VIRGINIA DEPARTMENT OF EDUCATION

Planning Grant Application
for a College Partnership Laboratory School

A.   GENERAL INFORMATION

1. 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).

2. 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.

3. Applications may be submitted on a rolling basis and will be evaluated for Planning Grant awards based on factors set forth herein.

4. **Planning Grant Term: This Application is for a one-time Planning Grant, the term (Term) for which will not exceed 12 months from the date of any award hereunder.**

5. The completed PDF version of the Application and related materials must be sent to labschools@doe.virginia.gov by email. The Department may return or reject an Application that is incomplete.

6. Please contact labschools@doe.virginia.gov by email if there are any questions about the Application process.

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A.1. KEY CONTACTS, SUBMISSION DATE, AND FUNDING REQUEST

1. **Name of Eligible Entity (Planning Grant Applicant):** Piedmont Virginia Community College

2. **Address of Eligible Entity (Planning Grant Applicant):** 501 College Drive Charlottesville, VA 22902

3. **Name of Authorized Official Representative:** Dr. John R. Donnelly

4. **Email Address for Authorized Official Representative:** jdonnelly@pvcc.edu.

5. **Telephone Number for Authorized Official Representative:** 434.961.5205

6. **Name of Contact Person for Application:** Dr. John R. Donnelly

7. **Email Address for Contact Person for Application:** jdonnelly@pvcc.edu

8. **Telephone Number for Contact Person for Application:** 434.961.5205

9. **Name of Partnering School Division (if applicable):** N/A

10. **Name of School Board Chairman of Partnering School Division(s) (if applicable):** N/A

11. **Email Address for School Board Chair of Partnering School Division(s) (if applicable):** N/A

12. **Name of Superintendent of Partnering School Division(s) (if applicable):** N/A

13. **Email Address for Superintendent of Partnering School Division(s) (if applicable):** N/A

14. **Name of Industry or Community Partner(s) (if applicable):** N/A

15. **Name of Contact Person for Industry or Community Partner(s) (if applicable):** N/A

16. **Email Address for Industry or Community Partner(s) (if applicable):** N/A

17. **Phone Number for Industry or Community Partner(s) (if applicable):** N/A

18. **Date of Submission:** February 24, 2023

19. **Amount of Funding Requested ($200,000 maximum):** $146,695

B. DEFINITIONS

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.

C. ASSURANCES AND SIGNATURES

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 this 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:
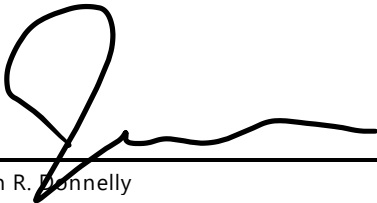
TIMELINE	BENCHMARK AND DELIVERABLES
On or before the end of the first quarter of the grant term	Awardee must present a proposed list of milestones, measures of success, and deliverables.
On or before the end of the second quarter of the grant term	Awardee must submit a progress report in order to be 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. <u>Higher Education Authorization:</u>

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

X _____

John R. Donnelly

Printed Name: John R. Donnelly, Ph.D.
Title: Vice President for Instruction and Student Services
Date: February 24, 2023

    b. <u>Fiscal Agent Authorization (if applicable):</u>

Signature of Division Superintendent of Fiscal Agent School Division:

Printed Name: Click or tap here to enter text.
Title: Click or tap here to enter text.
Date: Click or tap here to enter text.

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

Printed Name: Click or tap here to enter text.
Title: Click or tap here to enter text.
Date: Click or tap here to enter text.

D. REGIONAL AND APPLICANT DIVERSITY

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 Superintendent Region of Proposed of Lab School: Region 5-Valley

3. Indicate Proposed Name(s) of Lab School: PVCC Pathways to Tech Lab School

4. Identify Proposed Physical Location(s) of Lab School: Piedmont Virginia Community College's Main Campus, Charlottesville, Virginia.

E. PROGRAM DESCRIPTION, GOAL, AND TIMELINE

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

   Piedmont Virginia Community College (PVCC) requests $146,695 to establish a PVCC Pathways to Tech Lab School focused on high-demand, high-wage pathways in advanced manufacturing and Information Technology (IT). An estimated 800 high school students from the City of Charlottesville and the counties of Albemarle, Fluvanna, Greene, Louisa, Nelson, and Buckingham will be engaged through this innovative Lab School over the next ten years. Accelerated credential and degree completion targeted toward careers with lucrative earnings will position our young community members for a lifetime of success. Strong support for this project is reflected through engagement of four school divisions and active partnerships with over 20 employers in the advanced manufacturing and IT sectors.

   The PVCC Pathways to Tech Lab School design is built on a three-tier, employer-driven, stackable credential model. The advanced manufacturing program prepares students for entry-level employment as manufacturing technicians through a Level 1 Career Studies Certificate (CSC). Students specialize as an electronics or mechanical technician through the Level 2 CSC. An Associate of Applied Science in Industrial Electronics degree with a specialization in either Electronics Engineering Technology or Mechanical Engineering Technology is the final credential (Level 3). In the IT area, students are prepared for certificates in help desk or introductory programming through the Level 1 CSC. At the next tier, students choose a concentration track leading them to the Level 2 CSC in programming concepts or networking support. An Associate of Applied Science in Software Development, Programming, Cloud Computing, or Cybersecurity is the ultimate degree. This stackable credential model

provides students a clear pathway to earn multiple credentials and immediately enter the workforce to gain mid-skill employment. More than 22 regional employers contributed to the stackable credential designs and are eager for a steady pipeline of credential completers.

High school juniors and seniors will have access to the PVCC Pathways to Tech Lab School in the new, state-of-the-art Woodrow W. Bolick Advanced Technology and Student Success Center. The College will enroll up to 80 students per year in cohorts of 20. Level 1 and 2 certificates will be completed during junior and senior years of high school. Students will earn associate degrees within one year of high school graduation. This accelerated education to employment model will appeal to a diverse student population and meet the needs of students who must support themselves financially after high school graduation. Data shows that students of color and economically disadvantaged students have had the most significant learning declines from pre-pandemic achievement levels. Recruitment efforts will focus on student populations typically underrepresented in technology fields, including women and students of color. PVCC will align recruitment efforts with students who were impacted by Covid learning loss.

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

Strong regional demand for a skilled advanced manufacturing workforce influenced PVCC's plans to construct a $24 million Advanced Technology and Student Success Center (scheduled to open January 2024). Advanced manufacturing has been identified as one of Central Virginia's top five target growth industries, according to the Labor Market Strategies 2021 report issued by the Central Virginia Partnership for Economic Development. Employers have taken note. More than 30 employers in this sector have been actively engaged in PVCC's advanced manufacturing program since it was established six years ago. Employment projections show a demand for 400 skilled technicians in advanced manufacturing for Central Virginia over the next five years, according to 2022 Lightcast data. Pay for entry-level positions ranges up to $50,000 per year. PVCC is committed to creating a pipeline of highly skilled technicians to meet these local employment needs. The College has strong working relationships with advanced manufacturing industry leaders, including Northrop Grumman, Klockner Pentaplast, RIGID, MicroAire, Virginia Diodes, Gaston and Wyatt, Lighthouse Instruments, and the National Radio Astronomy Observatory (NRAO).

PVCC recently co-developed and launched an Associate of Applied Science Degree in Technical Studies-Software Development with WillowTree. Headquartered in Charlottesville, VA, WillowTree is one of the largest employers of software developers in our region. The company

operates 13 global studios and a client roster that includes CBC, PepsiCo, Marriott, and many Fortune 500 companies. In December 2022, WillowTree CEO Tobias Dengel proudly stated, "The technology industry in our region has come to rely on PVCC to provide high quality training to fulfill our workforce needs." Software and web development positions in our service region pay a median hourly wage of $48.21, according to EMSI Burning Glass 2022 data. The report projected an additional 368 software and web development positions by 2030 for PVCC's service region and 8,962 job openings statewide. Demand for computer operators, computer user support specialists, and programmers is also strong. Healthcare is the largest industry in our local workforce development area and is highlighted in our Commonwealth of Virginia Workforce Investment Opportunity Act (WIOA) plan. Healthcare offers qualified workers significant IT secondary market employment opportunities. This regional demand has resulted in an impressive level of employer engagement. More than 15 IT employers contributed to the design of the stackable credential model aligned with these IT employment options. PVCC has strong working relationships with IT industry leaders, including WillowTree, Booz Allen Hamilton, Crutchfield, Bluestone Analytics, Advanced Network Systems, and the University of Virginia.

Career pathways must be clearly mapped for local high school juniors and seniors to adequately meet regional workforce demand for skilled advanced manufacturing and IT technicians. Several dual enrollment courses are now offered in advanced manufacturing and IT in partnership with regional high schools. However, a clearly defined educational pathway with industry-recognized credentials and direct alignment to jobs does not exist. High school students in our service region need to be presented with this type of plan that highlights an accelerated path to 1) earn credentials and an associate degree, 2) connect with lucrative careers with growth opportunities, and 3) develop significant earning potential. Pathway alignment will save students a significant amount of time and will provide students not seeking a four-year degree with options for earning a family sustaining wage. As outlined in the Orange Dot Report 5.0, published in October 2022, families in our service region require a minimum of $35,000 per year to cover costs associated with basic needs. While more than 66,000 families live in our service region, 9,413 (14%) make less than $35,000 per year. Further outlined in Orange Dot Report 5.0 is the significant racial disparity between households of wealth and poverty. Economic insecurity is scattered throughout our region and then concentrated in pockets. The City of Charlottesville is home to the four neighborhoods with the highest percent of families who are struggling. These families need a solution as they work to recover from the impacts of the pandemic. Their children need pathways to economic prosperity and a brighter future.

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):*

PVCC's Pathways to Tech Lab School provides a unique workforce development solution for our region. High school students will be engaged on PVCC's campus to learn with state-of-the-art technologies and systems in environments that emulate the workplace. The industry-driven stackable credential programs for advanced manufacturing and IT have a mastery learning focus that increases student exposure to an array of equipment and technology through guided activities. An innovative flipped classroom model will allow students to watch lectures off campus and then focus on active learning activities on campus when the need for guidance from the course instructor is greatest. PVCC will adopt a blended flipped mastery model to maximize student benefit. This approach was selected after PVCC consulted numerous books, reports, journal articles, and subject matter experts focused on mastery learning and flipped classroom models. Local University of Virginia expert Dr. Angeline Lillard, a researcher in mastery learning in K12 and post-secondary education, was contacted to provide guidance and feedback on curriculum development as the model is fleshed out further. As presented by Cesar Caceres-Taladriz at the April 2021 Institute of Electrical and Electronic Engineers (IEEE) Global Engineering Education Conference, the flipped mastery model's exploratory nature helps students gain confidence as they eventually master concepts through trial and error. Student academic proficiency and mastery will improve because of this innovative learning model.

High school students enrolled in PVCC's Pathways to Tech Lab School will be prepared for college and career success. Students will become familiar with PVCC by attending classes in the Pathways to Tech Lab School on the main campus. The new Woodrow W. Bolick Advanced Technology and Student Success Center will centralize PVCC's student services, offering a one-stop resource for comprehensive student support resources including a career center. Each stackable credential program includes a mandatory course focused on orienting students to PVCC and available resources to support college and career success. This combination of location, centralized support services, and a dedicated orientation course will prepare high school students to successfully advance.

The Pathways to Tech Lab School will present high school students with accelerated access to high-need, high-wage jobs. Students will earn two industry-recognized credentials by the time they graduate from high school and will be positioned to complete an associate degree within one year of graduating high school. This time and money-saving model

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represents a life-changing opportunity for individuals in a service region with more than 9,400 families making less than $35,000 per year, as reported in the Orange Dot Report 5.0, October 2022.

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

The advanced manufacturing and IT programs contain innovative instructional pedagogies through the flipped classroom and mastery learning models. Course materials, project-based learning, and capstone projects are designed with a mastery lens. The mastery focus requires students to meet a minimum level of comprehension in a topic, typically 90%, before progressing to the next topic (Bloom, 1968) (Lillard, 2022). This is important because as students build knowledge of complex technical topics, they must have a strong foundation of understanding. The flipped classroom approach provides recorded lectures, gives students the opportunity to revisit lectures on demand, and maximizes hands-on lab and practice time. The combined flipped mastery model allows students ample time to investigate new material and gain skills and confidence through trial and error (Taladriz, 2021). This approach will be particularly beneficial for students who experienced learning loss due to Covid. The National Education Association lists high quality learning experiences and maximizing interactive learning experiences among best practices to employ when supporting the most at-risk students post-COVID.

Students enrolled in PVCC's Pathways to Tech Lab School will learn in an environment that simulates the workplace. Students will practice with equipment, industry tools, technology, and software used by workers in advanced manufacturing and IT fields. Some technologies are particularly complex and require repeated hands-on use to master. Simulation equipment will further expose students to problem-solving scenarios they may encounter in the workplace and further develop troubleshooting skills. Employers involved in the design of the stackable credential programs contributed to master lists of technical knowledge, skills, and abilities that students should demonstrate as workplace-ready technicians of the highest caliber. Examples of the skills that will be demonstrated by advanced manufacturing students include computer-aided design, metal machining, printed circuit board manufacturing, welding, and woodworking. IT program completers will demonstrate competence in areas ranging from writing and debugging code, application development, web development, and computer programming, to data management, network security, and software development.

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

PVCC faculty have been actively engaged in creating curricula and modifying courses to support the stackable credential model and to implement the flipped classroom model and mastery learning. As a result, faculty teaching IT courses and advanced manufacturing courses are better prepared to teach innovative courses leading to high-demand employment. Creating a laboratory school in these two areas will continue this work and professional growth.

Increased employer engagement will provide faculty with even more opportunities to remain current with industry trends and design work-based learning opportunities for students. Internships, apprenticeships, job-shadowing opportunities, mock interviews, and job fair preparation are already incorporated in the advanced manufacturing and IT programs. This work will continue and expand as the student pipeline expands.

Professional development will continue as faculty collaborate with K12 teachers and contribute to pathway mapping and messaging. PVCC faculty will participate in joint training sessions with K12 teachers to coordinate curriculum and pedagogical techniques. Pathways in advanced manufacturing and IT will need to be mapped out and shared through a digital marketing campaign to effectively communicate with school partners, teachers, parents, and students the streamlined opportunities to high-wage, high-demand employment. Faculty will serve a key role in the content development phase of the marketing plan and gain new perspectives on recruitment techniques.

f. Content areas addressed:

Advanced Manufacturing: engineering drawing, electronics, mechanics, mechatronics, manufacturing techniques, machining, and robotics.

Information Technology (IT): mobile computing, software development, network security, computer crime/hacking, computer forensics, cloud computing, information storage, database analytics, systems analysis and design, programming languages, server administration, computer operating systems, and web page design.

2. GOAL
State the overall proposed goal for the Lab School:

Create model educational pathways in advanced manufacturing and IT that reduce time-to-degree and that expedite entry for high school students into high-need, high-wage jobs.

3. **TIMELINE**

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

PVCC is well-positioned to support the Lab School Planner, lead the planning process for the PVCC Pathways to Tech Lab School, and successfully present a plan for full implementation during this 12-month grant period. Outlined below is the quarterly timeline.

March – May 2023

- Hire and onboard PVCC Pathways to Tech Lab School Planner to provide project leadership.
- Engage PVCC faculty and administrators, school division stakeholders, parents, and community members to create a stakeholder planning committee.
- Work with faculty, administrators, and planning committee members to create a list of milestones, measures of success, program learning outcomes, and student learning outcomes.

June – August 2023

- Lead bi-weekly meetings with committee members.
- Facilitate Lab School activities for the planning year and lead recruitment and outreach to school divisions and parents.
- Prepare PVCC Pathways to Tech Lab School progress report.

September – November 2023

- Lead bi-weekly meetings with committee members to monitor progress and continue mapping out Lab School infrastructure.
- Prepare and present progress report on milestones and deliverables.
- Submit an application to the Virginia Board of Education for approval to launch the PVCC Pathways to Tech Lab School by August 2024.

January - February 2024

- Secure approval from the Virginia Board of Education to launch the PVCC Pathways to Tech Lab School in the new, state-of-the-art Advanced Technology and Student Success Center.

1. **TARGETED STUDENT POPULATION**
   a. Describe the student population planned for the proposed Lab School, including the number of students, reporting group(s), and grade level(s) contemplated, and discuss why the specific student population is targeted to attend the Lab School.

   PVCC will recruit high school juniors and seniors from the seven school divisions within the college's service region (Albemarle, Charlottesville, Louisa, Fluvanna, Greene, Nelson, and Buckingham). PVCC has strong relationships with high schools throughout the service region. Recruitment efforts for advanced manufacturing and IT will focus on students in underserved populations and underrepresented population groups including females, students of color, and students who are economically disadvantaged. Proven methods for recruiting and supporting a diverse population of students will be employed by utilizing resources available through the National Alliance for Partnerships in Equity (NAPE). An intentional approach will be used to engage students who were impacted by Covid learning loss. At full capacity, PVCC's Pathways to Tech Lab School will serve 80 students per year in each stackable credential pathway (40 juniors and 40 seniors).

PROPOSED GRADES TO BE SERVED FOR THE FULL TERM OF THE APPROVED LAB SCHOOL CONTRACT (PLEASE CHECK ALL THAT APPLY*)			
Pre-K		Sixth Grade	
Kindergarten		Seventh Grade	
First Grade		Eighth Grade	
Second Grade		Ninth Grade	
Third Grade		Tenth Grade	
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 also provide this information in Section E. Program Description.

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

Piedmont Virginia Community College principally serves the City of Charlottesville and the six surrounding counties. This service region represents a mix of urban, suburban, and rural populations that create a diverse student body including significant proportions of traditionally underserved populations. Economic insecurity is concentrated in pockets throughout the region. Approximately 35 percent of students who are in a declared program of study leading to completion of a degree or certificate receive needs-based financial aid and approximately 36 percent are first generation college students.

    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:

The PVCC Pathways to Tech Lab School will focus on the high-demand, high-wage fields of advanced manufacturing and Information Technology (IT).

2. **RELEVANT RESEARCH**

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

The design of PVCC's Pathways to Tech Lab School is well-researched and positioned for a successful launch. The overall goal of the planning grant is to create model educational pathways in advanced manufacturing and IT that reduce time-to-degree and that expedite entry for high school students into high-need, high-wage jobs.

Proposed Student Population:

The Orange Dot Report 5.0 comprehensive review of PVCC's service region highlights the need to present families in our service region with high-demand, high-wage career opportunities. This must be done to end the cycle of poverty. The report exposes the significant racial disparity between households of wealth and poverty. Guidance emerging about pandemic impacts across the Commonwealth of Virginia indicate the largest learning gaps are reflected in groups of students who are economically disadvantaged and minority students. The analyses provided in the reports position PVCC and partner school divisions to carefully target recruitment efforts to engage a diverse student population in the Pathways to Tech Lab School. The National Alliance for Partnerships in

Equity (NAPE) will provide additional support for recruitment and retention of a diverse pipeline of students. NAPE expertly provides resources including professional development, toolkits, and best practices to aid in creating equitable learning environments. These resources, including the STEM Equity Program Evaluation Rubric, will be utilized as courses are revised to make certain that the learning needs of all students are being addressed. NAPE resources include best practices for attracting and educating women in advanced manufacturing, which is a desired outcome for the Pathways to Tech Lab School. This work aligns with the Virginia Community College System's six-year Opportunity 2027 Strategic Plan to provide equity in access, learning outcomes, and success for students from every race, ethnicity, gender, and socioeconomic group.

Curriculum Design:

To deliver graduates who are workplace-ready technicians of the highest caliber, Lab School foundational courses must be designed with a mastery learning focus and maximize hands-on learning. This Pathways to Tech Lab School will implement a combination of the flipped classroom and mastery learning, offering students the opportunity to gain greater comprehension through active learning activities leading to exceptional student outcomes. The flipped classroom is a student-centered model that encourages students to collaborate and achieve effective learning in e-generation students (Tsai, 2021). PVCC will adapt and build upon the flipped classroom work of Jim Pytel at Columbia Gorge Community College funded through the National Science Foundation (Award ID: 1600434 and 2100047). Mastery learning is the method where students are required to meet a minimum level of comprehension in a topic, typically 90%, before progressing to the next topic (Bloom, 1968) (Lillard, 2022). This is important because, as the students are expanding their knowledge of a complex technical topic, they must have a strong foundation of understanding to build upon. In the typical educational models, 60-70% knowledge is acceptable to proceed in a course, but this leads to significantly lower student outcomes. The flipped mastery model allows students to investigate new material without any repercussions to their grades, and gain confidence as they eventually master concepts through trial and error (Taladriz, 2021). The model's exploratory nature helps students enter the job market with comprehension of their strengths, challenge areas, and interests.

The Community College Research Center highlighted in April 2022 how to use dual enrollment programming to intentionally increase college access and success for first-generation college students, students of color, English learners, and others. A Dual Enrollment Equity Pathways (DEEP) framework outlines a four-step process for colleges and K12 partners to collaborate to advance equity through dual enrollment. The Center will continue to serve as a resource as an applied research project focused on scaling these efforts unfolds.

G. COLLABORATION AND STAKEHOLDER INVOLVEMENT

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

   PVCC enjoys strong collaborative relationships with all seven school divisions in the service region. Formal partnerships have been established for offering dual enrollment courses. It is also common to enter into new agreements for grant partnerships and other joint ventures to benefit students. Charlottesville City Schools and Albemarle, Greene, and Louisa County public school divisions have already expressed interest in the PVCC Pathways to Tech Lab School concept. PVCC will secure formal commitments from all school divisions within our service region upon notification of award for the planning grant.

   More than 22 regional employers contributed to the stackable credential design for advanced manufacturing and IT programs. Students will continue to benefit from this industry-driven curriculum and high level of employer engagement. Employer support has included serving on curriculum advisory committees, developing curriculum, providing work-based learning opportunities, presenting in classes, providing adjunct faculty, and interviewing and hiring program graduates. PVCC's recent collaborative effort with WillowTree is an example of the strong bonds forged with area employers. To meet immediate and emergent employment needs, PVCC and WillowTree partnered successfully to create an Associate of Applied Science in Technical Studies-Software Development. This process - from beginning discussions, to creating the degree, to gaining degree approval - was all accomplished in less than 12 months. This level of engagement will continue during the planning grant period as employers serve on the stakeholder committee, provide input on curriculum, and prepare to interview and hire students who have earned credentials through the Lab School.

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

   PVCC will partner with the seven school divisions in the service region. Each school division will have the opportunity to send high school juniors and seniors to the Lab School. The number of students attending from each school division will likely be based on population of each locality. Students will earn both high school and college credit upon successful course completion. School divisions will be responsible for providing transporting students to and from the Lab School. All classes will be taught by PVCC faculty using College classrooms and laboratories.

   PVCC will select the faculty members who will teach in the Lab School. The College will also make all textbook selections. Student eligibility requirements will be set by the dual enrollment contract in place at the time of enrollment. Any

additional eligibility requirements will be determined by the school divisions. PVCC will provide progress reports to school divisions as requested.

H. SUSTAINABILITY

1. The goal of the Lab School 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. Describe the Applicant's capacity to implement a Lab School:

Piedmont Virginia Community College was established in 1972 and has grown from a one-building campus with initial enrollment of 682 students to a multi-location institution with annual enrollment of more than 7,100 students. Now offering 40 academic programs and tuition that costs 1/3 that of four-year institutions in Virginia, PVCC provides pathways to financial self-sufficiency, education aligned with regional employment, and a brighter future. The rich 50-year history of innovation, success, and growth, includes decades of relationship building and community partnership that has prepared PVCC well to lead the Pathways to Tech Lab School initiative.

The Pathways to Tech Lab School is positioned for long-term success with dedicated facilities and natural alignment with internal and external support systems. Approximately 15,000 square feet of PVCC's Advanced Technology and Student Success Center will be dedicated for classrooms, laboratories, and collaborative learning spaces. High school students enrolled in the Pathways to Tech Lab School will be trained for some of the most lucrative jobs in our region in this state-of-the-art facility. Organizationally, the Lab School will be embedded in the Division of Business, Mathematics, and Technologies where the current advanced manufacturing and IT certificates and degrees are offered. PVCC employs four full-time faculty members in the IT field and one full-time faculty member in advanced manufacturing. These full-time faculty members are supported by 10-15 part-time adjunct faculty members. Faculty teaching in the Lab School will be supervised by the division dean. Leadership for the Lab School will be provided through PVCC's Office of the Vice President for Instruction and Student Services with full support from PVCC President Jean Runyon. PVCC's relationships with the largest advanced manufacturing and IT employers through curriculum advisory board membership and workplace learning initiatives will ensure program alignment with industry needs. Strong school division partnerships that support more than 2,100 dual enrollment students each year will continue to grow as students thrive through the Lab School program.

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

During the planning year, PVCC will strengthen relationships with school divisions, local employers, community-based organizations, and economic development organizations who will provide expertise and input into the implementation and operation of the Lab School. The College will collaborate with the Virginia Community College System and school systems to identify existing and potential funding sources for Lab School support. PVCC will also engage the local philanthropic community and existing donors for financial support. PVCC and school divisions will provide in-kind support through faculty, staff, and administrator time.

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

A barrier to the planning process and implementation of PVCC's Pathways to Tech Lab School may be the ability for all school divisions to participate. Several school divisions are located far from PVCC's main campus and transportation issues may preclude some school divisions from participating. However, Monticello High School is located next to the College and has an existing walkway leading directly to PVCC's main campus buildings. Charlottesville High School is located a short five miles from PVCC's main campus. If needed, the Lab School launch could be rolled out in phases to allow immediate access to students in high schools closer to PVCC, and more time to coordinate transportation for students attending high schools in locations further away.

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 the proposed Lab School. The Planning Grant Term 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 Term must be returned by the recipient to the Department.**

CATEGORY	DESCRIPTION OF EXPENSES	FUNDING REQUESTED
1000 – Personal Services	Full-time Lab School Planner salary of $70,000 PVCC faculty professional development stipends ($10,000) Stipends for curricular design/revision (4 faculty x $5,000 stipend each) $20,000	$100,000
2000 – Employee Benefits	Fringe benefits for full-time Lab School Planner (estimated 42% x $70,000 = $29,400) FICA for stipends (7.65% x $30,000 = $2,295)	$31,695
3000 – Purchased/Contractual Services	K12 teacher professional development stipends ($10,000) Travel and meeting expenses ($5,000)	$15,000
4000 – Internal Services		
5000 – Other Services		
6000 – Materials and Supplies		
Total		**$146,695**

* 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.	**30**
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.	**20**
Sustainability	Evidence of institutional commitment to the viability of a Lab School in a manner that promotes quality, innovation, program results, and sustainability.	**20**
Collaboration	Evidence of engagement and collaboration with stakeholders, including local school divisions, community-based organizations, employers, teachers and parents.	**15**
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.	**15**