

# VIRGINIA DEPARTMENT OF EDUCATION

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## Planning Grant Application for a College Partnership Laboratory School

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### A. GENERAL INFORMATION

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1. **Name of Eligible Entity (Planning Grant Applicant):** Old Dominion University
2. **Authorized Official Representative:** Dan Zimmerman
3. **Name of Contact Person for Application:** Brian K. Payne, PhD
4. **Telephone:** 757-683-4757
5. **Email:** [bpayne@odu.edu](mailto:bpayne@odu.edu)
6. **Office Telephone Number:** 757-683-4757
7. **Date of Submission:** October 28, 2022
8. **Amount of Funding Requested (\$200,000 maximum):** \$200,000
9. Public institutions of higher education (IHE); public higher education centers, institutes, or authorities; or eligible institutions of higher education as defined in the Tuition Assistance Grant Program, as provided in [§ 23.1-628](#), (eligible entity or entities) may apply for a Virginia Board of Education (Board) College Partnership Laboratory School Planning Grant (Planning Grant).
10. Each Planning Grant Applicant (applicant) seeking a Planning Grant must read and comply with the Instructions for Application for a Planning Grant for a College Partnership Laboratory School (Lab School), which are available on the Virginia Department of Education's (Department) website, and fully complete this Planning Grant Application (application) to be eligible for a Planning Grant.

11. Applications may be submitted, and will be evaluated for Planning Grant awards based on factors set forth herein, on a rolling basis.
- 12. Planning Grant Term: This application is for a one-time Planning Grant, the term for which will not exceed 12 months from the date of any award hereunder.**
13. The completed PDF version of the application and related materials must be sent to [labschools@doe.virginia.gov](mailto:labschools@doe.virginia.gov) by email. The Department may return or reject proposals that are incomplete.
14. Please contact [labschools@doe.virginia.gov](mailto:labschools@doe.virginia.gov) by email if there are any questions about the application process.

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## B. DEFINITIONS

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1. **College Partnership Laboratory School:** In accordance with [Item 4-14](#) of the General Assembly’s 2022-2024 Biennium budget, the Code of Virginia § [22.1-349.1](#) is amended and reenacted, and the types of IHE eligible entities to establish Lab Schools are defined as follows:
  - a. "College Partnership Laboratory School" means a public, nonsectarian, nonreligious school in the Commonwealth established by a public institution of higher education; public higher education center, institute, or authority; or an eligible institution, as defined in § [23.1-628](#). Notwithstanding the provisions of § [22.1-349.5](#), a public institution of higher education; a public higher education center, institute, or authority; or an eligible institution, as defined in § [23.1-628](#) may submit an application for formation of a college partnership laboratory school.”
  - b. An “eligible institution” as provided above is an institution of higher education as defined in the Tuition Assistance Grant Program in accordance with § [23.1-628](#).

2. **At-risk student:** As provided in the Code of Virginia § 22.1-349.1, "at-risk student" means a student having a physical, emotional, intellectual, socioeconomic, or cultural risk factor, as defined in Board criteria, that research indicates may negatively influence educational success.

For the purpose of these guidelines and any Planning Grant awards, "at-risk students" include (a) students who have experienced learning loss as the result of the COVID-19 pandemic; (b) students served by low-performing schools that are designated as "accredited with conditions" or "accreditation denied" based on the Virginia Board of Education's accreditation ratings; and (c) students attending schools identified under the Every Student Succeeds Act within three support categories: (i) Comprehensive Support and Improvement, (ii) Targeted Support and Improvement, or (iii) Additional Targeted Support Category.

3. **Regional diversity:** For the purpose of evaluation of this application, regional diversity reflects representation from each of the Department's eight Superintendent [regions](#).

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## C. ASSURANCES AND SIGNATURES

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### 1. ASSURANCES

- a. By signing and submitting this application, the applicant assures that it will adhere to state and federal laws and regulations governing public schools, including the *Virginia Standards of Quality*, the *Virginia Standards of Learning*, and the Board's *Regulations Establishing Standards for Accrediting Public Schools in Virginia*.
- b. The applicant assures that all elements of the proposed school(s) will comport with all applicable state and federal laws and regulations.
- c. The applicant certifies that to the best of his/her knowledge the information in the application is correct, that all application elements have been addressed as required in this application, and that the applicant understands and will comply with the assurances.
- d. The applicant agrees to conduct a review of their planning phase, and submit milestones and deliverables as required, including, but not limited to, a comprehensive report with details for the projected Lab School implementation, expenses, and other items as may be prescribed by the Department.

- e. Applicants receiving a Planning Grant are expected, by the end of the term of such grant, to submit a subsequent application for the launch of a Lab School to the Department, for review and approval by the Board.
- f. Applicant provides assurance to subscribe to the following reporting requirements timetable:

TIMELINE	BENCHMARK AND DELIVERABLES
On or before the end of the first quarter of the grant term	Awardee must present a proposed list of milestones, measures of success, and deliverables.
On or before the end of the second quarter of the grant term	Awardee must submit a progress report in order to be eligible for the second installment of the award.
On or before the end of the third quarter of the grant term	Awardee must present progress on milestones and deliverables, including submission to the Board of an application for approval to launch a Lab School.
On or before the end of the grant term	Awardee is expected to have attained approval by the Board to launch a Lab School.

**2. SIGNATURES**

- a. Higher Education Authorization:

Signature of [AUTHORIZED REPRESENTATIVE of public institution of higher education; public higher education center, institute, or authority; or an eligible institution]:



Printed Name: Dan Zimmerman.  
 Title: Interim Assistant Vice President for Administration  
 Date: 10/27/2022

b. Fiscal Agent Authorization (if applicable):

Signature of Division Superintendent of Fiscal Agent School Division:

c. Signature of Chairman of School Board of Fiscal Agent:

## **D. REGIONAL AND APPLICANT DIVERSITY**

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1. Planning Grants will be awarded in a manner that encourages ready access to Lab School options and the establishment of Lab Schools in each of the Department's [eight Superintendent regions](#).
2. Indicate Proposed Name(s) of Lab School:  
Maritime and Coastal Innovation Collaboratory
3. Identify Proposed Physical Location(s) of Lab School:  
Newport News, three different sites strategically distributed throughout the city for ease of access.

## **E. PROGRAM DESCRIPTION, GOAL, AND TIMELINE**

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### **1. PROGRAM DESCRIPTION**

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

Old Dominion University and Newport News Public Schools will partner to create a robust Laboratory School focused on preparing students to participate as citizens and future employees of a region heavily influenced by Maritime Industries and preparing teachers to create experiential and innovative learning environments integrated with STEM concepts and Career and Technical Education, maximizing student engagement.

The Maritime and Coastal Innovation Collaboratory will use experiential learning strategies to guide students into flexible pathways designed to prepare them for traditional and emerging careers in the maritime industry. In one pathway, a strong focus on career and technical education will prepare students for careers immediately after graduating from high school. In a second pathway, a focus will be given to preparing students for college programs designed to produce graduates ready for STEM careers in the maritime field. Connecting these two pathways together, a focus will also be given to preparing students to build businesses and promote innovation in coastal communities.

As part of this effort, the partners will embrace teacher-in-residence preparation programs, identify innovative strategies for engaging industry experts as career and technical education instructors, and develop mechanisms for awarding college-level credit for those participating in the academy.

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

The Maritime and Coastal Innovation Collaboratory and its underlying practices are grounded in regional employment demand and scholarly research. Regarding regional employment demand, Hampton Roads is home to a transportation ecosystem bringing together the Chesapeake Bay, ports, two Class 1 railways, a highway system, barge services, and two airports. The maritime sector is critical to this ecosystem. Data from the Bureau of Labor Statistics identifies more than 53,000 regional jobs in the transportation and shipbuilding sectors alone. A 2019 Hampton Roads Workforce Development study found “severe shortages” of local graduates for transportation/logistics careers requiring either a high school education or bachelor’s degree. This high reliance on maritime trade and the shortage of talent led Reinvent Hampton Roads, a group of prominent regional business leaders to identify maritime as one of the clusters that will diversify the coastal Virginia economy in the future. The group conceptualized maritime as “industries related to the water—port, shipping, logistics, shipbuilding, and ship repair.”

It is typical for educators and employers to ask why students aren’t prepared for specific careers. Rather than asking why students aren’t prepared, a better question to ask is why our institutions and employers aren’t prepared for students (McNair et al., 2016). Such a question forces leaders and policy makers to focus on how institutions, policies, and practices can change to be prepared for our students. The foundational principle of the Student-Centered Maritime and Coastal Innovation Collaborator is this—schools and employers must work together to change how we educate high school students in order to develop the future maritime workforce.

The program will align with efforts of the Hampton Roads Maritime Industrial Base Ecosystem (MIBE), an initiative designed to enhance the region's maritime workforce, particularly through digital innovation. MIBE recently received funding to develop Maritime Trade Magnet programming throughout Representative Bobby Scott's congressional district. The funds specifically target curriculum development and equipment. Leveraging this support, the Maritime and Coastal Innovation Collaboratory will provide the human resource infrastructure and physical spaces required to develop and assess the most effective curricula and pedagogical strategies for maritime-focused career and technical education, teacher preparation, and ongoing professional development.

- c. 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 Maritime and Coastal Innovation Collaboratory integrates industry-led curricula development, high impact practices, and alternative credentialing to improve student academic proficiency, mastery, and college and career readiness while simultaneously enhancing the regional maritime workforce. Regarding industry-led curricula development, the project team will bring together instructors and administrators from Newport News Public Schools and Old Dominion University with industry representatives from the Maritime Industrial Base Ecosystem, along with other maritime industries, to develop curricula that can easily be integrated into the electives taken by Newport News students. The focus of the curriculum will be directed towards preparing students for two distinct pathways: a career pathway and a college pathway. Developing intentional curricula for the two pathways will provide the foundation required for student academic proficiency.

The high impact practices that will be part of the Collaboratory include study away options, experiential learning, and electronic portfolio development. Regarding study away, rather than housing the Collaboratory in one brick and mortar location, early high school and advanced high school students will go on maritime-themed field trips with advanced high school students regularly traveling to specialty areas strategically located throughout Newport News. Collaboratory students will also engage in different experiential learning opportunities that will be sequentially structured throughout the students' participation in the Collaboratory. These will include mentoring (beginning in 9th grade), job shadowing (beginning in 10th grade), internships (beginning in 11th grade) and internships (in 12th grade). Throughout their participation in the Collaboratory, students will develop electronic portfolios that are designed to integrate the learning they are doing in their courses with the experiential learning activities. ODU teacher education students will also engage in experiential learning through their participation in a teacher residence program that will be incorporated into the Collaboratory. These practices will improve academic proficiency and college and career readiness through the integration of curricular learning with specific co-curricular experiences.

Five innovative types of alternative credentialing strategies will be incorporated into the Maritime and Coastal Innovation Collaboratory – badges for Collaboratory students, the award

of college credit for completing the Collaboratory, the award of badges for ODU students completing teacher-in-residence programming, and the award of credentials to industry members. The badges for Collaboratory students will reward students for completing a series of curricular activities. At the end of the Collaboratory, students who pass the Collaboratory assessment will be awarded academic credit from Old Dominion University. In addition, a mechanism will be developed to provide credentials to ODU teacher education students who will be trained as career and technical educators in the Collaboratory. Fourth, a badging program will be developed to encourage current NNPS teachers to participate in professional development programs designed to improve the delivery of maritime-focused instruction. Finally, addressing the significant shortage of career and technical educators, the Collaboratory will develop a strategy for awarding teaching credentials for industry representatives able and willing to teach maritime-focused courses on a part-time basis. Each of these credentials either incentivize learning broaden the number of qualified CTE instructors. As a result, these strategies will improve academic proficiency for students participating in Collaboratory.

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

The Maritime and Coastal Innovation Collaboratory will focus heavily on student-guided learning through STEM, Experiential Learning, Guided Inquiry, Career and Technical Education, as well as internships, job shadowing, and apprenticeship opportunities. The idea is that through student choice and student-led inquiry, there will be an increase in engagement as participants connect real, local issues and jobs to classroom lessons and skills.

STEM creates the foundation for critical thinking, problem solving, and group collaboration that translates to job skills in any field, not just STEM careers. Early introductions to Maritime Industry Careers will guide students towards Career and Technical Education courses needed for real job training, and classroom instruction will inform students on how to gain the knowledge necessary to be successful in a maritime field. Through increased student engagement, there will be an increase in student achievement, not only in the classroom, but also through post-secondary success.

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

Teachers will go through the apprentice-based ODU Teacher-in-Residence Program either as new teachers or as teachers receiving additional professional development. The Lab School will combine standard classroom settings with student-led guided inquiry, and teachers and career switchers will not only need training on the guided-inquiry process, but also on the relevant careers and job skills the lab school will introduce to students. This teacher development model will strengthen recruitment, preparation, and retention of high-quality teachers.

While the Lab School will be a student-led learning environment, teachers will need to be well versed in the Maritime Industry and the Career and Technical Education to help students make the connections between classroom instruction and local, real world application.

Additionally, Newport News Public Schools prides itself on heavily integrated STEM instruction, teachers will need to be comfortable with a 21st Century classroom and how to integrate computer science, robotics, and coding into their curriculum. This will include training from ODU as well as training from the NNPS STEM team.



f. Content areas addressed:

Students in the Maritime and Coastal Innovation Collaboratory will be held to the same graduation requirements as any other student in Newport News Public Schools. The Lab School will increase content in STEM integration and Career and Technical Education as they relate to all maritime industries. This includes trades such as welding and machining, it includes environmental science and sustainability, engineering, and it could include business or maritime law.

**2. GOAL**

State the overall proposed goal for the program:

The goal of this project is to connect students to post-secondary success through employment or continuing education in Maritime-focused industries to fill the employment gaps across Hampton Roads, Virginia. Old Dominion University will accomplish this by establishing a maritime-focused lab school within Newport News Public Schools that is student-centered and creates pathways to maritime careers in our region and across the Commonwealth.

**3. TIMELINE**

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

Time	Activity
December 2022	Convene leadership team Assemble writing team to discuss the grant Develop plan for completing the lab school application Develop industrial advisory board Weekly leadership team meetings Gather data for lab school application Convene industrial advisory team Baseline meeting with consultants
January 2023	Weekly leadership team meetings Stakeholder workshop on the different pedagogical practices Travel to comparable lab school Design thinking sessions with business leaders, parents, teachers, students, and professors Gather stakeholder input Interview others who have created lab schools Begin to draft application
February 2023	Weekly leadership team meetings Propose framework for lab school

	Recommend governance structure Continue to draft application Travel to comparable lab school Faculty identify possible research projects Travel to national conference
March 2023	Design lab school structure and process Finalize draft application Presentations to community, NNPS, ODU stakeholders Finalize organizational chart/governance Faculty draft mini research proposals Develop plan for assessing lab school
April 2023	Presentation to ODU Board of Visitors Presentation to NNPS School Board Finalize and submit lab school proposal to Virginia Department of Education
May 2023	Begin marketing lab school to students and parents
Summer 2023	Recruit students to lab school Professional development for lab school instructors Order equipment for lab school sites
Fall 2023	Enroll first cohort of students in lab school

**F. STUDENT POPULATION AND RELEVANT RESEARCH**

**1. TARGETED STUDENT POPULATION**

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

Newport News Public Schools educates over 26,000 students in preK-12th grade annually. Of the NNPS student population, 53.3% are black, 20.4% are white, 15.9% are Hispanic, 2.0% are Asian, 0.4% are American Indian, and 0.3% are Native Hawaiian. Over 12% of the student body are students with disabilities, 7.5% are English learners, and 76.4% are eligible for free and reduced lunch. The school division has a chronic absenteeism rate of 28.5%.

The students in the proposed school district are all considered at-risk, and meet the definition as outlined in this grant’s RFP:

- 1. *Students who have experienced learning loss as a result of the COVID-19 pandemic:*  
 Newport News Public Schools sent students home on March 13, 2020 and did not fully open doors again in a regular schedule until September 8, 2021. Learning continued virtually, but with hiccups and severely decreased engagement. Scores and assessments showed learning gaps upon return in the 2021-2022 school year as evidenced in

diagnostic reading and mathematics assessments. Pass rates on Standards of Learning tests between 2018-2019 and 2020-2021 showed the following declines:

- English: Reading dropped from 64 to 53%
- English: Writing dropped from 64 to 52%
- History and Social Sciences dropped from 67 to 36%
- Mathematics dropped from 71 to 33%
- Science dropped from 69 to 39%

2. *Students served by low-performing schools are designated as “accredited with conditions” or “accreditation denied” based on the Virginia Board of Education’s accreditation ratings:* 10 out of 24 Newport News elementary schools are accredited with conditions and five out of seven middle schools are accredited with conditions. All of Newport News high schools are accredited.
3. *Students attending schools identified under the Every Student Succeeds Act within three support categories: (i) Comprehensive Support and Improvement, (ii) Targeted Support and Improvement, or (iii) Additional Targeted Support Category.*

Newport News Public Schools, as of 2020-2021 school year had two Comprehensive Support and Improvement Schools (both elementary), one Targeted Support and Improvement School (middle), and six Additional Targeted Support schools (three elementary and three middle).

This grant would pilot a group of 100 students, and then gradually move to increase to a full high school program of 100 students per grade level in grades 9-12, 400 students total. Early exposure for 8th grade students would happen district-wide for approximately 2,000 students.

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

b. Describe the community(ies) the school(s) serves:

Newport News is at the Southeastern end of the Virginia Peninsula, on the northern shore of the James River, extending from Skiffe’s Creek along miles of waterfront to the River’s mouth at Newport News Point on the Harbor of Hampton Roads. The River’s watershed includes many waterways in Newport News: Deep Creek, the Warwick River, and The Mariners’ Lake. The City’s wealthiest live directly on these waterways, limiting public access to a few private and public parks. Every year, waterfront public access parks close for high levels of bacteria in the River, entirely closing off the waterways to the majority of the City’s 180,000 citizens. These waterways impact daily life for Virginia Peninsula residents and the residents of Hampton Roads. Students in Newport News who do not have access to their environment cannot understand their connection to the local waterways, its ecosystem, and the opportunities for future careers in the Maritime Industry.

The table below describes Newport News demographic data as compared to the Commonwealth of Virginia.

<b>Demographic Indicator</b>	<b>Newport News</b>	<b>Virginia</b>
<b>Population</b>		
Total Population	179,582	8.5M
Adults >18	76.8%	78.0%
Pre-school age children (0-4)	7.2%	5.6%
Median age	33.8	38.4
Percentage of Males - Females	48.4% - 51.6%	49.2% - 50.8%
<b>Race/Ethnicity</b>		
African American/Black	40.9%	19.0%
Hispanic	9.4%	9.5%
White	42.1%	61.2%
Families		
Households	70,376	3.2M
Households with children <18	29.9%	31.3%
Households with female single	36.3%	27.6%

parent and child <18		
<b>Education</b>		
Adults with < high school diploma	8.5%	9.7%
High school diploma or equivalency	28.2%	23.9%
Some college, no degree	25.2%	19.1%
Associate's degree or higher	38.3%	47.5%
<b>Income</b>		
Median household income	\$54,511	\$76,398
Income below \$10,000	7.4%	4.8%
Income above \$200,000	3.0%	11.6%
Poverty percentage-total	14.8%	10.0%
Poverty percentage-children and youth	20.0%	13.1%

- c. 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:

This Lab School will focus on providing STEM and Career and Technical Education to at-risk students in a student-led inquiry based learning environment.

**2. 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:

Besides evidence supporting the need to focus on the topic of maritime, the planned strategies are also supported by prior research. In particular, research shows support for the following:

- Development of maritime career technical education programs
- Experiential learning strategies in innovative curricula
- Expansion of teacher-in-residence programming
- Electronic portfolio use

- Award of college credit for high school academy work
- Using design thinking to guide the development of the lab school
- Mission alignment

**Maritime Career and Technical Education Programming:** Regarding the need for maritime career and technical education programming, in general, research shows that career and technical education programming reduces dropout rates, improves career prospects for students, and better prepares the workforce for 21st century occupations (Conneely and Hyslop, 2021). In addition, research shows that taking CTE courses is connected to higher salaries (Rosen et al., 2018). At the same time, research shows that career and technical education does not automatically happen and students are not automatically attracted to such programs (Heirs and Manuel, 2021). Instead, a specific concerted strategy must be developed to recruit students into CTE programs and administer them successfully. Experts have noted that “high quality CTE” programs focus on both college and career pathways (Brand, 2013). Using this research as a starting point, the Maritime and Coastal Innovation collaboratory will provide an innovative structure that prepares students for either the workforce or college.

**Experiential Learning:** Scholars seem to universally agree on the value of experiential learning. Varieties of experiential learning include internships, service learning, study away, field trips, and others. Our efforts will be geared more towards internships and field trips. Experts note that while experiential learning is often included in CTE programs, it is important to realize that an experience by itself does not automatically lead to authentic learning (Clark et al., 2010). Instead, it is argued that the experience must be integrated with the learning process. One research team recommends that high-school based internships are supported by a culture of collaboration, part of a balanced curriculum, and connected to courses that allow for evaluation and assessment (Fletcher et al., 2018). Because the program is being created from scratch, we will have the opportunity to build these recommendations into the experiential learning strategies that will be a part of the Maritime and Coastal Innovation Collaboratory.

**Teacher-in-Residence Programming:** The lab school will leverage the strong, longstanding collaborative partnership between ODU and Newport News Public Schools to implement an apprenticeship program built on the existing Teacher-in-Residence program. This cohort-based apprenticeship will: be co-designed to meet the division’s educational priorities; pay competitive wages to participants, provide trained mentors, meaningfully integrate leading research on learning with classroom-based practice, and will lead to VDOE licensure. Apprentice-based residency programs are effective mechanisms for recruiting, preparing, and retaining highly qualified and diverse cadres of teachers committed to the communities in which they are prepared (Guha, Hylar, & Darling-Hammond, 2016). Funded apprentice-based programs remove economic barriers for teacher candidates, particularly for first-generation college students, low-income students, and students of color. In contrast to findings that 20-30% of new teachers are leaving the profession within the first five years, particularly within high-poverty schools and critical shortage teaching areas (Darling-Hammond & Sykes, 2003), residency-based programs are demonstrating much higher retention rates, ranging from 80-90% within the same district after three years and 70-80% after five years (Silva, McKie, & Gleason, 2015). Although data are limited by the relative youth of residency programs, several studies have found statistically

significant differences in student achievement gains compared to other new teachers not prepared in residencies (Tennessee Higher Education Commission, 2014).

**Electronic Portfolios:** The use of portfolios, particularly electronic portfolios, will also be a part of our planning process. Electronic portfolios are digital collections of student work completed over time. Portfolios can be developed as either internal archives (designed primarily for assessment) or showcase portfolios (designed to support career placement and enhance self-directed integration of student learning). Electronic portfolios have been hailed for being versatile (Rezgui et al., 2018), promoting integrated learning (Kuh et al., 2018), and enhancing student development. In fact, scholars note that electronic portfolio usage promotes even deeper learning than other types of experiential learning (Hubert et al., 2015; Khan, 2014). Importantly, the use of electronic portfolios will benefit the students, teachers, and the teachers-in-residence. Benefits to students include improved professional development (Brown and Thoroughman, 2017), improved digital communication skills (Buente et al., 2015), enhanced awareness about digital technology (Challis, 2005), and career placement support (Tubaishat, 2015). For teachers, a recent study found that electronic portfolio usage “resulted in increased teacher learning about technology, a reexamination of their pedagogy, better comprehension of their students’ learning, reflective processes, and assessment, and reciprocal learning between teachers and students.” (Kilbane and Milman, 2017, p. 101).

**Awarding Credit for Academy Experiences:** The award of academic credit for academy work is justified by prior research (Hoffman, 2003; Berger et al., 2013). Policy makers have called upon colleges and universities to be more innovative in efforts to keep the cost of higher education down. Besides reducing the cost of higher education, research also suggests that early exposure to college both expedites completion and increases completion rates (Song et al., 2021).

**Design Thinking:** At the broadest level, the Stanford Design School defines design thinking as “A methodology for creative problem solving.” Awareness about design thinking and the use of design thinking has grown dramatically in recent years. The process is particularly helpful in developing new programs. In fact, scholars have drawn parallels between the processes used by John Dewey to create lab schools and current design thinking processes (Whipps, 2019). In effect, it can be suggested that Dewey used design thinking strategies in the development and expansion of lab schools more than a century ago. Today, education researchers widely embrace design thinking as a strategy for educational program development (Kuo et al., 2021; Sanzo et al., 2021). Through this lens, the design thinking strategy will serve as an important guide throughout our planning process.

**Mission Alignment:** Scholars have highlighted the need for mission alignment between the lab school and higher education institution when developing lab schools (Carnahan, 2019). In fact, one author team advises the following: “Study the alignment of your laboratory school with the overall mission of your college. If you take steps to highlight what you already do to embody your college’s mission, and make future decisions and resource allocations mission-driven, then excellence in teaching, research and service may result, and your mission will be clear to all” (Carnahan and Doyle, 2012). A review of ODU’s mission shows that the planned lab school aligns with the institution’s mission. In particular, the mission of the institution states:

Old Dominion University, located in the City of Norfolk in the metropolitan Hampton Roads region of coastal Virginia, is a dynamic public research institution that serves its students and enriches the Commonwealth of Virginia, the nation and the world through rigorous academic programs, strategic partnerships, and active civic engagement.

The planned lab school supports this mission by 1) providing a modern administrative structure that supports offering “rigorous academic programs” training career and technical education teachers, and 2) strengthening ODU’s “civic engagement” in its commitment to contributing to the economy and workforce of the Hampton Roads region and the Commonwealth of Virginia, 3) advancing ODU’s standing as a “dynamic research university” through the studies conducted by professors involved with the lab school, 4) embracing the institution’s location in the “Hampton Roads region of coastal Virginia,” and 5) enhancing the “strategic partnerships” in maritime that ODU has developed throughout the region, particularly those relationships with school districts, regional industries, and the military.

In addition to its stated mission, recent activities of Old Dominion University further demonstrate the alignment of the institution to the planned lab school. For example, the ODU Board of Visitors recently approved the creation of an independent school of Supply Chain, Logistics, and Maritime Operations that would elevate maritime academic programming at ODU. Additionally, in November 2021, President Brian O. Hemphill approved the creation of the “Maritime Consortium,” an initiative bringing together all ODU stakeholders studying, teaching about, and developing partnerships with the maritime sector. Suffice it to say that maritime is one of ODU’s institutional pillars.

## References

- Berger, A., Turk-Bicakci, L., Garet, M., Song, M., Knudson, J., Haxton, C., & Cassidy, L. (2013). Early college, early success: Early college high school initiative impact study. *American Institutes for Research*.
- Brand, B. (2008, May). Supporting high quality career and technical education through federal and state policy. In *American Youth Policy Forum* (Vol. 1, p. 16). *American Youth Policy Forum*. 1836 Jefferson Place NW, Washington, DC 20036.
- Brown, G., & Thoroughman, K. (2017). Authentic learning. In *Field Guide to ePortfolio*. (pp. 25-31). Washington D.C.: AAC&U.
- Buente, W., Winter, J. S., Kramer, H., Dalisay, F., Hill, Y. Z., & Buskirk, P. A. (2015). Program-based assessment of capstone ePortfolios for a communication BA curriculum. *International Journal of ePortfolio*, 5(2), 169-179.
- Carnahan, S. & Doyle MA, D. T. (2012). College mission alignment: Lessons for laboratory schools. *NALS Journal*, 4(1), 2.
- Challis, D. (2005). Towards the mature ePortfolio: Some implications for higher education. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie*, 31(3).



- Clark, R. W., Threeton, M. D., & Ewing, J. C. (2010). The potential of experiential learning models and practices in career and technical education and career and technical teacher education. *Journal of Career and Technical Education*, 25(2), 46-62.
- Conneely, N., & Hyslop, A. (2018). CTE: Education for a Strong Economy. *Association for Career and Technical Education (ACTE)*.
- Darling-Hammond, L., & Sykes, G. (2003). Wanted, a national teacher supply policy for education: The right way to meet the "highly qualified teacher" challenge. *Education policy analysis archives*, 11, 33-33.
- Fletcher Jr, E. C., Warren, N. Q., & Hernández-Gantes, V. M. (2018). Preparing high school students for a changing world: College, career, and future ready learners. *Career and Technical Education Research*, 43(1), 77-97.
- Guha, R., Hyler, M. E., & Darling-Hammond, L. (2016). The teacher residency: An innovative model for preparing teachers. *Learning Policy Institute*.
- Heirs, S., & Manuel, M. E. (2021). Sustainable maritime career development: A case for maritime education and training (MET) at the secondary level. *TransNav: International Journal on Marine Navigation and Safety of Sea Transportation*, 15.
- Hoffman, N. (2003). College credit in high school: Increasing college attainment rates for underrepresented students. *Change: The Magazine of Higher Learning*, 35(4), 42-48.
- Hubert, D., Pickavance, J., & Hyberger, A. (2015). Reflective E-portfolios: One HIP to Rule Them All?. *Peer Review*, 17(4), 15.
- Kahn, S. (2014). E-portfolios: A look at where we've been, where we are now, and where we're (possibly) going. *Peer Review*, 16(1), 4-7.
- Kilbane, C. R., & Milman, N. B. (2017). Examining the impact of the creation of digital portfolios by high school teachers and their students on teaching and learning. *International Journal of ePortfolio*, 7(1), 101-109.
- Kuh, G. D., Gambino, L. M., Ludvik, M. B., & O'Donnell, K. (2018). Accentuating Dispositional Learning from HIPs Using e-portfolio. *Assessment Update*, 30(3), 8-9.
- Kuo, J. Y., Song, X. T., Chen, C. H., & Patel, C. D. (2021). Fostering design thinking in transdisciplinary engineering education. In *Transdisciplinary Engineering for Resilience: Responding to System Disruptions* (pp. 63-70). IOS Press.
- McNair, T. B., Albertine, S., McDonald, N., Major Jr, T., & Cooper, M. A. (2016). *Becoming a student-ready college: A new culture of leadership for student success*. John Wiley & Sons.
- Rezgui, K., Mhiri, H., & Ghédira, K. (2018). Towards a common and semantic representation of e-portfolios. *Data Technologies and Applications*, 52, 4, 520-538.

Sanzo, K. L., Vandecar-Burdin, T., Paredes, T. M., Mayes, L., & Payne, B. (2021). Re-imagining the future of experiential learning through a campus-wide design thinking initiative. In *Applying Design Thinking to the Measurement of Experiential Learning* (pp. 147-162). IGI Global.

Silva, T., McKie, A., & Gleason, P. (2015). New Findings on the Retention of Novice Teachers from Teaching Residency Programs. NCEE Evaluation Brief. NCEE 2015-4015. *National Center for Education Evaluation and Regional Assistance*.

Song, M., Zeiser, K., Atchison, D., & Brodziak de los Reyes, I. (2021). Early college, continued success: Longer-term impact of early college high schools. *Journal of Research on Educational Effectiveness*, 14(1), 116-142.

Silva, T., McKie, A., & Gleason, P. (2015). New Findings on the Retention of Novice Teachers from Teaching Residency Programs. NCEE Evaluation Brief. NCEE 2015-4015. National Center for Education Evaluation and Regional Assistance.

Tubaishat, A. (2015). Can e-portfolio improve students' readiness to find an IT Career. *Issues in Informing Science and Information Technology*, 12, 198-202.

Whipps, D. (2019). Dewey, Addams, and Design Thinking. *The Oxford Handbook of Dewey*, 313.

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

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

Representatives from Newport News Public Schools and Old Dominion University have met several times since May 2022 to discuss how to create a maritime-focused lab school, including NNPS parents and teachers. These meetings included larger group meetings and smaller focused meetings. Topics addressed in the meetings included student needs, workforce gaps, career opportunities, professional development considerations, pre-service educator training, and research avenues. Also considered were a wide range of partners whose input will be critical to the success of the school. These partners include: Virginia Space Grant; Newport News Shipbuilding-Huntington Ingalls Industries; Maritime Advisory Board for School of Supply Chain, Logistics, and Maritime Operations; 757 Regional Internship Collaborative; Reinvent Hampton Roads; and the Maritime Industrial Base Ecosystem which includes several partners, including but not limited to Virginia Port Authority, Port of Virginia, Virginia Chamber, Fairlead, Hampton Roads Workforce Council, Peninsula Council for Workforce Development, and Virginia Maritime Association. Figure 1 shows the distribution of MIBE partners across the region.

The Maritime and Coastal Innovation Collaboratory has been described to the partners and initial feedback has been overwhelmingly positive. During the planning grant, a series of design thinking sessions will be held with the partners with the aim of using their input to shape

the curricula, identify recruitment strategies, and determine innovative solutions for preparing career technical educators in the maritime industries.

Figure 1. Maritime and Industrial Base Ecosystem Partners



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

Old Dominion University and Newport News Public Schools have a longstanding partnership history. NNPS has worked with ODU on the Teacher-in-residence and Career Switcher programs to help fill classroom employment gaps. Additional partnerships include STEM design challenges, computer science curriculum and teacher professional development, GoVirginia partnerships with Digital Ship Design in partnership with NNS-HII. The Propelling STEM partnership between NNPS and ODU VMASC is creating an online gamification learning environment to expose youth to careers in digital shipbuilding.

## H. SUSTAINABILITY

1. The goal of the Planning Grant program is to support public institutions of higher education; public higher education centers, institutes, or authorities; or eligible institutions of higher education as defined in the Tuition Assistance Grant Program, as defined in § 23.1-628, as they develop and implement programs in order to create or

improve capacity to operate and sustain a Lab School independently of long-term state funding, and in a manner that promotes quality, innovation, and program results.

2. 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:

Old Dominion University has a number of robust programs already in place that will support this Lab School. The Teacher-in-residence program at ODU has been in place for several years and can easily incorporate the Maritime and Coastal Innovation Collaboratory for a long-lasting network of support for teachers and professional development.

Old Dominion also has research support for respective colleges and schools for assessing programs. Our evaluation team will monitor the lab school for design effectiveness and efficiency for student outcomes and long-term financial sustainability. The goal is to connect students with the maritime workforce, and the evaluation team will monitor the Lab School’s effectiveness in this goal.

Finally, ODU and NNPS have the physical space available to run the Lab School, and will continue to have this space available. One of the sites that will be leveraged is space in the Brooks Crossing Innovation and Opportunity Center. Funding from the US Department of Education ODU received as part of its *Maritime Trades Magnet (MTM) - Career Technical Education in An Underserved Community* program will be used to supply maritime trade instructional equipment at Brooks Crossing and other sites as part of this effort.

3. Identify potential affiliates, partners, and describe potential sustainable funding sources:

There are local and federal funding sources and partnerships that could be future sustainable funding sources. Locally, Newport News Shipbuilding-A Division of Huntington Ingalls Industries has funded numerous community projects in Newport News and specifically within Newport News Public Schools, they will be a continued asset in the creation and sustainability of the Maritime and Coastal Innovation Collaboratory. Additional local partners will come from the Maritime Industrial Base Ecosystem and an Industrial Advisory Board, partners who provide internships to NNPS students in the Lab School will be instrumental in the program’s success. The Greater Peninsula Community Foundation and the Hampton Roads Community Foundation will also be key players in the school's future funding.

Federally, future grants could easily fall to the National Science Foundation, especially with an emphasis on informal learning and STEM integration. The Department of Education would be a good fit for the Education Innovation and Research program. Finally, with the emphasis on connecting students to jobs, we will look to the Department of Labor for future funding.

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

The table below outlines five potential planning barriers and strategies we will use to address the barriers.

Barrier	How we will Address
The planning period is short and includes times when the participating stakeholders’ institutions are most busy.	The partners have the benefit of several months of working together on this project already. Where needed, employees will have

	their time reassigned to maximize effort.
Existing and ongoing efforts may create confusion	One of the MIBE staff assigned to the Maritime Trade Magnet programming will be assigned to work on this project at a level of .25FTE. This commitment is made throughout the entire funding period of the MTM project.
Resistance to change may limit planning with certain partners.	Design thinking practices will be integrated in a way that minimizes change aversion and fosters innovation.
Having too many partners involved may create ambiguity and confusion.	Planning sessions will be strategically scheduled to maximize the feedback and guidance of partners.
Competition between regional businesses is natural. Such competition may inhibit planning.	Using the MIBE and the Maritime Advisory Board, which includes business competitors who have a history of collaborating, will minimize this potential problem.

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

1. 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.
2. 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.
3. 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.
4. **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
<b>1000 – Personal Services</b>	Support for substitute teachers covering courses (\$5,000) Teacher summer apprenticeship (\$15,000) Purchase release time for ODU researchers (\$20,000) Stipends for faculty members (\$10,000) Graduate assistant stipends (\$15,000) Industry stipends (\$5,000) Program management support (\$10,000)	\$80,000
<b>2000 – Employee Benefits</b>		\$22,146
<b>3000 – Purchased/Contractual Services</b>	Conference Registration: Innovative Schools Summit, New York x 9 people (\$525 per person (4725) Conference Hotel (\$220 per night x 3 nights x 9 attendees) (5940) Conference Travel Round Trip Norfolk to New York (\$475 round trip x 9) (4275) Travel to visit High Tech High, Round Trip Norfolk to San Diego (\$600 round trip x 12) (7200) San Diego Hotel (\$250.00 per night X 2 nights x 12 attendees) (6000) Travel to West Dallas STEM School, Round Trip Norfolk to Dallas (\$450 X 12) (5400)	\$4,725 \$5,940 \$4,275 \$7,200 \$6,000 \$5,400

CATEGORY	DESCRIPTION OF EXPENSES	FUNDING REQUESTED
	Dallas Hotel (\$230.00 per night x 2 nights x 12 attendees) (5,520)  SRI Education - Lab School Planning Support  Lab School Consultant Stipends	\$5,520  \$30,000  \$10,000  Total: \$79,060
<b>4000 – Internal Services</b>		
<b>5000 – Other Services</b>	Conference Per diem (first and last \$48 , full days \$64, 9 people) (\$2,016)  Dallas Per diem (first and last \$51.75, full day \$69, 12 people) (\$2,070)  San Diego Per diem (first and last \$55.50, full day \$74) (\$2,208)	\$6,294
<b>6000 – Materials and Supplies</b>	Refreshments for workshops and design thinking sessions  Marketing materials	\$7,000  \$5,500  Total: \$12,500
<b>Total</b>		<b>\$200,000</b>

**\* 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.**

Please visit the [Virginia Department of Education OMEGA object codes universal guidelines](#) for a complete description of the budget categories.

## APPENDIX: PLANNING GRANT APPLICATION EVALUATION RUBRIC

For the applicant’s information, the following will be used as the Planning Grant Application Evaluation Rubric for this application. Applicant does not need to complete this section.

AREA OF CONSIDERATION	DESCRIPTION	POINTS AVAILABLE
Targeted Student Population(s) and Relevant Research	Application proposes intention to serve at-risk students and/or offer a new, innovative model of instruction grounded in evidence-based practices to improve student academic proficiency, mastery, college and career readiness, and long-term outcomes.	<b>30</b>
Clarity of Program Description Goal, and Timeline	The program description and goal are clear and attainable. Indication of programmatic, operational, and infrastructural capacity to advance an application to launch a Lab School program, as well as launch a Lab School no later than the 2024-2025 school year. Additional preference will be given to applicants with an earlier Lab School launch timeline.	<b>20</b>
Sustainability	Evidence of institutional commitment to the viability of a Lab School in a manner that promotes quality, innovation, program results, and sustainability.	<b>20</b>
Collaboration	Evidence of engagement and collaboration with stakeholders, including local school divisions, community-based organizations, employers, teachers and parents.	<b>15</b>
Regional and Applicant Diversity	Evidence of diversity of location, with the goal of Lab Schools in each Superintendent region. For applicant diversity, preference will be given to new applicants in the event a concurrent applicant has previously received a Planning Grant during the current application period.	<b>15</b>