applicant):** Eastern Shore Community College

**Authorized Official Representative:** James Shaeffer, President

**Name of Contact Person for Application:** James Shaeffer, President

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**Office Telephone Number:** 757.787.1774

**Date of Submission:** December 9, 2022

**Amount of Funding Requested (\$200,000 maximum):** \$170,000

**Signature of Chairman of School Board of Fiscal Agent:** Eastern Shore Community College will serve as the fiscal agent.

**Printed Name:** James Shaeffer

**Title:** President

**Date:** December 9, 2022

**Indicate Proposed Name(s) of Lab School:** The Aerospace Academy Lab School of Eastern Shore (AALSES)

**Identify Proposed Physical Location(s) of Lab School:** The AALSES will encompass all 16 school divisions from Pre-K to High School in Accomack and Northampton Virginia counties and the Eastern Shore Community College:

1. Eastern Shore Community College, 29316 Lankford Hwy, Melfa, VA 23410
2. Kiptopeke Elementary School, 24023 Fairview Rd., Cape Charles, VA 23310
3. Occohannock Elementary School, 4208 Seaside Rd., Exmore, VA 23350
4. Northampton Middle School, 16041 Courthouse Rd., Eastville, VA 23347
5. Northampton High School, 16041 Courthouse Rd., Eastville, VA 23347
6. Accawmacke Elementary School, 26230 Drummondtown Rd., Accomac, VA 23301
7. Arcadia High School, 8210 Lankford Hwy, Oak Hall, VA 23416
8. Arcadia Middle School, 29485 Horsey Rd., Oak Hall, VA 23416
9. Chincoteague Elementary School, 6078 Hallie Whealton Smith Dr., Chincoteague, VA 23336
10. Chincoteague Combined School, 4586 Main St., Chincoteague, VA 23336
11. Kegotank Elementary School, 13300 Lankford Hwy, Mapps ville, VA 23407

12. Metompkin Elementary School, 24501 Parksley Rd., Parksley, VA 23421
13. Nandua High School, 26350 Lankford Hwy, Onley, VA 23418
14. Nandua Middle School, 20330 Warrior Drive, Onley, VA 23418
15. Pungoteague Elementary School, 28480 Bobtown Road, Melfa, VA 23410
16. Tangier Combined School, 4375 School Lane, Tangier, VA 23440

### **PROGRAM DESCRIPTION**

#### **General description of the program (2-3 paragraphs maximum):**

The Eastern Shore Community College (ESCC) will create The Aerospace Academy Lab School of Eastern Shore (AALSES) with the help of established community partners, schools, and organizations to help underserved youth and families pursue STEM-based careers. The AALSES will create a continuum of STEM learning from Pre-K to high school and then transitioning to the college level, culminating in career opportunity and advancement in the aerospace industry. The AALSES will provide Eastern Shore residents an opportunity to access STEM courses and programs that will prepare students for the emerging aerospace industry on the Eastern Shore. In addition to coursework, students will have internship and apprenticeship opportunities to work in the aerospace industry using established corporate partnerships, such as NASA Wallops and Goddard, Virginia Space, and companies in the Wallops Contractors' Associations.

The AALSES program will build on the strong relationship between ESCC and the school divisions in offering dual enrollment courses as well as enhance our offerings in Project Horizons, a college-track scholarship and mentoring program operated by the ESCC. Guidance counselors in local public schools identify students for the program who also have significant barriers: financial, cultural, emotional, or any combination.

The focus of the AALSES will be to enhance the ability of the Accomack and Northampton schools and ESCC to provide a curriculum in science, technology, engineering, IT, and math that prepares students for the aerospace industry. ESCC, working in partnership with schools, the Cal Ripken, Sr. Foundation, and industry experts, will develop a curriculum comprised of new and modified existing courses that best fit the workforce needs of the aerospace industry. Examples include electronics, computer science, robotics, and manufacturing, among others.

#### **Rationale for the program (2-3 paragraphs maximum):**

The Eastern Shore of Virginia is a natural hub for the aerospace industry. Wallops Island, Virginia, is one of only four locations in the United States where rockets can be launched into orbit. It is home to NASA Wallops Flight Facility (WFF), managed by NASA Goddard Space Flight Facility, Virginia Commercial Space Flight Authority (Virginia Space), and the Mid-Atlantic Regional Spaceport (MARS). To support these organizations, there are a number of private contractors located on Wallops Island. In addition to these industries, we recently celebrated the groundbreaking for a Rocket Lab manufacturing facility for the Neutron rocket that will create 250 new jobs, exacerbating the significant need for a highly trained workforce. The AALSES will develop and supplement existing STEM curriculum that will provide a pathway for students to be

qualified for the growing number of jobs in the aerospace industry, specifically here on the Eastern Shore.

By raising the quality of STEM instruction available to all 16 public school students on the Eastern Shore of Virginia, we increase the likelihood for them to pursue STEM-related careers. The AALSES will be the catalyst and instrument through which students will be offered advanced course offerings at the high school level and can serve as dual enrollment courses at the college level. Internships within aerospace-industry leaders' organizations will also give high school and college students the chance to learn directly from experts in aerospace and related fields.

**Nature of innovation proposed for the program, including how it will improve student academic proficiency, mastery, college and career readiness, and long-term outcome goal (2-3 paragraphs maximum):**

The innovation of the AALSES program starts with working with our aerospace industry partners to identify skills and knowledge needed for our students to be successful employees. Content experts at the schools and community college as well as our curriculum partners at the Cal Ripken, Sr. Foundation will work together to create an educational pathway where courses at the schools transfer seamlessly to the college and to the workplace. Our partners at the Ripken Foundation have already created 13 elementary and middle STEM Centers in Accomack and Northampton county schools, which include trained teachers, educational STEM activities, a custom-designed STEM curriculum, and technology. This planning grant will allow the AALSES to install educational STEM resources, teacher training, and updated, grade-level appropriate STEM curriculum to all divisions throughout both counties.

In addition, professional development and collaborative opportunities for teachers will help maximize the instructional effectiveness of the Ripken Foundation STEM Centers. Students will increase their awareness of STEM-related careers in our area and will work to break the cycle of generational poverty by widening the horizons of our young learners, allowing them to see a successful future for themselves without having to leave the Eastern Shore.

**Expected student learning benefits (2-3 paragraphs maximum):**

A concern raised by our colleagues in the aerospace industry is that our students are simply not aware of the range of great paying jobs and careers right here on the Shore. To prime this workforce pipeline, we need students to establish a STEM identity and an interest in STEM learning at the elementary school level. Then, as students transition to middle school, we can introduce the concept of career exploration within the STEM curriculum. With the help of this planning grant, the AALSES will be able to provide funding for career coaches for middle schoolers who have an aptitude and interest in STEM-related careers as we currently have in each high school on the Eastern Shore.

In addition, experiential learning and project-based learning opportunities in consultation with experts at NASA Wallops Island will build competency in content knowledge and skills, critical thinking, and problem solving through grades K-12. Particular benefits will

be seen at the elementary and middle school level in the form of improved proficiency in math, science, and technology.

**Expected teacher learning and professional development benefits (2-3 paragraphs maximum):**

Our local school divisions on the Eastern Shore continue to make offering dual enrollment courses a priority to assure the long-term educational success of our graduates. Currently, ESCC offers College Chemistry I and II, General Environmental Science I and II, Precalculus, Calculus I and II, and General Biology I and II. In an effort to offer more dual enrollment courses, we need to expand the number of teachers who are qualified to teach dual enrollment courses.

Teachers are required to have a masters and at least 18 graduate credit hours in the field of the dual enrollment course they are teaching to acquire dual enrollment certification. Two impediments for teachers becoming certified are: (1) the cost of graduate tuition; and (2) finding the time to complete the course work. The AALSES will provide funding for tuition as well as a stipend for teachers who engage in and complete certification. Trained teachers in dual enrollment courses enables students to continue their interest in STEM-related career fields using practical knowledge in STEM coursework.

**Content areas addressed:**

Curriculum in science, technology, IT, and math that prepares our students for the aerospace industry.

**GOAL**

**State the overall proposed goal for the program:**

The overarching goal of the AALSES will be to develop curriculum and work place experiences that will provide a pathway for students to be qualified for the growing number of jobs in the aerospace industry, specifically here on the Eastern Shore. This comprehensive program will improve math, science, and technology instruction K-12, raise student outcomes, and increase the number of advanced STEM courses available to our high school students in order to advance college and career opportunities.

**TIMELINE**

**Provide a timeline of the planning process, including the proposed date/school year for launch of a Lab School:**

December 2022

- Submit planning grant for the AALSES.

December 2022-February 2023

- On board Project Administrator for the AALSES.

February 2023

- Identify skills and competencies through needs assessment meetings with NASA and the Wallops Contractors' Association.

- Curriculum development meetings with faculty, ESCC staff, the Ripken Foundation, Accomack and Northampton school divisions, and expert stakeholders for the implementation of Cal Ripken, Sr. Foundation STEM Center curriculum, development/modification of existing STEM curriculum to match the needs of our aerospace industry partners.

#### March 2023

- Finalize STEM curriculum for new high school and existing elementary and middle school STEM Centers.
- Assess ongoing professional development needs for faculty.
- Identify internships, apprenticeships, and workplace learning opportunities.

#### April 2023

- Complete draft of planning grant for The Aerospace Academy Lab School of Eastern Shore (AALSES) and share with partners.

#### May 2023

- Receive and incorporate feedback from all stakeholders and industry partners.

#### June 2023

- Submit The Aerospace Academy Lab School of Eastern Shore application.

#### ***[With approval of the application]***

#### July 2023

- Begin meetings with industry partners.
- Ongoing professional development including across school divisions.
- STEM curriculum development.
- Installation of new Ripken Foundation STEM Centers in remaining school divisions in Accomack and Northampton counties.

#### August 2023 – December 2023

- In coordination with industry partners, finalize STEM curriculum and mode of delivery.
- Market program and enroll Eastern Shore elementary and secondary students into AALSES.

#### January 2024

- Launch The Aerospace Academy Lab School of Eastern Shore.
- Implement year-round STEM learning and opportunities in all school divisions of the Eastern Shore.

## **F. STUDENT POPULATION AND RELEVANT RESEARCH**

### **TARGETED STUDENT POPULATION**

**Describe the student population and discuss why they are proposed. Include the number of students, reporting group(s), and grade level(s):**

Due to the high percentage of economically disadvantaged students in Accomack and Northampton counties, it is essential that we reach students at the elementary, middle, and high school levels. Exciting and enriching experiences will spark students' imaginations and increase student engagement which will ultimately lead to improved student outcomes.

Northampton County Schools currently serves 1300 students in grades K-12. Our student population is approximately 42% Black, 30% White, 23% Hispanic, 5% Mixed Race, and 1% Asian. 13% of our students are English Learners, and 15% are students with disabilities. Accomack County Public Schools currently serves 4863 students in grades Pre-K-12. Our student population is approximately 35% Black, 34% White, 25% Hispanic, 5% Mixed/Other Race, and 1% Asian. 21% of our students are English Learners, and 15% are students with disabilities.

GRADES TO BE SERVED FOR THE FULL TERM OF THE APPROVED LAB SCHOOL CONTRACT (PLEASE CHECK ALL THAT APPLY*)			
Pre-K	X	Sixth Grade	X
Kindergarten	X	Seventh Grade	X
First Grade	X	Eighth Grade	X
Second Grade	X	Ninth Grade	X
Third Grade	X	Tenth Grade	X
Fourth Grade	X	Eleventh Grade	X
Fifth Grade	X	Twelfth Grade	X

*\*If the applicant intends to add or change grade levels at some point during the Lab School's operation, please provide this information in the education program section of the narrative.*

**Describe the community(ies) the school(s) serves:**

The Eastern Shore of Virginia has a strong, historic, regional identity. It is bound on three sides by the Atlantic Ocean and the Chesapeake Bay, and its economy is made up of two counties: Accomack County (2020 pop. 33,413) and Northampton County (2020 pop. 12,282). Within the two counties are 19 incorporated Towns, including Cape Charles, Exmore, Melfa, Onancock, and Chincoteague. The region's geographic isolation from the rest of Virginia and the similarities among local communities have supported its unique regional spirit. In 2003, Accomack and Northampton Counties were designated as an Economic Development District by the U.S. Economic Development Administration. This designation makes the Eastern Shore of Virginia eligible for EDA funding that has been critical to the successful completion of several key facilities and initiatives within the region, including the ESCC's Workforce Development and Training Center.

Eastern Shore Poverty Rates	2003	2008	2013	2019*
Total Population in Poverty	16.2%	20.3%	20.1%	48.9%

Minors in Poverty (Age 0-17)	25.3%	29.9%	30.7%	33.3%
2013 Real Median Household Income	\$37,891	\$39,765	\$37,570	\$46,383

\*HUD data for 2019 using federal poverty threshold for a family of four at \$25,750.

Despite the fact that the Eastern Shore has a lower unemployment rate than Virginia or the rest of the United States, the percentage of households that fall below the poverty line (15.2%) is substantially higher. According to the U.S. Census Bureau, Virginia’s Median Household Income is at approximately \$74,222. Median Household Income in Accomack County in 2019 is \$46,073 and Median Household Income in Northampton County in 2019 is \$47,227. In terms of minorities in poverty, Accomack and Northampton Counties have very high rates, approximately 30%, nearly doubling that of Virginia. Among employed households, Accomack County, at 35%, has a higher-than-average rate of Asset Limited Income Constrained Employed (ALICE) households. Northampton County has an ALICE household rate of 31%, while Virginia’s average is 29%. This indicates that a substantial number of residents are at a high risk, as they are above the poverty level, but earn less than the basic cost of living.

**If the Lab School is going to have a specialized focus (e.g., Science, Technology, Engineering, Mathematics [STEM], at-risk students, special education, career and technical education, gifted education, classical education, etc.), please describe the focus:**

Eastern Shore of Virginia has a population of 45,000, half of which are either in poverty and/or are working poor. The student population for Accomack School Division 58.67% qualify for free lunch and the percentage in Northampton is 68.56%. The Eastern Shore Lab School will target these at-risk students as well as recruit more females into the STEM courses.

**RELEVANT RESEARCH**

**Discuss any relevant research tied to the proposed student population and overall goal of the program to demonstrate that it will improve student academic proficiency, mastery, college and career readiness, and long-term outcomes:**

Research studies show that elementary and middle school children participating in well-implemented, high quality out-of-school programs reap a range of positive benefits, including, higher reading and math scores, increased self-esteem, increased high school attendance, and decreased dropout rates. However, access to STEM learning is nonexistent in many underserved communities, and the data that surrounds this lack of concentration is apparent in the most recent standardized test scores these areas. The disparity in STEM performance can be directly attributed to lack of STEM programming and STEM training for educators.

According to the National Conference of State Legislatures, STEM education is vital to our nation’s global competitiveness, economic growth, and overall standard of living. The CRSF’s STEM program gives access to STEM learning to at-risk youth, so they engage in age-appropriate STEM activities in a structured environment with trained teachers who make science, math, engineering, art, and technology compelling and fun.

Research shows that young children’s minds are very receptive to math and logic, and early mathematics skills are the strongest predictor of future academic achievement. Developing math skills, along with other STEM skills in high-quality, K-5 environments, couples the predictive power of learning STEM skills with the academic growth and trajectories that high-quality early learning can provide. Introducing STEM learning at the elementary school level can also elevate high school and postsecondary engagement seen in Career and Technical Education choices.

## **G. COLLABORATION AND STAKEHOLDER INVOLVEMENT**

**Describe the involvement of local school divisions, community-based organizations, employers, teachers, and parents in the planning, development, and implementation of the proposed program:**

The development of the AALSES will be executed in partnership among ESCC, Northampton County Public Schools (NCPS), Accomack County Public Schools (ACPS), the Accomack-Northampton Planning District Commission, and with our partners at Wallops. The establishment of the AALSES builds upon ESCC, ACPS and NCPS existing, extensive partnership to offer dual enrollment opportunities to high school students and career exploration opportunities to middle school students through Project Horizons.

In addition, we will involve the Cal Ripken, Sr. Foundation, NASA Wallops Flight Facility, Virginia Commercial Space Flight Authority (Virginia Space), as well as members of the Wallops Contractors’ Association for assessing the skills, knowledge, and competencies needed in the aerospace industry as part of the professional development for the faculty as well as assisting with curriculum development. This will build on the existing Space Grant between ESCC and NASA Wallops and Goddard and the MOU between ESCC and Virginia Commercial Space Flight Authority.

**If the Lab School is going to be in partnership with a local school division(s), please describe the partnership briefly:**

ESCC has a long history of offering an effective dual enrollment program and working with Northampton and Accomack County Public School Divisions. In addition, both counties are involved with Project Horizon, which recruits at-risk students to assist them in successfully matriculating to the community college.

## **H. SUSTAINABILITY**

**Please describe the capacity of your public institution of higher education; public higher education center, institute, or authority; or eligible institution to implement a Lab School:**

Currently, dual enrollment courses are supported by three success coaches who work in the ACPS and NCPS high schools as well as the faculty at ESCC and the high schools who teach dual enrollment courses. The AALSES program will build on these efforts. In addition, the program will expand the resources dedicated to the



establishment of the Cal Ripken, Sr. STEM Centers, which include faculty and materials.

ACPS and NCPS and NCPS already partner extensively to offer dual enrollment opportunities to high school students and career exploration opportunities to middle school students through Project Horizons. ESCC also maintains strong and long-standing relationships with partners at Wallops Flight Facility (WFF). This project seeks to (1) expand existing programs and (2) more decidedly and visibly develop programs that serve the aerospace industry. For example, this year ESCC has added a welding class for NCPS students in partnership with Jacobs Technologies at WFF to update our HVAC-R curriculum to include Universal Refrigerant Recovery certification and has approved a new Associate of Science Engineering degree that provides a transfer pathway to Old Dominion University (ESCC's largest transfer partner) as well as all other public colleges and universities in Virginia.

**Identify potential affiliates, partners, and describe potential sustainable funding sources:**

For many years, ESCC has partnered with ACPS and NCPS to provide dual enrollment opportunities to high school students and mentorships to middle school students through Project Horizons. ESCC also has strong relationships with STEM-H employers in our region, especially NASA Wallops and Virginia Space, with whom ESCC has MOUs, and the Wallops Contractors' Association. In addition to career development opportunities for students, such as virtual jobs fairs and onsite visits to NASA, ESCC regularly places interns with employers at Wallops Flight Facility. In fact, 20% of employees at Virginia Space are former interns from ESCC.

A distinguishing feature of the AALSES is that the two school systems will partner for the first time on joint dual enrollment opportunities. This increases access for students and allows for economy of scale, reducing per credit hour costs for the schools, the college, and students. Paying tuition and stipends to high school instructors to become credentialed to teach college courses will permanently increase the capacity to offer dual enrollment to more students and in more subject areas. The increase in dual enrollment can be made sustainable if the college reduces the total net cost per credit hour that ACPS and NCPS pay while still covering the college's costs. Also, the startup costs for the Cal Ripken STEM labs are one-time and ACPS and NCPS will be able to bear the ongoing cost for supplies.

A key component of the AALSES will be ESCC's *Contact to Career (CTC)* initiative through which comprehensive career services are provided to students. The *CTC* center will assist students with career exploration, career readiness, college search, college admissions essays, mentorships, internships, and job placement. The college has raised funds through public and private sources to fund *CTC* for five years beyond the demonstration period and is pursuing large public and private grants to further support the *CTC* center.

In addition, the AALSES will build on the recent gift from the Cal Ripken Sr. Foundation, a 501(c)(3) nonprofit, establishing STEM Centers (science, technology, engineering, and math centers) in all 13 elementary and middle schools in Accomack and Northampton counties.

Each Ripken Foundation STEM Center will be equipped with the resources to give all at-risk youth in ACPS and NCPS access to year-round STEM education, including on-going STEM training for teachers at each school. The Ripken Foundation STEM Center includes educational curriculum and projects that support robotics, block-based coding, circuit boards, and more. The Centers will be furnished with furniture, technology, educational STEM activity kits, Chromebooks laptops, and a 3-D printer.

**Identify potential barriers to the planning process and possible ways to address them:**

The most significant barrier will be quickly hiring the project director due to the time required to follow Human Resources policies and processes. ESCC, ACPS, and NCPS will consider reassigning one or more current employees to the planning project or engaging the services of a contracted project leader, rather than a new employee. While we are aware of other barriers, such as the great distance from the south to the north of our service area, ESCC, ACPS, NCPS, and employer partners have proven records of addressing such barriers.

**I. BUDGET OF DIRECT COSTS (WITH \$200,000 MAXIMUM)**

Complete the budget table below outlining the financial plan of how the Planning Grant will be used in the effort to establish a Lab School. The Planning Grant period and use of funds may not exceed 12 months from the date of award.

Only include direct operating costs. Indirect costs and capital outlay costs are not allowed. Include a description of expenses that explains appropriateness of expenses based on the category descriptions shown below.

All expenses must be directly related to the proposed Planning Grant activities. Applicants are not guaranteed the requested award amount and any award may be proportionally adjusted according to application's weighted Planning Grant Application Evaluation Rubric score and to reflect only those expenditures that are designated as permissible.

Note: Any unspent Planning Grant funds remaining at the end of the grant term must be returned by the recipient to the Department.

CATEGORY	DESCRIPTION OF EXPENSES	FUNDING REQUESTED
1000 – Personal Services	Project Lead	\$60,000* *salary and fringes
3000 – Purchased/Contractual Services	Training for Accomack, Northampton, ESCC staff and teachers. Professional development creating a set of educational products to be used for curriculum development.	\$50,000 \$30,000
5000 – Other Services	Additional STEM Lab kits for faculty training Travel for faculty and students to Wallops to meet with industry partners.	\$20,000
5000 – Other Services	Training and curriculum by Cal Ripken, Sr. Foundation	\$30,000
6000 – Materials and Supplies	Laptops and office supplies	\$10,000
Total		\$200,000

\* Total cannot exceed \$200,000 with additional funding considered at the discretion of the Department on a case-by-case basis and in accordance with available funds.