
Powerful Teaching and Learning for All – The Regional Laboratory School

Housed on a university campus, the Northeast Academy of Aerospace and Advanced technologies (NEAAAT) will serve as a laboratory school focused on innovating, modeling, and disseminating instructional practices aimed at preparing all students for college, careers and life. The school is expected to become the epicenter of professional learning for educators across the region, the place where educators come to learn, grow, and transform. The transition from student teaching to teaching students will become seamless as university students are interwoven into the fabric of the school. By participating in professional learning opportunities alongside school faculty and honing their skills through tutoring and other opportunities, these future teachers will leave the university as teachers of the future, empowered to transform schools across the northeast region and throughout the state.

In fulfilling its role as a regional STEM-themed laboratory school, NEAAAT endeavors to:

- Inspire and prepare students with the STEM-related skills, knowledge and attitudes needed for high wage/high demand careers;
- Develop, implement, and demonstrate innovative approaches to teaching, learning, and assessment, with an emphasis on STEM education and entrepreneurship;
- Offer clinical experiences for pre-service and practicing educators and related professionals;
- Disseminate educational materials and improvement strategies through high quality professional development to practitioners;
- Facilitate the exchange of ideas among scholars, practitioners, employers, policymakers, and the community to stimulate education reform and economic growth; and,
- Increase the number of students -- especially women and minorities -- who pursue careers in STEM, including STEM education.

Implementing the project will be a collaborative approach. The school's board has established a rich STEM curriculum with problem-based learning at its core and has already established partnerships with Elizabeth City State University's Aviation Program and College of the Albemarle's Aviation and Technical Training Center. Students and staff from these postsecondary institutions will work directly with NEAAAT faculty in course development and instruction allowing students to gain first-hand knowledge about advanced manufacturing.

Project Timeline

The board of directors will hire a school principal tasked with leading operational planning efforts six months prior to the opening of the school. During the first two months, the principal will benchmark innovative school designs and instructional practices through site visits, school conferences, and structured peer networking. Beginning in the second month, the principal will begin recruiting students and staff for the school.

Engineering and science teachers will be hired three months prior to the school's opening. Since these teachers will serve as curricular coaches, they will be provided professional development specifically focused on effective peer coaching. The teachers will accompany the principal on learning tours of existing STEM schools that model the engineering design process, and they will participate in tailored teacher externship opportunities with local industry partners to develop a

rich sense of the world of work for which they will prepare students. Through these experiences and participation on the school's Business Advisory Council, the science and engineering

teachers will identify specific training needed for career-relevant technologies to be incorporated into the curriculum and professional development.

At this time, a university liaison will be hired to foster positive and working relationships between ECSU, COA, and NEAAAT faculty, staff and students. As an employee of ECSU whose services will be contracted by the laboratory school, the liaison will serve as its chief advocate through service on university and community college panels and committees. The liaison will serve as a repository of knowledge regarding the use of university and college facilities, policies, and regulations and will coordinate the use of campus resources as needed. In addition, the liaison will assist school staff in curriculum development, course planning and post-secondary enrollment to ensure seamless pathways exist for students.

Two months prior to the first day of school, remaining teaching staff members will join the team. Over the course of the remaining three months, all staff members will participate in professional development focused on project-based learning, technology integration, peer feedback, best practices, and student counseling. Teachers will use this time to establish strong professional relationships, map the curriculum, and work closely with content experts to develop interdisciplinary units of instruction. Throughout the startup period, teachers will visit businesses and industries to further advance their understanding of workplace expectations, structure, and tools.

At the end of the startup phase, the school will be poised to offer students an innovative, engaging learning experience. Teachers will have unit plans/project plans that exceed established state standards, capitalize on technology integration, and mirror the expectations and structures of the workplace.

Measurement

The success of this project will be determined by the effectiveness of the school in the first year and thereafter. Proposed measures include:

- Increased number of NEAAAT applicants in Year 2 (First year 120; 420 over five years);
- Increased number of STEM teacher candidates at ECSU by 50% over three years;
- Increased enrollment of pre-service teacher candidates at ECSU by 25% over three years;
- Number and frequency of professional development activities offered to teachers and the school and across the region;
- Number of and feedback from study visits conducted at the school; and,
- College readiness of NEAAAT students, as measured by ACT/PLAN scores.

Sustainability

The collaborations already established with public and private sector partners illustrate a bright future for NEAAAT. Elizabeth City State University has agreed to house the school on its campus for the first two years of operation and has agreed to work with the school to secure funding for a new university aviation facility and school facility across from the Elizabeth City Aviation Park.

Though the school will maintain strong partnerships with institutions of higher education, the private sector, and non-profits, it must rely on external funding to help bridge the gaps that will inevitably surface in order to fulfill its mission.