

*Program Evaluation*

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## Charlottesville Albemarle Technical Education Center (CATEC)

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# Program Evaluation Framework

## Evaluation Design: Summative Evaluation

**Purpose (two-fold):** To help decide if ACPS should continue, modify, or end the program at CATEC; and, to provide information for future planning

Evaluation findings used by the operational cabinet and by the School Board.

### Evaluation Questions: Data Source

1. Is the money we are putting into the program at CATEC a good return on investment, based on the current CATEC strategic plan?
  - a. What is the cost for CATEC to operate each year, in total? **Budget documents from CATEC and ACPS budget books**
  - b. What is the operational cost each year for Albemarle County Public Schools? **ACPS budget books**
  - c. What is the capital cost to the county of Albemarle/schools? **ACPS data reported by Building Services**
  - d. What is the cost to run each program at CATEC (cosmetology, dentistry, HMSCA, IT, etc.)?  
**Based on per pupil cost and enrollment NOT COMPLETED data limitations**
  - e. What is the per pupil cost? **Budget documents and enrollment data**
  - f. What does it cost other school systems per pupil to provide similar services? **VDOE Annual Superintendent's Report Data limitations in reporting per pupil cost**
  - g. Does VDOE see a shift in funding for CTE? **Interview with VDOE staff**
  - h. How many students enroll in each program and what is the capacity? **Enrollment data provided by CATEC**
  - i. How many credentials do students earn? How many credits? **Credentialing, dual enrollment credit data provided by CATEC**
  - j. Are there any state/regulatory requirements that would prohibit any changes to CATEC? **State and federal CTE regulations**
2. What information can we gather about the current CATEC center model to inform decision-making for future planning?
  - a. What changes have been implemented from the most recent strategic plan? Why? **Interviews with current and former CATEC leadership**
  - b. What recommendations were not implemented and why? **Interviews with current and former CATEC leadership**
  - c. What works in the CATEC model? What is not working? **Interviews with current and former CATEC leadership; student self-report questionnaire**
  - d. What can we learn from this program in order to construct a center model for HS 2022? **Interviews with current and former CATEC leadership; student self-report questionnaire**
  - e. What areas, identified in 2013-14 as challenge areas, are still areas for improvement at CATEC? **Interviews with current and former CATEC leadership as compared to challenges presented in strategic plan**
  - f. Why has there been high turnover in leadership? How frequent have programmatic changes been? **Interviews with current and former CATEC leadership**
  - g. Is CATEC preparing kids for the right careers? Are the job opportunities increasing for the programs in which kids can earn credentials? Do those jobs provide for a “successful” financial

outlook in life? VDOE research on Virginia workforce requirements; student self-report questionnaire

- h. What programs/courses are we currently offering? What do students want? Program of studies; Student self-report questionnaire
- i. What are the state and national trends for CTE and how has CTE aligned with those trends? Current CTE research; research included in the 2013-14 Strategic plan

**Data Gathering:** To answer the questions for part I, we will rely primarily on data provided by CATEC including budget documents, student enrollment data, and grade and completion data. We will also contact VDOE to gather data on CTE requirements, emerging trends, and any fiscal changes. If possible, we will attempt to provide like per pupil costs. The data will simply report trends since the 2013-14 Strategic Plan development. Indicators of success are upward trends for the numbers of students receiving industry credentials and dual enrollment credits as well as upward trends in enrollment or maximized course enrollment, particularly in the newer courses related to the strategic plan. Other indicators of success include student achievement on state benchmarks and grade information.

To answer the questions for part II, we will conduct interviews with former and current leadership at CATEC. We will also use the most recent strategic plan as a starting point for data gathering and questioning. Additionally, we will develop a short survey for ACPS students to see what programs they desire and what reasons keep them from participating in CATEC programming?

**Data Limitations:** CATEC does not track their budget by instructional program area, so the cost per program is not provided. School divisions report K-12 enrollment, but it is not reported to VDOE by regional technical center. Phone calls to each regional technical center provides an estimate for other center enrollment figures. Per pupil costs for other centers are not provided. The survey is a survey of convenience and has varying participation rates at each high school.

**Timeline:** The evaluation timeframe target is to **complete the evaluation report by April** and to present in the May or June School Board meeting. We will conduct check-ins on the evaluation progress in February and in March.

## Executive Summary

This investigation seeks to provide information to the School Board about the program at the Charlottesville Albemarle Technical Education Center (CATEC). The evaluation questions center around two ideas: 1) What is the cost to Albemarle County Public Schools to send students to CATEC versus the enrollment numbers? and 2) What can we learn from CATEC to inform our decision-making around our own “center model” development? The evaluator conducted the research and evaluation components from January 2018 to March 2018.

The evaluation consisted of analyzing CATEC’s budget and enrollment data, gathering information from the Virginia Department of Education about the current state of CTE, conducting a short survey with Albemarle County Public Schools students, and interviewing current and former leaders at CATEC.

Analysis of the data shows that operational costs for Albemarle County are trending upwards while enrollment numbers for both the county and the City of Charlottesville are trending down. With fewer students attending programs, the cost per pupil increases. Performance measures indicate that CATEC provides an engaging and supportive school climate for students, expanded opportunities to earn workforce credentials and dual enrollment credit, and real-world job experiences through internships, apprenticeships, and mentorships. Some

academic and state performance measures including end of year grades and nontraditional student enrollment show room for improvement.

The student survey indicates that ACPS students may not attend CATEC due to the programming. Other factors including scheduling conflicts and increased opportunities to take CTE electives at the base school contribute to the decline in student enrollment, according to the survey responses. Students indicate a desire for real-world interdisciplinary elective courses that give them an on-the-job experience. Top categories for programming include health and medical sciences, STEM-related topics, fine arts, information technology, and marketing.

Interviews with current and former leadership highlight the positive partnership between the county of Albemarle and the city of Charlottesville for the joint programming at CATEC. Continued challenges include the “vocational” stigma attached to CATEC and the partnership with base high schools to guide students to career pathway opportunities at CATEC.

## Introduction, Background, and Recent History of CATEC

CATEC is a regional technical center that has been open since 1973 and services a number of Albemarle County Public Schools students as well as adults. This report is not intended to support or refute the importance of career and technical education, but rather, to look at a delivery model for CTE for Albemarle County High School students. Currently, ACPS students may earn a CTE credit needed for graduation from their base high school by taking an elective course at school or online, through a specialized academy at their base high school, or from CATEC.

CATEC is a joint venture with the City of Charlottesville and, as such, the operational costs and administration of the CATEC programming is shared. The funding request formula, derived from the original 1969 agreement between the School Board of Albemarle County and the School Board of the City of Charlottesville, states, “The expense of operation and maintenance of the Vocational-Technical Center will be shared by the two School Divisions. The share of each Division will bear the same relation to the total cost, as the average daily attendance for the prior year of all pupils grades 9 through 12 in all schools in said Division bears to the total average daily attendance of all pupils grades 9 through 12 in both Divisions....” (Agreement, p.4, 1969). In 1995, the funding formula changed to include the current year and the previous three years’ average daily membership for both school divisions and CATEC (History). A recent appraisal conducted by Pape and Company in March 2015 values CATEC at \$6,700,000 for the 13+-acre campus and the building. A separate appraisal values the land (as if vacant) at \$2,340,000 for development with an R-4 Subdivision (high density residential) and at \$3,520,000 for development with an institutional use. For the full reports, see the Chief Operating Officer, Albemarle County Public Schools (Waite, 2015). The property and location are valuable for both school divisions as a shared resource.

Most agree that CATEC can be a valuable experience for those students who attend and successfully complete their program of study, especially when they enter the job force upon completion. One might ask, however, is this the most cost effective model for our school division? The mission for CATEC is to develop workforce skills and careers for both high school students and adults. This program evaluation asks if the money budgeted for CATEC is a good return on investment. CATEC conducts a survey of graduates that provides some insight into the long-term goal achievement, but there are few respondents. The number of students who earn dual enrollment credits, the number of students who develop workforce skills and the number of students who earn industry credentials may paint a picture of the work that CATEC is doing to meet its mission.

Data suggest that CATEC is meeting its mission and has made progress on the suggestions described in the most recent strategic plan, but enrollment continues to be a challenge. Data also suggest that future planning for CTE should be strategic so that ACPS can maximize its current CTE resources. CATEC has implemented two

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academies that provide clear pathways for careers, provide dual enrollment credits, and align with businesses in the community. These two academy models support the vision outlined by the Bridgewater Innovations Group and appear to be moving the center in a new direction. [See Appendix D, Pathways to Success]

Central to this program evaluation, is the most recent strategic planning process, conducted from 2013 to 2014. Developed in detail by The Bridgewater Innovations Group, Dr. Hastings, then-director, planned to execute it. Ultimately, another Strategic Planning Officer executed the plan. The current director of CATEC is Dr. Daphne Keiser, and she is completing her second year. Since 2005, and certainly since 2013, there has been steady turnover in school leadership. This certainly contributes to a lack of continuity in vision and in the timely execution of planned strategies.

In 2013, CATEC commissioned the Bridgewater Innovations Group, led by Dr. Grant Tate, to conduct a strategic assessment of CATEC. The study emphasized the need for collaborative relationships between education centers and employers in order to provide agile, work-ready employees to enter the workforce. After research and various redesigns, the final strategic model, the Institutes or Academy Model, was selected. This model requires collaborative efforts and leadership from CATEC, PVCC, their governing bodies, city and county administrators, regional employers, and the community. The Academy rollout was suggested to occur over four to five years and the academy implementation recommendations for school year 2015-2016 were Health Care & Medical Services and Information and Engineering Technology.

CATEC collaborated with PVCC, Reynolds Community College, and local businesses to develop the Healthcare and Medical Services Academy. The Academy consists of programs in Dental Careers I & II, Nurse Assistant I & II, Pharmacy Technician I & II and Emergency Medical Technician I & II. Medical Coding was presented as a possible new program; however, it was not implemented. [See Appendix A, Credential Information by Trade, School Year 17-18 for current credentialing and Appendix B for dual enrollment credit options.]

The Information & Engineering Technology Academy opened the fall of 2016. CATEC collaborated with PVCC, Cisco Systems, and local businesses to develop career and educational pathways in computer networking and cyber security. The Computer Network Hardware I & II course was offered in 2016 and Computer Network Hardware III & IV was offered in 2017. Plans are to expand the program in the areas of cyber security and engineering.

Operational recommendations that have occurred since school year 2014-2015 include hiring a Strategic Planning Officer, Director, and staff for new programs; providing support for enhancement of facilities and resources; approving new Academy programs; providing career development; arranging internships and job shadowing experiences; and convening program area advisory teams. Currently, CATEC is working with businesses, higher education, and CATEC Community stakeholders to expand the current workforce development advisory councils for each of the academy programs.

Auto Body III and Computer Networking I & II are new programs implemented in school year 2016-17. Computer Networking III & IV, Electrical I & II, and EMT I & II are new programs implemented in school year 2017-18. New Programs proposed for 2018-19 include EMT I & II (Western Satellite Program), the CATEC Internship, and Veterinary Science I & II. CATEC wants to expand satellite program offerings and will propose Radio Communications & Production I & II as a CHS Satellite Program for the fall of 2019.

Career Development, along with increasing work-based learning opportunities, is a focus area in the strategic plan. For the last two years, 100% of CATEC students received some form of work-based learning, which includes job shadows, service learning, internships, clinicals, and apprenticeships. Ms. Amanda Jay, Career Development Specialist, develops lessons utilizing the SkillsUSA curriculum to present or co-present with instructors across trade areas. She also supports students with resume development and interview preparation.

Ms. Jay is currently working with the Career Counseling Specialist and representatives from the Rotary Club to develop a spring 2018 Trade-Specific Career Fair HIRE Event.

CATEC has applied for and received several grants. The main project for school year 2017-18 is converting a retired Albemarle County School Bus into a “Food Bus.” In August, CATEC received a \$5,000 Shannon grant followed by a \$25,000 SkillsUSA Community Service Grant to go towards the conversion. Building Trades, Auto Body, Auto Tech, Culinary and the rest of the program areas have been heavily involved with the construction of “Technical Eats.” Other grants include the “Dominion Solar for Schools” and the \$11,000 “Collision Repair Education Foundation Classroom Enhancement Grant.” Dr. Keiser recently received a \$37,500 CTE Competitive Innovative Program Equipment grant that will be used to enhance the Health and Medical Sciences Academy by modernizing equipment. Additionally, CATEC has an agreement with I-CAR to become a Fixed Training Site for industry adult education I-CAR training and curriculum classes (Auto Body). In exchange, I-CAR provides CATEC and the day high school students with the curriculum and certification exams at no charge. This is an annual savings to CATEC of \$8,100.

CATEC collaborates with PVCC through participating in the 7<sup>th</sup> & 10<sup>th</sup> grade career fairs, hosting the CATEC Kid’s College, and working together with other regional partners on advancing efforts in the areas of apprenticeships, energy, and information technology. PVCC has supported CATEC students with completing admissions, financial aid, grant and scholarship applications, and dual enrollment applications and assessments.

Each program area has an Advisory Council, which consists of industry experts and business leaders. They provide feedback and input regarding curriculum and instruction, budget, and best practices related to students’ authentic work-based experiences. They also support instructors in their work to prepare students for employment.

New members of the CATEC Foundation were appointed January 2017. Foundation Board committees include grants and scholarships, finance and investment, public relations, and fundraising. The Foundation Board has revised the CATEC Foundation Bylaws and spent much of their time building High School and Adult Education scholarship applications, as well as processes and procedures for managing the investment funds and dissemination of grant and scholarship funds.

There were two work sessions in which the Center Board Subcommittee members met to discuss the feasibility of relocating CATEC to PVCC or renovating CATEC. After much discussion, the subcommittee decided to make a recommendation that CATEC remain at the Rio Road location. Reviewing the current strategic plan and making some adjustments, based on best practice and current trends, would assist in developing next steps. CATEC sees themselves as becoming a more distributive/specialty center hub with a Maker/STEM focus. They would like to evaluate current programming, determine if programs are consistent with Maker/STEM Pathways, identify additional STEM programs not currently in the Strategic Plan, and determine the facility and specific program needs based on the revised, approved Strategic Plan.

In summary, many of the steps outlined in the 2014 Strategic Plan have been implemented and/or are in-progress. Much of the future planning and Dr. Keiser’s vision for CATEC expansion seems to align with ACPS strategic goals for future high school curriculum.

## **Part I: Data Gathering**

The first part of this evaluation asked, “Is the money we are putting into the program at CATEC a good return on investment?” Sub-questions include cost, enrollment, performance measures, and additional information from VDOE. The following subsections will be broken down into those four parts

## Cost

The following table estimates a per pupil cost to Albemarle County Public Schools for the operation of CATEC from 2013 to present. The estimated per pupil cost simply divides the ACPS contribution by the number of ACPS students attending CATEC in that school year, and then subtracts additional savings realized from educating students at CATEC rather than in the base school. The calculation also considers the additional transportation costs to send ACPS students to CATEC. If enrollment increases, the cost per pupil would decrease, so it is in the best interest of both ACPS and CPS to maximize the program enrollments. The ACPS cost per pupil ranges from \$5,500 - \$6,950 in recent years.

### CATEC Operational Costs 2013-2018 and Estimated Per Pupil Cost for ACPS

Year	Number of ACPS Students	ACPS Contribution to CATEC	Estimated Per Pupil Cost**	CATEC Total Expenditures (High School Total)	CATEC Total Revenue	Fund Balance (start of year)	ACPS Capital Cost not in CATEC budget
2013-14	210	\$1,547,909	\$5,731.71	\$2,428,124	\$2,659,777	\$580,444	*not provided
2014-15	196	\$1,400,376	\$5,516.97	\$2,175,488	\$2,748,017	\$729,954	\$159,410
2015-16	158	\$1,349,244	\$6,953.13	\$2,482,969	\$3,030,762	\$1,068,708	\$91,244
2016-17	202	\$1,550,895	\$6,044.78	\$2,814,763	\$3,165,988	\$751,060	\$215,759
2017-18	202	\$1,693,352	\$6,750.01	\$2,476,231 (Approved)	\$2,795,607 (Approved)	\$301,830 (Adopted)	*
2018-19	N/A	\$1,785,576	N/A	\$2,747,729 (Proposed)	\$3,066,634 (Proposed)	\$301,830 (Proposed)	*

\*\*(minus \$1800 staffing savings attending CATEC rather than base school and including transportation)

Having the adult program allows for some revenue to make up for some expenses. However, part of the revenue each year in the above formula is an appropriation from the fund balance. In 2015-16, that appropriation was over \$560,000 (for the construction of the IT Academy). It appears from the budget information provided by CATEC that in recent years, the revenue from the Adult Ed program in apprenticeships, tuition, and textbooks has remained relatively consistent. Perhaps there is a way to maximize the adult program to generate additional monies to offset costs?

The second chart includes the total number of CATEC students for each year and the Total Expenditures to run the high school. Simply dividing the expenditures by the number of students and then subtracting the estimated staff savings (\$1800), one can see an estimated per pupil cost for all CATEC students. However, the recent years' expenditures have included costs for the strategic plan implementation.

### CATEC Cost per Pupil for All High School Students

Year	Number of CATEC Students	Estimated Per Pupil Cost**	CATEC Total Expenditures (High School Total)
2013-14	320	\$5,787.89	\$2,428,124
2014-15	268	\$6,317.49	\$2,175,488
2015-16	221	\$9,435.15	\$2,482,969
2016-17	268	\$8,702.85	\$2,814,763
2017-18	271	\$7,337.38	\$2,476,231
**Simply dividing # students by Total High School Expenditures and subtracting estimated staffing savings			

It is costly to operate a vocational technical center. There can be higher capital costs for space or equipment to supply a program and there can be costly consumables necessary for the programming (food for culinary arts, for example). There are smaller class sizes because of the nature of the instruction and due to VDOE and/or OSHA requirements.

#### **Superintendent's Annual Report FY16 Operational Costs for Regional Career and Technical Education Programs**

**Table 13 of the Superintendent's Annual Report for Virginia**

Disbursements by Division and Regional Program (in dollars)

**Fiscal Year 2016 (See VDOE website for full table)**

School Division/Regional Program	Operations and Maintenance Services <sup>2,7</sup>	Total Cost of Operation Regular Day School <sup>8</sup>	Adult Education <sup>11</sup>	Facilities <sup>2,14</sup>	Debt Service and Transfers <sup>2,15</sup>	Contingency Reserve	Total Disbursements <sup>16</sup>	Total Year End Balances	Total Disbursements and Balances <sup>17</sup>
<b>REGIONAL CAREER AND TECHNICAL EDUCATION PROGRAMS</b>									
Charlottesville-Albemarle	575,843	2,482,970	304,074	0	0	561,367	3,348,411	751,131	4,099,542
Jackson River	236,482	1,623,420	0	4,223	0	0	1,627,643	269,863	1,897,506
Massanutten	660,994	3,935,764	1,002,586	0	0	0	4,938,350	384,137	5,322,487
Valley Vocational	521,154	3,380,139	792,698	59,284	0	0	4,232,121	213,293	4,445,414
New Horizons	405,006	3,763,143	500,854	0	0	0	4,263,997	579,464	4,843,461
Pruden Center	378,117	2,552,466	407,168	0	0	0	2,959,634	0	2,959,634
Rowanty Vocational	247,564	1,475,833	0	0	0	514,003	1,989,836	598,697	2,588,533
Northern Neck Technical	391,015	2,095,558	0	0	135,287	0	2,230,845	435,263	2,666,108
Amelia-Nottoway	55,289	402,807	9,216	0	0	0	412,023	200,561	612,584
Bridging Communities Reg CTE Center	22,115	811,354	0	0	0	0	811,354	282,804	1,094,158

The above chart shows the operational costs for the high school portion of the regional career and technical education centers in Virginia for school year 2015-16. CATEC has a higher operational cost for the high school instruction than other schools of similar size. In school year 2015-16, CATEC spent 1.1 million of that total on classroom instruction, which includes salaries and benefits of staff. Strategic plan implementation accounted for \$160,000 and the Office of the Director, which accounts for the principals and clerical staff, included \$387,000. Building Services, including \$300,000 in space renovations for the IT Academy, accounts for another \$520,000. In summary, the higher operational costs are a result of the strategic plan implementation and academy rollout as well as higher administrative costs.

The below chart shows the same thing for school year 2016-17 with estimated enrollment data attached. In this school year, the strategic plan implementation totaled over \$276,000 in costs while the Office of the Director increased to \$475,000. This can be attributed to the salary of the Director, two strategic planners, and an assistant principal.

The 2017-18 budget only has \$28,000 for strategic plan implementation.

## Superintendent's Annual Report FY17 Operational Costs for Regional Career and Technical Education Programs

Table 13 of the Superintendent's Annual Report for Virginia

FY 2017 (School Year 2016-17)

### REGIONAL CAREER AND TECHNICAL EDUCATION PROGRAMS

School Division/Regional Program	Administration <sup>2,3</sup>	Instruction <sup>2,4</sup>	Attendance and Health Services <sup>2,5</sup>	Pupil Transportation Services <sup>2,6</sup>	Operations and Maintenance Services <sup>2,7</sup>	Total Cost of Operation Regular Day School <sup>8</sup>	Adult Education <sup>11</sup>	Total Instructional Positions <sup>1</sup>	Enrollment Reported by Phone Current High School Programs
Charlottesville-Albemarle	116,796	2,345,114	0	4,128	348,797	2,814,835	278,016	14.30	271
Jackson River	91,715	848,581	0	0	241,067	1,181,363	3,760	9.17	350
Massanutton	7,242	3,431,956	44,655	3,767	765,740	4,253,359	959,075	50.83	861
Valley Vocational	11,646	2,921,587	0	256	536,945	3,470,434	768,902	39.58	500
New Horizons	251,611	3,006,956	28,127	0	462,694	3,749,388	578,248	33.00	560
Pruden Center	21,415	1,956,731	0	0	390,522	2,368,668	0	17.00	400-450
Rowanty Vocational	72,394	1,194,388	407	2,732	256,246	1,526,168	0	11.00	275
Northern Neck Technical	134,812	1,579,895	0	0	380,850	2,095,556	0	19.50	300-380
Amelia-Nottoway	0	324,593	0	0	50,281	374,874	0	3.10	62
Bridging Communities Reg CTE Cent	0	871,882	0	0	63,767	935,649	0	7.33	163

<sup>1</sup> Instructional Positions include principals, assistant principals, teachers, teacher aides, guidance counselors, and district-wide instructors.

<sup>2</sup> Includes expenditures incurred for technology-related activities, as well as software, hardware, and infrastructure purchases, for this category.

<sup>3</sup> Represents expenditures for activities related to establishing and administering policy for division operations including board services, executive administration,

<sup>4</sup> Represents expenditures for classroom instruction, guidance services, social work services, homebound instruction, improvement of instruction, media services,

<sup>5</sup> Represents expenditures for activities that promote and improve attendance at school and those activities relating to health services for public school students

<sup>6</sup> Represents expenditures related to conveying students between home and school, and to and from school activities, as provided by state and federal law. Costs

<sup>7</sup> Represents expenditures incurred to keep grounds, buildings, and equipment safe for use and in effective working condition. Costs related to operations

<sup>8</sup> Total and per pupil costs of regular day school include Administration through Operations and Maintenance in this table. The statewide per pupil amount is

<sup>11</sup> Represents expenditures incurred for the delivery of adult education programs.

One can calculate a cost per pupil using these numbers, but it would only be an estimate. The numbers reported over the phone are for the current school year (17-18), while the operational costs are school year 16-17.

Additionally, any saving incurred by not teaching students in the base school are not calculated. Most other regional technical centers in Virginia report higher enrollment. This is largely due to the location of the physical buildings in relation to local high schools, the number and type of programs, and the number of school divisions who contribute to the center enrollment. Cost per pupil is also heavily influenced by instructional costs including salaries and benefits and CATEC reports higher average annual salaries for each position than other technical centers. A chart on the following page shows the average annual salaries by position for each regional technical center.

### Estimated Per Pupil Cost

School Division/Regional Program	Total Cost of Operation Regular Day School <sup>8</sup>	Total Instructional Positions <sup>1</sup>	Enrollment Reported by Phone Current High School Programs	Cost Per Student	Ratio of Staff to Students
Charlottesville-Albemarle	2,814,835	14.30	271	\$ 10,387	18.95
Jackson River	1,181,363	9.17	350	\$ 3,375	38.17
Massanutton	4,253,359	50.83	861	\$ 4,940	16.94
Valley Vocational	3,470,434	39.58	500	\$ 6,941	12.63
New Horizons	3,749,388	33.00	560	\$ 6,695	16.97
Pruden Center	2,368,668	17.00	400-450	\$ 5,573	25.00
Rowanty Vocational	1,526,168	11.00	275	\$ 5,550	25.00
Northern Neck Technical	2,095,556	19.50	300-380	\$ 6,163	17.44
Amelia-Nottoway	374,874	3.10	62	\$ 6,046	20.00
Bridging Communities Reg CTE Center	935,649	7.33	163	\$ 5,740	22.24

<sup>1</sup> Instructional Positions include principals, assistant principals, teachers, teacher aides, guidance counselors, and district-wide instructors.

Table 19 of the Superintendent's Annual Report for Virginia Fiscal Year 2017 : Total Instructional Positions and Average Annual Salaries

School Division/Regional Program	Principals		Assistant Principals		Teaching Positions							
	Total Positions	Average Annual Salary	Total Positions	Average Annual Salary	Total Positions	Average Annual Salary	All Instructional Positions <sup>3</sup>	Average Annual Salary	Teacher Aides Positions	Average Annual Salary	District Wide Instructional Positions <sup>4</sup>	Average Annual Salary <sup>5</sup>
Charlottesville-Albemarle Technical Education Center	1.2	118,127.78	1	89,473.68	10.6	63,203.05	12.8	70,404.63	1.5	23,257.43	-	-
Jackson River Technical Center	1	89,562.96	-	-	8	48,016.50	9	52,632.77	0.1	10,875.00	0.07	45,857.14
Massanutton Technical Center	1	91,555.92	3	75,210.32	31	51,012.01	35	54,244.55	4.5	14,665.74	11.33	39,331.41
Valley Vocational Technical Center	1	93,282.00	2	70,263.48	22.76	53,190.82	25.76	56,072.68	-	-	13.82	35,346.29
New Horizons Technical Center	2	94,876.50	1	68,188.00	23.5	55,420.34	26.5	58,879.96	-	-	6.5	29,575.38
Pruden Center for Industry and Technology	1	85,533.00	1	75,816.00	15	57,305.99	17	60,055.23	-	-	-	-
Rowanty Vocational Technical Center	1	90,176.50	-	-	10	52,841.51	11	56,235.60	-	-	-	-
Northern Neck Technical Center	1	92,598.96	0.5	68,830.08	18	47,691.37	19.5	50,536.34	-	-	-	-
Amelia-Nottoway Vocational-Technical Center	0.6	79,907.00	-	-	2.5	45,165.62	3.1	51,889.76	-	-	-	-
Bridging Communities Reg Career & Technical Center	-	-	-	-	7.33	47,901.32	7.33	47,901.32	-	-	-	-

The final chart below outlines the CATEC budget by budgeted program area. CATEC does not budget by instructional program but by the below categories for the high school programs and a few additional categories that make up the adult education program and apprenticeships to arrive at the total CATEC budget.

Looking at the current and last two budget cycles, the high school operational total reported to VDOE increased due to the strategic planning implementation as well as the positions in the Office of the Director. One position, the strategic planner, will be removed in school year 2018-19 and was not filled in school year 2017-18.

CATEC Budget by Program Area (Only High School Totals)			
Program Area	2015-16 Actual	2016-17 Actual	2017-18 Approved
Classroom Instruction	1,122,975	1,464,635	1,393,437
Improvement of Instruction	108,086	111,881	117,662
Strategic Plan Implementation	159,116	276,645	28,768
Technology	5,844	16,234	20,000
Office of the Director	387,761	475,719	447,237
Fiscal Services	78,581	80,957	84,277
Vehicle Operation	589	4,128	9,400
Building Services	520,418	283,751	274,827
Grounds Services	5,042	6,223	5,000
Board and Retirees	44,174	35,767	35,543
Maintenance Management	50,383	58,822	60,080
High School Total	2,482,969	2,814,763	2,476,231

In terms of cost savings, eliminating administrative positions and costly programs are cited as key by other regional center directors. Additionally, partnering with businesses for materials, supplies, and equipment can save money.

## Enrollment

Since 2013, except for a low year in 15-16, Albemarle County has sent around 200 students to CATEC. However, over the last five years, CATEC's overall 10-day enrollment has declined slowly. In school year 2012-2013, the ten-day enrollment figure was 305 students while in school year 2017-18 the ten-day enrollment figure was 263 students. These students come from Albemarle County, Charlottesville City, homeschool students, Lafayette School, Center for Learning and Growth, Ivy Creek, and Lugo-McGuinness Academy. ACPS students make up approximately 75% of the student population (although in 2013-2014, Charlottesville City sent a high number of students to CATEC and ACPS students only made up 66% of the school population). Overall, the trend over the last 14 years has been a steady decline despite efforts to revamp programming at CATEC.

Several things influence the enrollment numbers. Louisa County and Fluvanna County used to send as many as 60-70 students to CATEC. They no longer need to as their CTE programs are more robust than they used to be. In these last 5 years, a boom of CTE offerings in the base high schools, programmatic changes, as well as frequent changes in leadership certainly impacted numbers from year to year. The City of Charlottesville's enrollment also appears to be declining. Many of the other regional technical centers serve three or more school divisions. Perhaps revisiting the surrounding eight counties for potential partnerships may be of value.

### CATEC Average Daily Membership 2004-2018 as Reported in Funding Request Documents

CATEC ENROLLMENT 2004-2018						
CATEC ADM	Year	ACPS	CCS	TOTAL	ACPS	CCS
	2004-2005	255	106	361	70.64%	29.36%
	2005-2006	246	128	374	65.78%	34.22%
	2006-2007	189	98	287	65.85%	34.15%
	2007-2008	186	85	271	68.63%	31.37%
	2008-2009	214	79	293	73.04%	26.96%
	2009-2010	229	97	326	70.25%	29.75%
	2010-2011	233	97	330	70.61%	29.39%
	2011-2012	219	80	299	73.24%	26.76%
	2012-2013	251	77	328	76.52%	23.48%
	2013-2014	210	110	320	65.63%	34.38%
	2014-2015	196	72	268	73.13%	26.87%
	2015-2016	158	63	221	71.49%	28.51%
	2016-2017	202	66	268	75.37%	24.63%
	2017-2018	202	69	271	74.54%	25.46%

From year to year, different programs are offered which affects enrollment. From 2013-14 to 2014-15, CATEC removed two programs, Green Energy Design and Masonry, and four total classes without replacing them and there is a corresponding enrollment drop. The ACPS contribution decreased by about 100K as well. In 2015-16, Barbering was removed and Pharmacy Tech began. In 2016-17, Computer Network Hardware was added. In 2017-18, Electricity and EMT classes have been added and Computer Network Hardware has been expanded. For the majority of these courses, the enrollment is capped at 20 students. Not unimportantly, Albemarle County Public Schools opened its Health and Medical Sciences Academy at Monticello in 2012 and its

Environmental Science Academy at Western in 2014. There are significant drops in ACPS students after the 2012-13 and 2014-15 school years, perhaps this is an influencing factor. (The Math, Engineering, and Science Academy at Albemarle has been in place since 2009.) Additionally, ACPS base schools offer culinary programs and music production, which are two of the twelve program offerings at CATEC.

Leadership changes in the past few years have almost certainly affected enrollment. During the strategic plan development and implementation of the first two “academies,” occurring between 2014 and 2016, there was a focused effort on executing the plan. (Programs were removed while readying for the academies.) This *may* account for some of the enrollment drop during those school years. The most recent program enrollment for which an entire year is captured is school year 2016-17 and the numbers are below.

#### School Year 2016-17 Enrollment Numbers by Program

PROGRAM	Sep-16	Jun-17	Percent Change	Capacity	Percent Fill Sep	Percent Fill June
Auto Body Technology I & II	19	18	-5%	20	95%	90%
Auto Body Technology II	10	9	-10%	20	50%	45%
<b>Total Auto Body</b>	<b>29</b>	<b>27</b>	<b>-7%</b>	<b>40</b>	<b>73%</b>	<b>68%</b>
Automotive Technology I	18	18	0%	20	90%	90%
Automotive Technology II	11	11	0%	20	55%	55%
<b>Total Auto Tech</b>	<b>29</b>	<b>29</b>	<b>0%</b>	<b>40</b>	<b>73%</b>	<b>73%</b>
Building Trades I & II	21	19	-10%	20	105%	95%
Building Trades II	5	5	0%	20	25%	25%
<b>Total Building Trades</b>	<b>26</b>	<b>24</b>	<b>-8%</b>	<b>40</b>	<b>65%</b>	<b>60%</b>
Computer Network Hardware I & II	14	10	-29%	40	35%	25%
<b>Total Computer Network Hardware</b>	<b>14</b>	<b>10</b>	<b>-29%</b>	<b>40</b>	<b>35%</b>	<b>25%</b>
Cosmetology I	24	27	13%	40	60%	68%
Cosmetology II	15	15	0%	40	38%	38%
<b>Total Cosmetology</b>	<b>39</b>	<b>42</b>	<b>8%</b>	<b>80</b>	<b>49%</b>	<b>53%</b>
Culinary Arts I	18	24	33%	20	90%	120%
Culinary Arts II	8	8	0%	20	40%	40%
Culinary Arts, Intro to	3	3	0%	10	30%	30%
<b>Total Culinary Arts</b>	<b>29</b>	<b>35</b>	<b>21%</b>	<b>50</b>	<b>58%</b>	<b>70%</b>
Dental Careers I & II	12	10	-17%	20	60%	50%
<b>Total Dental Careers</b>	<b>12</b>	<b>10</b>	<b>-17%</b>	<b>20</b>	<b>60%</b>	<b>50%</b>
Firefighting I & II	8	9	13%	20	40%	45%
<b>Total Firefighting</b>	<b>8</b>	<b>9</b>	<b>13%</b>	<b>20</b>	<b>40%</b>	<b>45%</b>
Music Industry Technology	14	13	-7%	15	93%	87%
<b>Total Music Industry Tech</b>	<b>14</b>	<b>13</b>	<b>-7%</b>	<b>15</b>	<b>93%</b>	<b>87%</b>
Nurse Aide I & II	36	34	-6%	40	90%	85%
<b>Total Nurse Aide</b>	<b>36</b>	<b>34</b>	<b>-6%</b>	<b>40</b>	<b>90%</b>	<b>85%</b>
Pharmacy Technician I	10	9	-10%	20	50%	45%
<b>Total Pharmacy Tech</b>	<b>10</b>	<b>9</b>	<b>-10%</b>	<b>20</b>	<b>50%</b>	<b>45%</b>
Vocational Exploration	6	7	17%	20	30%	35%
<b>Total Vocational Exploration</b>	<b>6</b>	<b>7</b>	<b>17%</b>	<b>20</b>	<b>30%</b>	<b>35%</b>
<b>TOTAL</b>	<b>Sep-16</b>	<b>Jun-17</b>	<b>TOTAL</b>			
	<b>252</b>	<b>249</b>	<b>-1%</b>	<b>425</b>	<b>59%</b>	<b>59%</b>
<b>Number of Programs = 12</b>						
<b>Number of Classes (Year-long) = 18</b>						

Typically, CATEC sees fewer students finishing the year than starting. In fact, that has been the case for the last five years except 2014-15 when they started and ended with 220 students. In school year 2016-17, CATEC only reached about half of its capacity. If a program has a capacity of 20, then it was only offered once per day, AM or PM. If it has a capacity of 40, it was offered both AM and PM. If you consider the cost per pupil, maximizing the programs would cut these costs in half. (For a complete school year 2016-17 program of studies, see this website. [https://catec.org/wp-content/uploads/2016/09/CATECProgramofStudies2016-2017\\_MARGINS.pdf](https://catec.org/wp-content/uploads/2016/09/CATECProgramofStudies2016-2017_MARGINS.pdf) )

Considering the cost for the strategic plan implementation, one might expect to see heavy marketing for the academies and full programs. This is not the case in school year 2016-17 or in school year 2017-18.

#### School Year 2017-18 Enrollment Numbers by Program (reported ten-day enrollment, not current)

PROGRAM	Sep-17	Capacity	Percent Fill Sep
Auto Body Technology I, II, & III	30	40	75%
<b>Total Auto Body</b>	<b>30</b>	<b>40</b>	<b>75%</b>
Automotive Technology I & II	34	40	85%
<b>Total Auto Tech</b>	<b>34</b>	<b>40</b>	<b>85%</b>
Building Trades I & II	9	20	45%
<b>Total Building Trades</b>	<b>9</b>	<b>20</b>	<b>45%</b>
Computer Network Hardware I & II	16	20	80%
Computer Network Hardware III & IV	6	20	30%
<b>Total Computer Network Hardware</b>	<b>22</b>	<b>40</b>	<b>55%</b>
Cosmetology I & II	54	80	68%
<b>Total Cosmetology</b>	<b>54</b>	<b>80</b>	<b>68%</b>
Culinary Arts I	20	20	100%
Culinary Arts II	7	20	35%
Culinary Arts, Intro to	4	10	40%
<b>Total Culinary Arts</b>	<b>31</b>	<b>50</b>	<b>62%</b>
Dental Careers I & II	13	20	65%
<b>Total Dental Careers</b>	<b>13</b>	<b>20</b>	<b>65%</b>
Electricity I & II	19	20	95%
<b>Total Electricity</b>	<b>19</b>	<b>20</b>	<b>95%</b>
Emergency Medical Technician I & II	4	20	20%
<b>Total EMT</b>	<b>4</b>	<b>20</b>	<b>20%</b>
Firefighting I & II	10	20	50%
<b>Total Firefighting</b>	<b>10</b>	<b>20</b>	<b>50%</b>
Music Industry Technology	8	15	53%
<b>Total Music Industry Tech</b>	<b>8</b>	<b>15</b>	<b>53%</b>
Nurse Aide I & II	23	40	58%
<b>Total Nurse Aide</b>	<b>23</b>	<b>40</b>	<b>58%</b>
Pharmacy Technician I	6	20	30%
<b>Total Pharmacy Tech</b>	<b>6</b>	<b>20</b>	<b>30%</b>
Vocational Exploration	13	20	65%
<b>Total Vocational Exploration</b>	<b>13</b>	<b>20</b>	<b>65%</b>
<b>TOTAL</b>	<b>Sep-17</b>		
	<b>276</b>	<b>445</b>	<b>62%</b>
<b>Number of Programs = 14</b>			
<b>Number of Classes (Year-long) = 19</b>			

Typically, juniors and seniors attend CATEC. The Vocational Exploration is offered to ninth and tenth-grade students, but it is difficult for many to schedule this course and with limited elective options, something about this course should be changed to make it more attractive to freshman and sophomore students or perhaps it could be offered earlier—to middle school students. Dr. Keiser is exploring a shorter class with flexible scheduling to attract additional students.

In terms of the make-up of the ACPS students who attend CATEC, the data administrator provided a snapshot from March 2017 when 176 ACPS students were enrolled. The students were 12% ESL and 22% SPED with 42% of them female and 58% male. The ethnic make-up is as follows: 1% Native American, 3% Asian American, 15% African American, 16% Hispanic/Latino, 5% Mixed Ethnicity, and 60% Caucasian. These are higher percentages for African-American, Hispanic/Latino, SPED, and ESL than the proportion of the total high school demographics in that year. They are about the same percentages for Native American, Asian, and Mixed Ethnicity. This is a lower percentage than the percentage of total Caucasian high school students in relation to the division total.

## Performance

One might ask, “How well is CATEC completing its mission of producing students who are college or career ready?” In the most recent “completer” survey, 47 out of 61 completers responded. Of these, 26, or 55%, stated they are employed full-time. Three, or 6%, responded that they are unemployed or out of the job force. The remaining respondents indicated that they were in school, the armed forces, employed part-time, or employed part-time and full-time. Additionally, 35 out of 47 stated that they received no further education or training and 96% of respondents indicated they are satisfied with CATEC. There is not enough data to indicate a trend, but it is promising that 94% of completers move immediately into the work force or to school.

Another performance measure is the number of credentials earned and the number of dual enrollment credits earned. CATEC’s numbers have increased exponentially in recent years as the push for industry credentials has become more important. When this data was pulled in January, school year 17/18 was only halfway complete and includes all CATEC students. [For a complete list of credentials offered by program see Appendix A.]

5 year (2013- 2018) Credential - Certification - Licensing Data	VA Workplace Readiness Credential*	State Industry Exam <b>NOCTI - Auto Body, Culinary, BT</b>	State Industry Exam <b>NCCER</b>	Student Certification <b>Dental Radiation</b>	Student Certification <b>Dental Infection Control</b>	Student Certification <b>ADA Certifications</b>	State Industry Exam <b>Pharmacy</b>	BLS Healthcare Provider <b>CPR/First Aid</b>	State Industry Exam <b>ServSafe Manager</b>	Certification <b>ServSafe Food Handler</b>	State Industry Exam <b>Nurse Aide State Board</b>	State Industry Exam <b>Cosmetology State Board</b>	Construction Trades/Electricity <b>OSHA 10</b>	Auto Technology <b>ASE Student Certification</b>	Auto Body <b>ASE Student Certification</b>	Firefighting <b>Includes FF1, FF2, Hazmat, FEMA, 100, 200, 700, 800, etc. certifications</b>	Licenses, Certifications, Credentials <b>TOTAL</b>	<b>TOTAL Enrollment</b>
2013/2014 (13 programs)	91	11	4	13	13						24	16	8	62			242	299
2014/2015 (11 programs)	84	11	5	16	14	61		12	7		21	13	22	92		33	391	220
2015/2016 (11 programs)	89	8	4	6			5	28	3		15	6	9	70		94	337	233
2016/2017 (12 programs)	140	18		12		12	1	50	9		19	11	14	122		99	507	252
2017/2018 (13 programs)	122		20					61		21			23	55	15	40	357	275
Total earned over 5 year period	526	48	33	47	27	73	6	151	19	21	79	46	76	401	15	266	1834	1279

\*VA Workplace Readiness Credential may be counted in program totals for columns C-Q

\*\* End of Year testing for 2017/18 has not begun. Only figures from 1st semester are included in totals. (current as of 2/6/2018)

The credentials that are offered are of differing value for the student, the school system, or the employer. The Virginia Workplace Readiness Skills credential can count as a verified credit, but may be of little value to an employer. Most of the credentials listed by program in this chart are certifications that are beneficial for the workplace. Three program snapshots from school year 2016-2017 are provided to provide detail for these totals.

**2016-17 Automotive Technology Credentials Earned:** ASE Student Certification is the first step in building a career as a service professional in the automotive industry. These tests can provide the student with their first industry certification through the National Institute for ASE. Seventeen students also earned a Workplace Readiness Skills credential. Eighteen students were enrolled in Auto Tech 1 and eleven students were enrolled in Auto Tech II for a total of 29 students.

Test Name	Number of Students Earning ASE Certification
Automatic Transmission and Transaxle	7
Automobile Service Technology	16
Brakes	11
Electrical/Electronic Systems	11
Engine Performance	15
Engine Repair	12
Heating and Air Conditioning	11
Maintenance & Light Repair	13
Manual Drive Train & Axles	8
Suspension and Steering	18
<b>Total</b>	<b>122</b>

**2016-17 Nurse Aid Credentials Earned:** Twenty-nine students passed the State Board Nurse Aide written exam and twenty-one passed the State Board practical exam; however only nineteen of those students passed both so only 19 are represented on the above chart. In addition to passing the State Boards, 16 students earned Basic Life Support certifications (First Aid and CPR) and 17 earned the Workplace Readiness Skills credential.

**Firefighting:** Although there were only eight students participating in Firefighting I & II, there were 99 credentials earned because there are 17 different credentials offered in five different areas. Captain Bobby Elliott, Jr., Fire Service Academy Instructor explains, “The Virginia Department of Fire Programs State Certifications are the first and most important step to becoming a firefighter.” Students learn how to extinguish a fire, rescue a victim, and about the history of the Fire Service, among other skills. After a student completes 202 hours of training, they are required to pass a written test and a skills test to be certified as Firefighter I. At the end of Firefighter I, students will have earned certifications in Hazardous Material Operation, FEMA 100, FEMA 200, FEMA 700, FEMA 800, and First Aid/CPR. In the Firefighter II course, students learn vehicle extrication, fire hose testing, pre-incident planning, fire prevention, and public education among other topics. Elliott also says, “Each of these courses is required to be a firefighter in a volunteer department or career department. The majority of our students choose to be volunteers in the communities in which they live. Having the ability to earn these invaluable certifications while in school means they can progress within the stations they serve and frees up resources and time at the fire stations in which they would otherwise be responsible for those certifications.” The rest of the certifications besides the ones listed above are Firefighting I, Firefighting II, VDFP Introduction to Technical Rescue, VDFP Agency Overview, VDFP Fire and EMS Response to Active Shooter, Traffic Incident Management Course, Blood borne Pathogens, and Pegasus Landing Zone.

Dual Enrollment has grown exponentially over the years as the leadership has focused on ensuring college tracks and continued growth as well as job skills. The number of dual enrollment credits offered to CATEC students has continued to grow and the number of students receiving dual enrollment credits has grown exponentially since this became a focus. This measure can be considered a success. For a complete list of courses and the credits that may be earned, see Appendix B.

5 Year - Dual Enrollment Growth Data CATEC Career Academies														
2013/14			2014/15			2015/16			2016/17			2017/18		
Credits offered	Students receiving	Credits awarded	Credits offered	Students receiving	Credits awarded	Credits offered	Students receiving	Credits awarded	Credits offered	Students receiving	Credits awarded	Credits offered	Students receiving	Credits awarded
29	25	271	50	52	503	56	80	569	86	126	1250	121	120	1376
			% increase from 13/14	% increase from 13/14	% increase from 13/14	% increase from 14/15	% increase from 14/15	% increase from 14/15	% increase from 15/16	% increase from 15/16	% increase from 15/16	% increase from 16/17	% decrease from 16/17	% increase from 16/17
			72%	108%	86%	12%	54%	13%	54%	58%	120%	41%	-5%	10%

Besides these performance measures, there are other indicators of school quality and that the students who attend the program at CATEC value the experience there. In the National Center for School Leadership Student Engagement and Satisfaction Survey conducted in May 2016, CATEC students report the most favorable school climate measures when compared to all other secondary schools in ACPS (National Center for School Leadership, 2016). Ninety-one percent of students marked a favorable response to the statement, “I am satisfied with the overall quality of my school,” while the next closest secondary school in ACPS (Sutherland) showed 75%. In terms of bullying and fairness, CATEC also received much higher scores than other secondary schools in ACPS. Interestingly, for the statement, “I take pride in being a part of my school,” CATEC also had the most favorable responses. This is interesting because many point to the “stigma” of CATEC as being a barrier to attendance.

Another success is the amount of “real-world” experiences afforded to CATEC students. In school year 17-18, all students will receive mentorship experiences ranging from one hour to eight hours of career development experiences. Four students attend apprenticeship opportunities at Design Electric, Malloy Ford, and ProLink LLC. Twenty-two students have performed clinicals as nurse aids and seven have had internships in places like Rocksalt, The Villa, the ACPS School Bus Shop, Comfort Heating and Air, and Cosner Brothers Auto Body. Fourteen have performed job shadowing, some at multiple businesses. These include Browns Collision, Colonial Auto, the ACPS Bus Shop, and many other dealerships. Sixty-four students experienced service learning in the form of Habitat for Humanity, and the American Red Cross Blood Drive event, or at a volunteer fire department in our area.

Compared to other Vocational-Technical Centers, CATEC is performing similarly, based on VDOE Performance Measures. In the last year posted to the VDOE site, 2015-16, CATEC earned a “Does Not Meet” on four performance measures. Albemarle County received two “Does Not Meets” and Charlottesville City earned one. The last two performance measures have to do with nontraditional students in certain courses, i.e. males in cosmetology or females in Auto Body. As all of the regional centers missed this measure, it may be indicative of the challenge of this performance measure. While school divisions do “meet” this measure, they may not offer as many CTE courses that meet this definition. The fact that so many regional vocational technical centers are not meeting the performance standards set by the state could indicate that the performance measures are difficult to meet, or possibly that it is time to change something about the regional vocational

technical center model. The performance measures that VDOE uses are the measures required for the Carl D Perkins grant funding.

The chart on the following page is taken from the 2015-16 Statewide Performance Summary by Division and summarizes the Perkins Core Performance Measures. The federal Carl D. Perkins Career and Technical Education Act of 2006 requires that students be provided career cluster/pathway programs of study that incorporate secondary education and postsecondary education elements; include academic and CTE content in a coordinated, non-duplicative progression of courses; and lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or bachelor's degree. For this reason alone, any programs at CATEC that do not result in a career pathway should not be considered or continued. Data presented in the report are based on the performance of CTE program completers. A CTE completer is a student who has met the requirements for a CTE concentration and all requirements for high school graduation or an approved alternative education program. Virginia met all performance targets for the 2015-16 school year. CATEC did not. When measures are missed, it is required that a plan of correction be submitted to the State. If a school division does not meet the Perkins Act of 2006 performance measures, then the state may direct local expenditures toward uses of funds to improve performance (8VAC20-120-30, 2017). It is reported that no corrective action is normally taken by the state for not meeting the performance measures.

In school year 2017-18, which is not available on the VDOE site, CATEC “Did Not Meet” only the last two Nontraditional Career Preparation Indicators. The 2017-18 Carl D. Perkins Plan submitted to VDOE addresses performance gaps by saying the following, among other things, “CATEC uses the data from the State System of Performance Standards to continuously improve performance. We identify performance gaps in our data and use that to inform our decision-making and planning. Students or subgroups who are not experiencing success are provided additional scaffolding and support to help them meet objectives. CATEC undergoes a rigorous school improvement process based on the Plan, Do, Study, Act model. In addition, teachers develop SMART goals that utilize data from the Annual Performance Report to drive discussions and decisions based on adjustments to CATEC processes, programs, and outcomes. Specific focus is paid to student performance across all reported subgroup categories. This process includes faculty members, students, parents, community stakeholders, base-division representatives, business representatives, and the Joint Vocational Advisory Committee” (p.31).

The “nontraditional” performance indicators are challenging nationally. A recent report from the U.S. Department of Education showed that, “Ninety-four percent of welding certificates went to men in the last academic year, and 95 percent of cosmetology certificates went to women (Field, 2018). Additionally, “In some high-growth, high-paying programs, such as information technology and advanced manufacturing, the share of women and girls is smaller than it was a decade ago (Field, 2018).

Division	Performance											
	Academic Attainment		Technical Skills Attainment					3S1 95%	4S1 92%	5S1 92%	6S1 30%	6S2 26%
	1S1 75%	1S2 75%	2S1a 90%	2S1b 70%	2S1c 79%	2S1d 58%	2S1e 50%					
Albemarle County	✓	✓	✓	■	✓	■	✓	✓	✓	✓	✓	✓
Amelia-Nottoway Technical	—	—	✓	✓	✓	✓	✓	—	✓	✓	■	■
Bridging Communities	—	—	■	✓	✓	✓	✓	—	✓	✓	■	✓
Charlottesville Albemarle	—	—	✓	✓	■	✓	✓	—	■	✓	■	■
Charlottesville City	✓	✓	✓	✓	✓	✓	✓	✓	✓	■	✓	✓
Jackson River Technical	—	—	✓	✓	✓	✓	✓	—	✓	✓	■	■
Massanutten Technical	—	—	✓	✓	✓	✓	✓	—	✓	✓	■	■
New Horizons Technical	—	—	✓	✓	✓	✓	✓	—	✓	✓	■	✓
Northern Neck Technical	—	—	✓	✓	✓	✓	✓	—	✓	✓	■	■
Rowanty Technical Center	—	—	✓	✓	✓	✓	✓	—	✓	✓	■	■
The Pruden	—	—	✓	✓	✓	✓	✓	—	✓	■	■	■
Valley Vocational	—	—	✓	✓	✓	✓	✓	—	■	✓	■	■

✓

Meets Standard

■

Does Not Meet Standard

--

N/A

1S1 English: Reading = 75%

1S2 Mathematics (Highest Level) = 75%

2S1 Technical Skills Attainment

A The percentage of completers that attain 80% of the essential competencies on the state-provided, industry-validated competency lists-90%

B Completers participating in one or more Board approved credentialing tests-70%

C Completers taking and passing credentialing tests – 79%

D Completers passing credentialing tests-58%

E Completers who passed a credentialing test plus the Completers who earned an Advanced Studies Diploma and did not pass a credentialing test-50%

3S1 Secondary School Completion-95%

4S1 Graduation Rate-92%

5S1 Secondary Transition Rate- 92%

6S1 Nontraditional Career Preparation Enrollment-30%

6S2 Nontraditional Career Preparation Completion-26%

In 2015-16, four state performance measures were not met by CATEC while in school year 2016-17; only the two nontraditional performance measures were not met. The “Student Competency Rate” has been 100% for the last three years and the “Completers Participating in a Credentialing Test” has been 100% the last two years. The “Completers Passing a Credentialing Test Rate” has improved to 89% from 79% in the above chart. The current director has specific plans to correct these deficiencies and to continue these improvements and ACPS should monitor the progress of these measures.

CATEC also provided their “completer” information by program area for the last three years. CATEC has maintained extremely high percentages for each program.

## Completer Information Provided by CATEC

Programs w/Completers	SY 2016-2017			SY 2015-2016			SY 2014-2015		
	total enrollment 6/2017	# of students completed	percentage of total enrollment that completed program	total enrollment 6/2016	# of students completed	percentage of total enrollment that completed program	total enrollment 6/2015	# of students completed	percentage of total enrollment that completed program
AB II	27	25	93%	7	7	100%	11	11	100%
AT II	11	11	100%	7	7	100%	15	15	100%
BT II	24	22	92%	10	10	100%	8	8	100%
Computer II	10	9	90%	NA	NA	NA	NA	NA	NA
Cosmetology II	15	15	100%	13	13	100%	21	21	100%
Culinary II	8	8	100%	8	8	100%	10	10	100%
Dental II	10	10	100%	7	6	86%	15	15	100%
Firefighting II	9	9	100%	10	10	100%	8	8	100%
MRC	13	12	92%	10	10	100%	9	9	100%
Nurse II	34	34	100%	20	20	100%	25	25	100%
Pharmacy II	9	8	89%	7	7	100%	NA	NA	NA
Barbering	NA	NA	NA	NA	NA	NA	2	2	100%

Another measure of performance is academic achievement in terms of a student's grade. The following charts compare the grades of ACPS students at CATEC in two school years to the grades of ACPS students taking CTE courses in their base high school. ACPS CTE data includes data for all high school CTE course offerings listed with a grade in PowerSchool. "Other" grades include Pass, Fail, Not Yet Mastered, Withdrawn, Withdrawn Failing, Incomplete, and No Credit due to attendance.

The CATEC Student Handbook states:

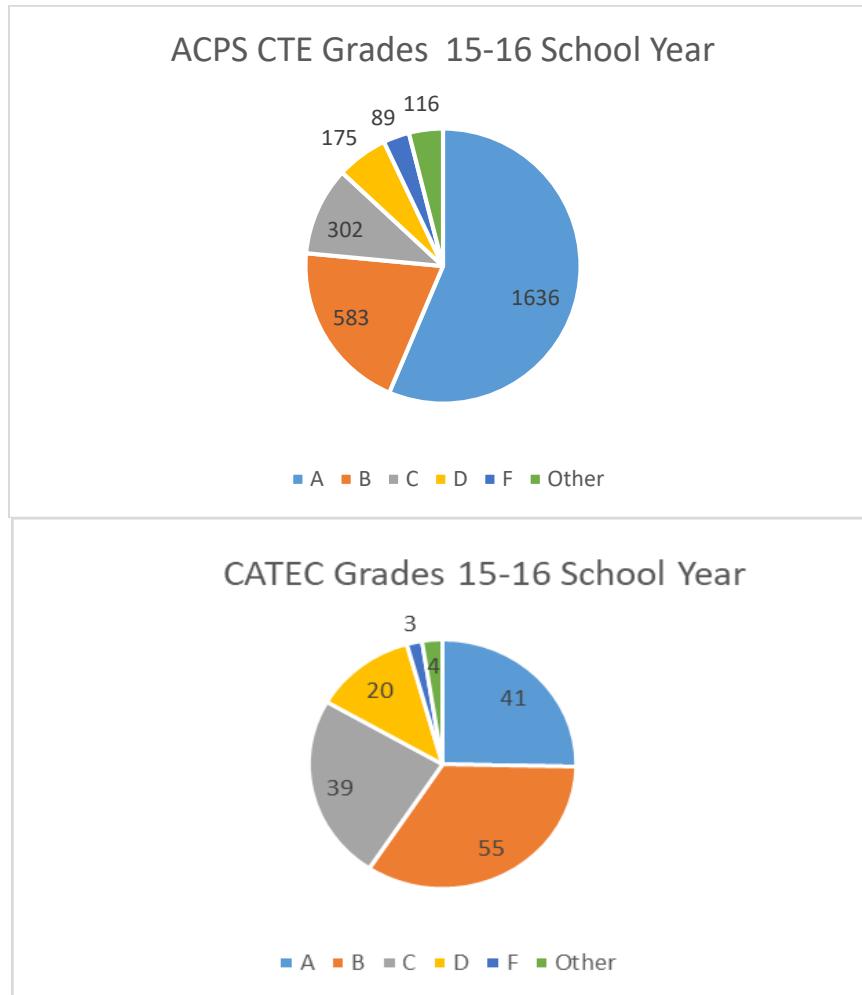
In order to earn grades, students must be present, learning, and working. CATEC uses a competency-based grading system to report a student's proficiency on their trade related tasks. All grades are determined by the student's skill, effort, and performance when completing their trade competencies (skills), and are based on a five-point rating scale (see below). Students will get opportunities to master their competencies and improve their technical skills grade. Students are also graded based on their workplace readiness skills, a set of 21 skills identified by Virginia employers needed for success in the workplace. These skills include a positive work ethic, integrity, teamwork, conflict resolution, critical thinking and problem solving skills (full list is in the beginning of this handbook). The percentage breakdown is as follows: program competencies 50%, daily initiative and workplace skills 40%, test and quizzes 10%. Each program instructor will explain these grading procedures in detail. (n.p.)

### Rating Scale

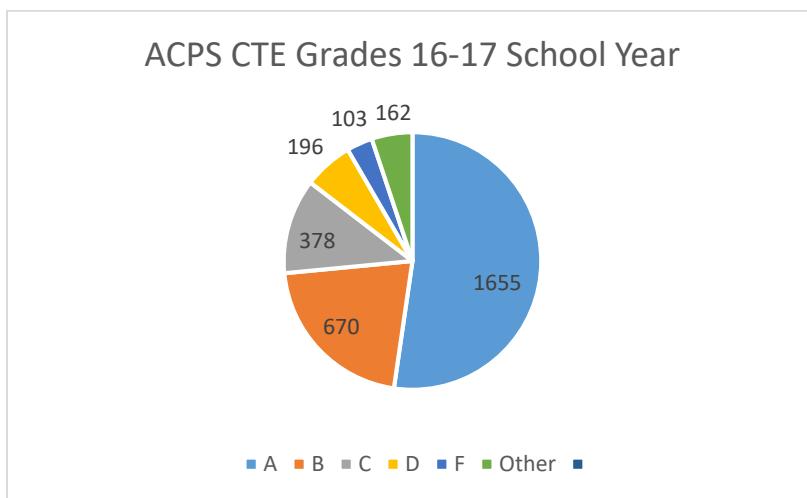
1	Can teach others
2	Can perform without supervision
3	Can perform with limited supervision
4	Can perform with supervision
5	Cannot perform or did not attempt

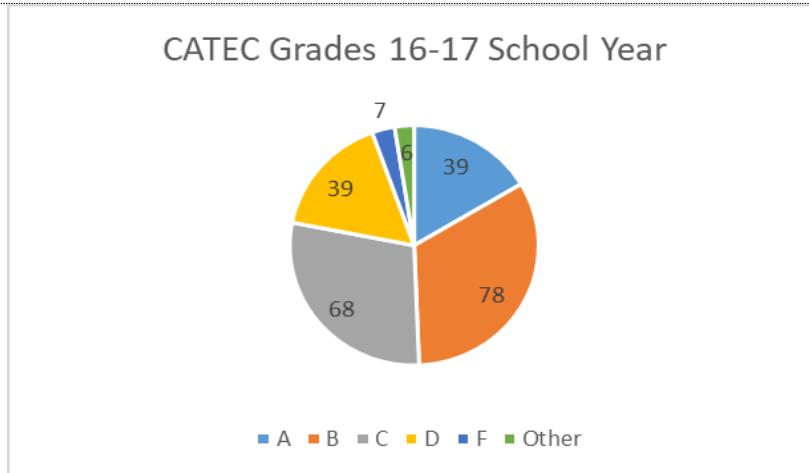
Albemarle County Public Schools grading scale is A (90-100), B (80-89), C (70-79), D(60-69), and F(0-59). ACPS CTE courses have different methods for each course for arriving at the end grade.

### ACPS CTE Grades versus CATEC grades 15-16 school year



### ACPS CTE Grades versus CATEC Grades 16-17 school year





CATEC did provide grades by gap group for each quarter as well, although this data represents all students and not just ACPS students. Gap Groups 1 and 2 have similar percentages of grades A-F as the total school population at CATEC, but Gap Group 3 has higher percentages of D's and F's.

Dr. Daphne Keiser, Director of CATEC, says that she is focusing on forming collaborative and working PLCs at CATEC in which teachers use data to inform instruction. She provided the Strategic Improvement Plan for 2017-18. Her academic goals for this school year are the following:

1. Eighty percent or more CATEC students will participate in job shadowing/internship/apprenticeship experience.
2. CATEC students, across all program areas, will pass 80% or more of their program area competencies.
3. Eighty percent or more of CATEC students will pass their program area end of year assessment, State Board exam, etc.

Her climate focus goals are the following:

1. Eighty percent or more of CATEC students will indicate being engaged in class based on the ACPS engagement survey, class walkthroughs, and observations.
2. Reduce the number of excused and unexcused absences. Eighty percent or more of CATEC students will be within the attendance threshold for the school year.
3. Reduce the number of instances students are out of the classroom. Less than 10% of CATEC students will have disciplinary referrals/incidents resulting in removal from class.

At the mid-year, CATEC students are well on their way to reaching 100% for academic goal one. PLC work has focused on creating assessments to monitor progress in program area competencies as well as work-based learning, mastery of competencies, and building effective classroom climate/relationships with students.

Instructors share their results with the whole faculty and give examples of exceptional work. The climate goals are being tracked through attendance, discipline, and walkthrough data and PLCs are reviewing the data at the end of each quarter to target areas for improvement.

It is worth noting that CATEC is using the ACPS School Improvement Plan model for goal setting and CATEC does not appear to receive support from either school division in this area in terms of feedback. (For example, the strategic planning team visited each ACPS principal to discuss his or her SIP, provide feedback, and assist with data mining.)

After looking at many performance measures, there is one additional “measure” that surfaced during interviews and is worth mentioning here. The “measure” that cannot be quantified is the belief from all former and current leadership that CATEC provides a home for students who would otherwise not be successful. Many interviewed

made statements like “CATEC saves lives.” Students also talk about how CATEC changed their lives and many people in the community have deep feelings about their experience at CATEC.

## Other Information in Policy or Provided by VDOE

Leadership asked what the regulations say about CTE and its impact on CATEC. The new approved Standards of Accreditation say beginning with the 2018-2019 academic year:

1. Each elementary, middle, and secondary school shall provide for the identification by all students of personal interests and abilities to support planning for postsecondary opportunities and career preparation. Such support shall include provision of information concerning exploration of career cluster areas in elementary schools, and course information and planning for college preparation programs, opportunities for educational and academic experiences in and outside the classroom, including internships and work-based learning, and the multiple pathways to college and career readiness in middle and high school.
2. Beginning in the elementary school years, students are to explore the different occupations associated with career clusters and select an area or areas of interest. Students shall begin the development of an academic and career plan portfolio (ACPP) in elementary grades to include information about interests, values such as dependability and responsibility, and skills supporting decisions about their future interests and goals. The ACPP is a repository for planning notes, class projects, interest inventory results, awards and recognitions, and other information related to academic and career plans and preparation. The ACPP is student led and updated and revised as the student continues to plan for the student's future throughout school years. The information contained in the ACPP shall serve as the foundation for creating the ACPP in grade 7.

In middle school, students are to complete a locally selected career interest inventory and select a career pathway. To support development of the ACP, students shall complete a career investigations course selected from the career and technical education state-approved list, or a school division-provided alternative means of delivering the career investigations course content, provided that the alternative is equivalent in content and academic rigor. The course, or its alternative, shall address, at a minimum, planning for academic courses, work-based learning opportunities, completion of industry certifications, possible independent projects, and postsecondary education. The course, or its alternative, shall include demonstration of personal, professional, and technical workplace readiness skills.

All schools shall continue development of a personal ACP with each seventh-grade student with completion by the end of the fall semester of the student's [ eighth-grade year. Students who transfer from other than a Virginia public school into the eighth grade shall have the ACP developed as soon as practicable following enrollment. Students who transfer into a Virginia public school after their eighth-grade year shall have an ACP developed upon enrollment. The components of the ACP shall include the student's program of study for high school graduation and a postsecondary career pathway based on the student's academic and career interests. In high school, a career-related learning experience shall be chosen by the student and documented in the ACP. (8VAC20-131-140, 2017)  
<https://law.lis.virginia.gov/admincode/title8/agency20/chapter131/section140/>

Perhaps CATEC can assist with a way to deliver the career investigation course content. Currently, CATEC teachers present to the Buford Career Explorations class, to Walker Upper Elementary for their career fair, and at community helper days at Greer, Clark and Burnley-Moran. They also offer 8<sup>th</sup> grade tours to all the schools. Is there a way to leverage the Exploratory course already offered at CATEC in order to meet these new requirements? Students may travel to CATEC or perhaps instructors could come to the middle schools.

The Standard Diploma will require two standard units of credit in World Language, Fine Arts or Career and Technical Education while the Advanced Studies Diploma requires one standard unit of credit in Fine Arts or Career and Technical Education. In 2017, Albemarle County graduates led in the percentage of students who earned an Advanced Studies Diploma. Of the division's 1,037 graduates, 64 percent received Advanced Studies Diplomas, compared to the statewide rate of 52 percent of students who earned this credential (Albemarle County, State of the Division, 2017). With the number of ACPS students pursuing an Advanced Studies diploma, there may be limited opportunities to attend classes at CATEC because of competing requirements.

VDOE did not indicate a shift in funding towards CTE although there are some legislative changes in draft form at the current time. A draft of the reauthorization for the federal Carl D. Perkins act is in progress.

## Part I Conclusions

The additional money that CATEC budgeted for the strategic plan implementation resulted in an increase in the Albemarle County contribution without significant increases in enrollment. This led to significant increases in the cost per pupil. The Health and Medical Science Academy (Nursing, Dental, and Pharmacy Tech) filled 66% of its capacity in 2016-17 and 52% of its capacity at the start of this school year. The Information and Engineering Technology Academy filled 25% of its capacity in its first year and 55% of its capacity in the second year, school year 2017-18. Enrollment across all areas has remained close to 200 students in the last five years, indicating that program changes have not been a factor for attracting additional Albemarle students. The program that CATEC is offering is successful in what it is providing, but what it is providing may not be what ACPS students want. We will explore this further in part II.

## Part II: Future Planning Considerations

The second part of the evaluation asks, “What information can we gather about the current CATEC center model to inform decision-making for future planning?” A student survey was sent out and interviews were conducted with current and former CATEC leadership, as well as with School Division leaders in Albemarle County Public Schools and in Charlottesville City Public Schools. This section includes the student survey results, the interview findings, and additional research.

### Student Survey Results

The need for new career and technical education preparation programs should be based on student interests and labor market needs (8VAC20-120-110, 2017). In February 2018, we asked current high school students to answer two questions about CATEC. The first asked them to select all barriers to CATEC attendance while the second question was free-response. We did not ask the Charlottesville City students or any other students who attend CATEC to complete the survey. Although we received over 2,000 responses, the percentage of students who responded from each high school varies. The responses from Albemarle represent only 31% of the school enrollment, while Monticello is 66%, Murray is 36%, and Western Albemarle is 58%. This is important to keep in mind for the open-ended question.

### CATEC Student Survey – Winter 2018

#### Q1. What is your base high school?

Responses	Responses	%	Percentage of total respondents
Albemarle HS	617	29.9%	
Monticello HS	747	36.2%	
Murray HS	36	1.7%	
Western Albemarle HS	664	32.2%	

Total Responses	2,064		20%	40%	60%	80%	100%
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### All Schools Combined

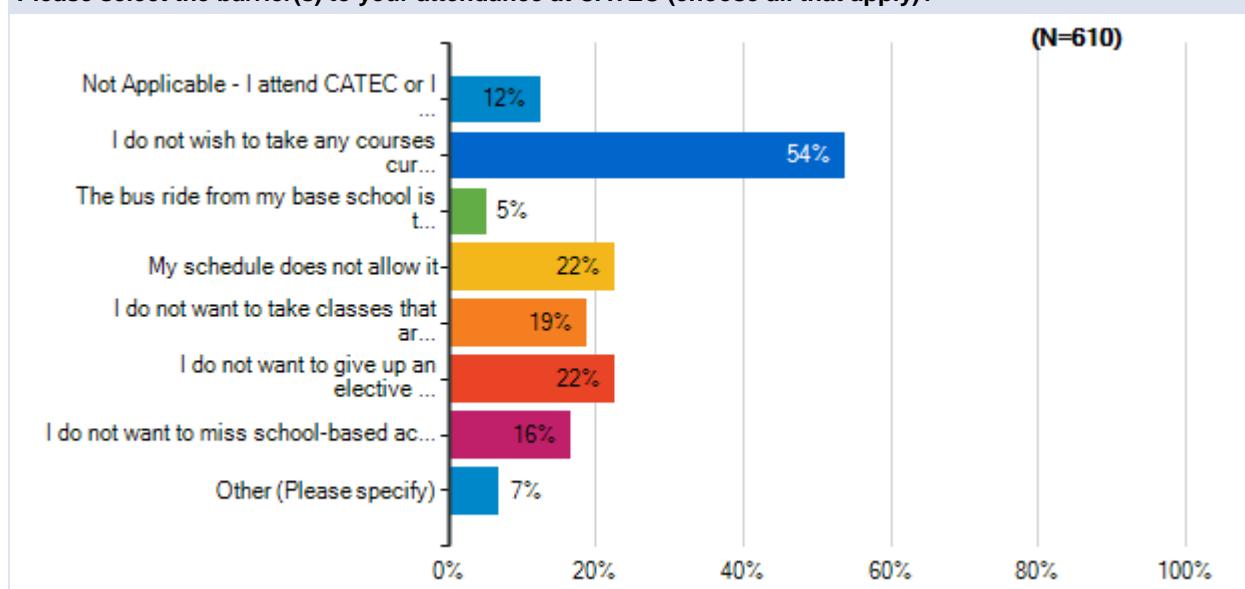
#### Q2. Please select the barrier(s) to your attendance at CATEC (choose all that apply)?

Responses	Responses	%	Percentage of total respondents
Not Applicable - I attend CATEC or I plan to attend CATEC	289	14.1%	<div style="width: 14.1%;"></div>
I do not wish to take any courses currently offered at CATEC	1,156	56.5%	<div style="width: 56.5%;"></div>
The bus ride from my base school is too long/I don't want to ride the bus	112	5.5%	<div style="width: 5.5%;"></div>
My schedule does not allow it	428	20.9%	<div style="width: 20.9%;"></div>
I do not want to take classes that are not located at my base school	365	17.8%	<div style="width: 17.8%;"></div>
I do not want to give up an elective at my base school to take a class at CATEC	411	20.1%	<div style="width: 20.1%;"></div>
I do not want to miss school-based activities while at CATEC	328	16.0%	<div style="width: 16.0%;"></div>
Other (Please specify)	130	6.4%	<div style="width: 6.4%;"></div>
<b>Total Responses</b>	<b>3,219</b>		<div style="width: 100%;"></div>

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

### Albemarle High School responses

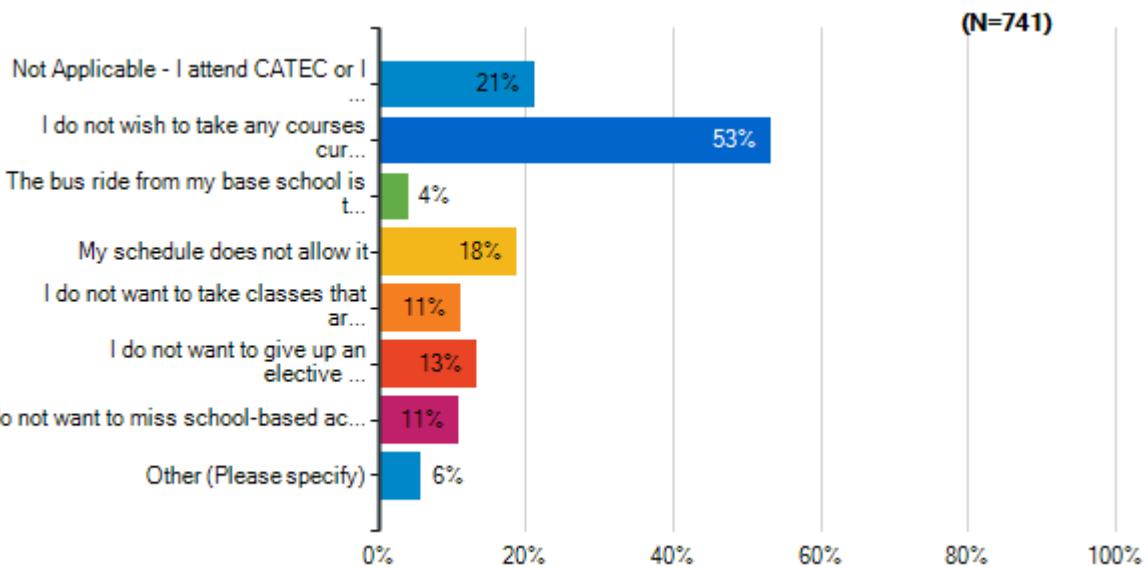
#### Please select the barrier(s) to your attendance at CATEC (choose all that apply)?



**Note:** Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

## Monticello High School Responses

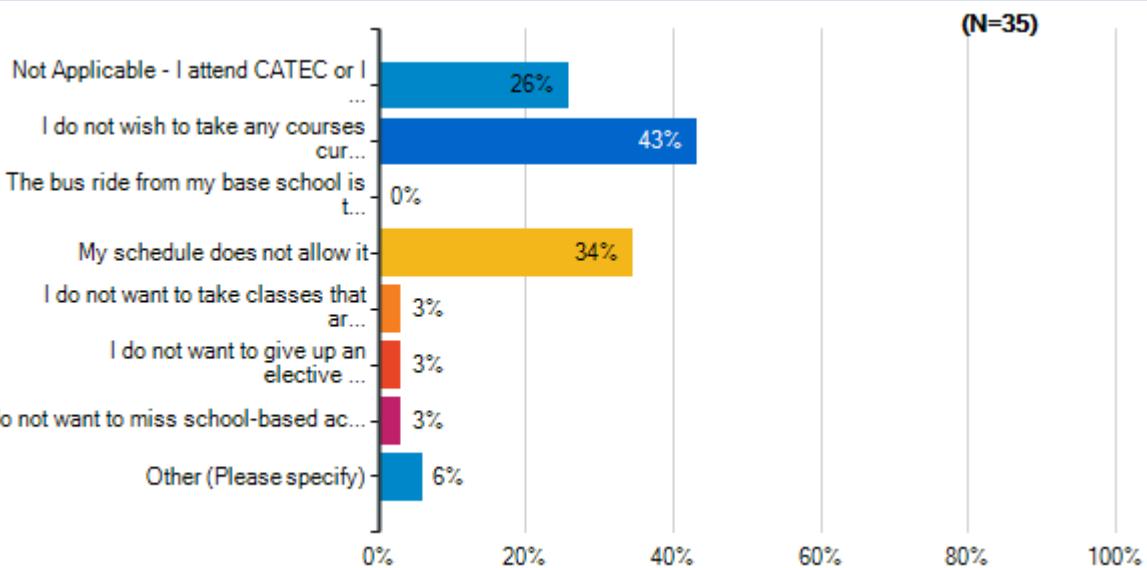
Please select the barrier(s) to your attendance at CATEC (choose all that apply)?



**Note:** Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

## Murray High School Responses

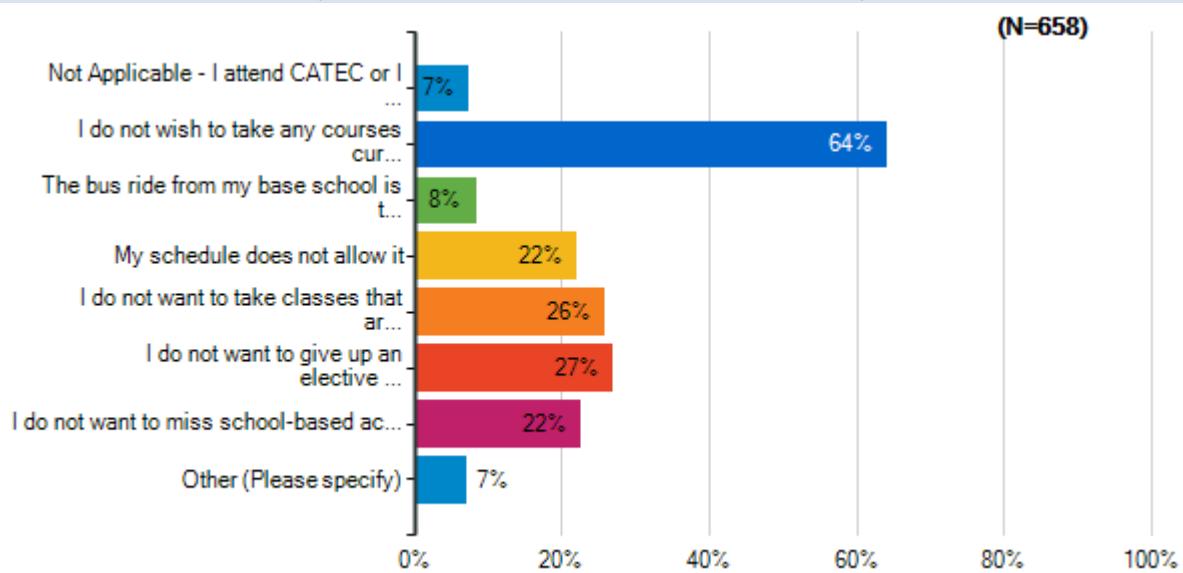
Please select the barrier(s) to your attendance at CATEC (choose all that apply)?



**Note:** Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

## Western Albemarle High School Responses

Please select the barrier(s) to your attendance at CATEC (choose all that apply)?



**Note:** Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Many people assume that students do not want to attend CATEC because they do not want to leave their base high school. The other academy models that we have are within a base high school and, until now, students have not gotten transportation to attend one outside of their attendance area. CATEC students are provided transportation from their base high school and back. We included many of these “assumed” reasons in our questionnaire. Interestingly, it seems that the programming at CATEC is the biggest barrier to student attendance. Aspects of scheduling certainly have a large impact as well, with students choosing “my schedule does not allow it” or “I do not want to give up an elective at my base school” as the next biggest reasons. After coding the “Other” responses, 15 additional responses can be added to “N/A/I plan to attend CATEC” and 30 additional responses can be added to “I do not wish to take any courses currently offered at CATEC.” Another theme that emerged from the “Other responses” is that students do not have enough information about CATEC, or, they are not aware of the CATEC programming (36 responses). The remaining comments provide support for the idea that there is a stigma around going to CATEC. Students indicate that they do not want a vocational class, they are going to college, their parents will not allow them to go, etc. Based on the wording of the above barrier statement, “I do not wish to take any courses currently offered at CATEC,” and the comments provided, it can be inferred that students may have checked this selection because they also mean, “I do not wish to attend CATEC.” Two other responses indicated “teacher.” It might be inferred that the students meant, “If another teacher was instructing the course, I would attend.”

For future center planning, it may be important to know that after programming, Western Albemarle students cited “I do not want to give up an elective at my base school to take a class at CATEC” and “I do not want to take classes that are not at my base school” most often. Albemarle students cited “my schedule does not allow it” and “I do not want to give up an elective at my base school” equally after programming. Monticello had the largest number of students from the three large high schools who currently attend CATEC and selected “my schedule does not allow it” most often after programming. Murray (with the largest percentage in attendance at CATEC) overwhelming checked “my schedule does not allow it.”

The third question asked, “In a recent budget survey students answered that they support spending more money to increase career and workforce readiness opportunities for high school students, such as internships. If you could take any type of career or technical class, and there were no barriers to taking it, what would it be,

including internships and apprenticeships?" There were 1,527 coded comments resulting in 30 codes. There is opportunity to dig deeper into several of the topics and to code further as the comments seemed very specific. Students indicated a desire to have real-world experiences at work sites in order to get a better understanding of the career path. Many comments are coded with multiple codes because students reference interdisciplinary work, crossing several disciplines.

CODE	CODE TOPICS	NUMBER OF COMMENTS CODED	COMMENTS ABOUT CODE
B	INTERNSHIPS	402	CODED AS B WHEN SPECIFICALLY SAID INTERNSHIP/APPRENTICESHIP
C	MEDICAL FIELD/NURSING/HEALTH/PHARMACY	301	NUTRITION/PHYSICAL THERAPY INCLUDED (GOOD CATEGORY TO BREAK DOWN FURTHER)
L	SCIENCE/STEM/ENGINEERING	185	ALL SCIENCE
A	I DON'T KNOW	172	
H	FINE ARTS/MUSIC/PHOTOGRAPHY/THEATRE	169	MANY IDEAS IN HERE (ADD SECONDARY CODE)
O	COMMENT NOT RELATED TO QUESTION/THROWN OUT	130	
R	INFORMATION TECHNOLOGY/CODING/GAMING/NETWORKING/HACKING/ROBOTICS	125	ALL COMPUTER RELATED RESPONSES (ADD SECONDARY CODE)
I	BUSINESS/MARKETING/ENTREPRENEURSHIP/FASHION/MANAGEMENT	100	MAYBE ADD SPORTS MARKETING SPECIFIC ONES HERE FROM CODE P
K	LAW/POLITICS/CRIMINAL JUSTICE/FORENSICS	80	MAYBE REDO THESE AND CODE V SO IT'S MORE LAW AND MILITARY
D	VET SCIENCE/ZOOLOGY/MARINE BIOLOGY	75	
G	EDUCATION/TEACHING/RESEARCH	59	
1	ELECTRICIAN/PLUMBING/WELDING/CARPENTRY/BUILDING TRADES	53	
4	ARCHITECTURE	53	
Y	CULINARY ARTS	50	
W	COSMETOLOGY	48	
F	AUTOBODY/AUTOTECH	43	
P	SPORTS/SPORTS MARKETING	28	MAYBE ADD SPORTS MARKETING SPECIFIC ONES TO CODE I
T	LIFE SKILLS/FINANCE/HR/REAL ESTATE/OFFICE ASSOCIATE SKILLS	28	
V	GOVERNMENT/DIPLOMAT/MILITARY	26	MAYBE RECODE WITH K AND RESORT THESE INTO LAW-RELATED AND MILITARY
U	PSYCHOLOGY/COUNSELING	24	
J	EMERGENCY MEDICAL TECHNICIAN	21	
S	DENTAL/ORTHODONTISTRY	20	
Q	FIREFIGHTING	18	
Z	PAYING JOB	16	
M	PUBLIC SPEAKING/COMMUNICATIONS/SPEECH	12	MAYBE JUST ADD TO H (FINE ARTS CODE)
N	ASTRONOMY	12	JUST ADD TO SCIENCE CODE L
E	AVIATION	7	MAYBE COMBINE WITH TRANSPORTATION/LOGISTICS (2)
3	EXPLORATORY	3	
2	TRANSPORTATION/LOGISTICS	2	
X	BARBER	1	ADD TO COSMETOLOGY?

Here are a few example of comments related to these ideas.

"I would love to learn from someone in aerospace engineering. The option to learn in an actual work environment would be awesome. I feel like this could help turn school from memorizing useless information of the same piece of paper into actually learning real-life skills" [E, L, B].

"A Digital art class, with apprenticeships at local art studios" [D, R, B].

"Internships on education so anyone who wants to join that area of work could get more knowledge about it before going out of high school" [B, G].

CATEC conducted a survey of their own, asking all students from ACPS and Charlottesville City Schools to respond last school year, 2016-17. They received 618 student responses. The question only provided the current programs as choices. The top three responses are as follows: 34% of students chose "None," 25% chose "Culinary Arts," and 22% chose "Nursing." An additional question asked, "We are always looking to add new programs. Look at the following list of potential programs and pick 3 programs that you find the most

interesting and would consider enrolling in if the program was offered as an elective.” Students chose Veterinary Assistant/Veterinary Technician most often and this is the course that will be added in 2018-19. After that, students chose Hotel and Restaurant Management and None. Programming, Cyber Security, and Landscaping followed behind. Other provided choices with the lowest response rates were Equine Science, Horticulture, Aviation, Masonry, Plumbing, and HVAC.

As another data point, in the 2017 State of the Division report, 3982 ACPS students enrolled in a CTE course with 5974 total enrollments. The programs with the largest enrollments are STEM (1919) and IT (1267). Finance recorded 885 enrollments, largely due to the required Economics and Personal Finance course. The next largest programs are Arts, Audio-Visual Technology, and Communications (401), Manufacturing (326), Health Sciences (292), and Marketing (274). For more information see this link:

<https://www2.k12albemarle.org/acps/division/report/2016-17/Documents/CTE-Enrollments-by-Program-Area.pdf>

Finally, on page 15, the current program totals are shown. CATEC provided the enrollment data for the current school year by contributing high school. This information is also very telling. The following is the program information by the four ACPS contributing high schools that were also surveyed:

#### **Albemarle High School Ten-day Enrollment 2017-18**

\*63 students in total participated in a CATEC program

\*Auto Technology (12 students), Cosmetology (11 students), and Nurse Aide (7 students) are the top 3

\*Zero students participated in Music Industry Technology and Vocational Exploration

#### **Monticello High School Ten-day Enrollment 2017-18**

\*80 students participated in a CATEC program

\*Cosmetology (18 students), Auto Body Technology (12 students), and Automotive Technology (10 students) are the top 3

\*Zero students participated in Pharmacy Technician

#### **Murray High School Ten-day Enrollment 2017-18**

\* 8 students attended from Murray

#### **Western Albemarle High School Ten-day Enrollment 2017-18**

\*27 students participated in a CATEC program

\*Auto Technology (6 students), Electricity (5 students), and Auto Body Technology (4 students) are the top 3

\*Zero students participated in Building Trades, EMT, or Music Industry Technology

### **Interviews with Current and Former CATEC Staff and Other School Leadership**

This evaluation necessitated interviews with current and former leadership of CATEC. For the purposes of anonymity, no person will be directly quoted. However, interviews were conducted via telephone or in person with Joe Johnson, Darah Bonham, Adam Hastings, Craig Smith, Catherine Lee, Daphne Keiser, Bruce Bosselman, and Deborah Gannon. Michael Craddock and Chad Ratliff, as well as several regional technical center directors, contributed thoughts as well. Finally, Mr. Steve Koleszar, Mr. Juandiego Wade, Dr. Pam Moran, and Dr. Rosa Atkins participated in interviews in April 2018. The questions asked are questions a) through f) in the evaluation design.

The first question of each interviewee asked them to state their relationship and experience with CATEC. The subsequent questions asked about the strategic plan implementation and the changes that have occurred as related to the 2013-14 strategic plan. Participants felt that partnerships with businesses, PVCC, and UVA have improved. Besides the academy model implementation, other strategies are occurring within CATEC to

improve instruction and to provide more opportunities to earn industry credentials, dual enrollment credits, or workplace experience. Many commented that there have been some “great hires” as well. Dr. Keiser is implementing the PLC model and instructional coaching to be more collaborative across teams and to look at and use student data to improve instruction. PVCC provides a career pathway counselor who works with instructors and helps students apply for admission, scholarships, financial aid, and dual enrollment and there is a collaboration with PVCC for the Health and Medical Sciences Academy. Some flexible scheduling has been tried very recently, but it was not successful.

The vision for the Institutes Model, proposed by the Bridgewater Innovations Group, is in-progress at CATEC. Bridgewater proposed five institutes—Skilled Trades, Customer Service, Healthcare Services, Manufacturing and Information Technology, and Early Childhood Education—to characterize CATEC programming. The models were renamed “academies” and the Health and Medical Service Academy was founded followed by the IT Academy. This vision aligns with current CTE philosophies to provide students with a career pathway and multiple exit points for job opportunities. The state requires that CTE programs be competency based and aligned with the career clusters and career pathways that allow for utilization with academic and career plans (8VAC20-120-120, 2017).

Each academy has an active employer/academic/instructional design council in collaboration with PVCC. The current academies do not serve both high school students and adults during the school day; however, some of the same classes are offered to adults in the evenings. There is a collaboration with PVCC for dual enrollment planning and strategic planning. The current academy programming allows students to complete associate degrees in less time at PVCC due to their CATEC program credits in Culinary Arts, Emergency Medical Services, and Information Systems Technology. The 11 credits earned for the Nurse Aid pathway do not provide any overlap for the Degree in Nursing at PVCC.

The Bridgewater Innovations Group identified several questions for consideration moving forward and these are still factors that contribute to the success or failure of the program at CATEC. These questions become even more important as ACPS considers another “center model” for high school students.

Should CATEC remain a part-time program or become a full-time program for participating high school students? How would shifting to a full-time program impact the feeder high schools? Alternatively, how would shifting CATEC students back to the base schools impact those high schools? Should these programs be centralized or distributed?

Bridgewater recommended collaboration with CATEC to provide richer opportunities at the base high schools. Dr. Keiser is beginning to distribute programs back into the base high schools, starting with an EMT satellite program at Western Albemarle High School. In previous years, when Joe Johnson was the CATEC director from 1995-2005, this was the approach that he took and he reported larger enrollment figures. Another idea that emerged from interviews is that CATEC could be used as a central hub for all things CTE with branches at each secondary school. There could be opportunity to consolidate and reorganize existing CTE classes in ACPS considering the large overlap in programming. The 2014 strategic plan describes a similar vision; however, the joint ownership and competing ideals of the two school systems prevents CATEC from reaching its full potential in this area.

The participants felt that the strategic planning process was thorough and done in a manner that connected different stakeholders in the community. Several commented that the move towards academies was a good one and that CATEC should continue adding academies instead of offering individual programs. CATEC academies were not done in construct with Albemarle County or Charlottesville City academy planning. The need for a more collaborative effort across both divisions including all CTE instruction appears to be a lesson-learned. The idea that the conversation around regional CTE should be the conversation and not “just” CATEC was a

common theme. Including both school divisions, the local colleges, and community colleges in a regional conversation about CTE and what role each level plays worked well during this process, but may need to be done more often.

The Bridgewater Group also recommended that CATEC become an all day, comprehensive program. This was not pursued. They also recommended expanding virtual options, but it does not appear that CATEC ventured into this type of programming although Charlottesville City and Albemarle County Public Schools have virtual CTE course options. Efforts made to rebrand CATEC were implemented but change has not been realized. Finally, every program was expected to articulate at PVCC but Cosmetology and Music Industry Technology do not.

During the interview process, several benefits and challenges arose as themes. CATEC is of particular benefit to both school systems because it is an efficient way to pool resources and to provide costly technical courses. Participants felt that CATEC provides quality programming and needed services to the community. As previously stated, CATEC has a high-level of student engagement and people have deep feelings about CATEC. Students earn a particular skillset at CATEC, they feel productive, they find value in what they learn, and they have a benefit of a smaller class size. There is a diverse student body and the school is a clear place where the city and the county are collaborating and working together. CATEC provides connections with the business community and there is a long history between the programs and local businesses. Students receive and earn dual enrollment opportunities, industry credentials, internships and jobs. Finally, CATEC is a large property in a central location and houses the adult apprenticeship program that partners with the University of Virginia.

There are certainly many challenges for a joint regional technical center and those will be discussed in more detail. For many regional technical centers, operations are conducted by a joint board made up of the participating school systems, much like the CATEC Board. The nature of this relationship is unique and creates a challenge for center leadership. The person in charge of the center (whether he or she is called the Executive Officer, Director, or Principal) must be someone who is flexible, who is an entrepreneurial and business-oriented thinker, who is knowledgeable of VDOE CTE expectations, and who is politically savvy enough to work with two (or more) school Superintendents and at least three School Boards. This person must be a principal, an entrepreneur, and a superintendent. It may not be crucial for this person to remain for an extended number of years, but the transition from one leader to the next is certainly important. Participants explicitly stated that the position is a challenge, “nobody wants it,” “there is not a lot of support,” and that it is “less routine than a principal at a regular school.”

CATEC has been open since 1973, and from 1973 through 2005, saw four directors. Since 2005, there have been several changes in leadership, many of them quite short in tenure. Like all leaders, each person had particular strengths and came with his or her vision for CATEC. Worth noting, when the strategic plan was drafted in 2014, Adam Hastings was earmarked by the consultant as having the necessary skills to execute the plan that was drafted, presumably due to inherent traits but also due to established relationships and prior planning. He left to join PVCC that same year and an interim director was put into place. Next, a strategic planning officer was hired who executed the first two academies and stayed for about 18 months. The current director was in place as a strategic planner first for one year and has been director for just this school year, 2017-18. It is difficult to maintain a cohesive vision, unify a staff, and market a school without consistent leadership.

Programming is a particular challenge for many reasons. The right teacher needs to be found and money for resources, equipment, and even renovations may be necessary. CTE programming, as discussed previously, is associated with high costs for materials and equipment. It can be difficult to choose programming if all are not convinced that it will be successful. While some may argue that much has stayed the same at CATEC, there have certainly been spurts of innovation over the years. Directors have placed satellite programs in schools,

programs have come and gone multiple times, and leadership has attempted scheduling changes to facilitate enrollment. Changes in leadership or teachers cause some initiatives to fizzle. If a teacher leaves a program, enrollment may decline. If a “bad” teacher stays in a program, enrollment may decline. Some directors have creative ideas but perhaps generate little student interest. It seems that the Green Energy program and entrepreneurial focus that Darah Bonham had for CATEC may have been before its time. Having support from students, parents, teachers, the School Boards, and local businesses is critical to the success of any initiative at CATEC. Even ending a program that may be a poor career pathway takes political will. Several regional directors and some of the leadership made comments in interviews about the lack of career pathways associated with cosmetology; however, the ACPS community is particularly supportive of this program as evidenced by the parent and student support when the discussion about ending the program has surfaced. (Some of the participants also very much support the cosmetology program at CATEC due to its longevity, clear student interest, and career pathway.)

From an administrative and scheduling standpoint, there are many barriers for student enrollment at CATEC. In its current state, attendance requires students to leave their base school for half of the day and to miss a block of instruction in travel time. Recently, CATEC leadership attempted to offer flexible scheduling that was ultimately not successful. Other technical center directors and those interviewed believe that the  $\frac{1}{2}$ -day model is a huge deterrent for students. Certainly, scheduling innovations are necessary for future planning as ACPS thinks about a potential model for High School 2022.

In talking with other regional technical centers in Virginia, there are a number of options. CATEC could move to the same schedule as the base high schools, offering similar “blocks” of time; CATEC could become a full-time high school; CATEC could remain a  $\frac{1}{2}$ -day program; or, CATEC could use flexible scheduling so that students attend CATEC some days and their base school or even other off-site locations other days. New Horizons Technical Center offers several creative programming options—all with the goal of increasing enrollment and opportunity for students. One example for creative scheduling is their pharmacy tech program. The first class is full. Instead of opening another lab, which would be costly, New Horizons moved to a hybrid model where students are in the lab 2-3 days a week and in a classroom to do the textbook work the other days. In this way, they can rotate students into the lab and a teacher can go to the base school to do the classroom work as long as the base high school has the space. Another example is an electronics course that is offered at New Horizons. The class is mostly virtual, with virtually simulated lab work. However, they contract with ECPI and an ECPI instructor comes to school one day a week to instruct the students. Additionally, every quarter, the students spend two days at ECPI for hands-on work. The director attributes this thinking to the project-based learning movement and is looking for additional ways to deliver his programs.

Even further, bell schedules could be developed so that the base high schools, CATEC, and maybe even middle school students could attend programming throughout the day and at their choosing, like a college, as long as transportation was also planned to support this effort. This would be a large cultural change, however, and could be quite costly. Alternative high school models certainly use creative scheduling, but “alternative” has a different connotation than the “early-career” or “early-college” model. Exploring the idea of an early-college or early-career model at CATEC could be very exciting. There are already many dual enrollment opportunities set up, but a curriculum partnership with PVCC as well as transportation would be key pieces to work out to see a true “early-college model.”

For high school students, schedules can fill up quickly with accreditation requirements. Several unique scheduling constraints may restrict access for students who may wish to attend CATEC. For example, students in need of remediation who have failed more than one class may be ineligible to attend CATEC; students in AVID do not have room in their schedules (as reported by those interviewed); and economics and personal finance is now a required course and fulfills a CTE requirement. Next year, students will take freshman seminar and lose an elective option during the freshman year, although the only option for freshman at CATEC is the exploratory. This could be an interesting collaboration or component of the freshman seminar, if explored.

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Perhaps elements of the exploratory at CATEC could be used or reimagined for the freshman seminar, or, implemented at an earlier stage in middle school or even elementary school.

Another challenge besides scheduling is competition with base schools and with PVCC. Students have multitudinous options in Albemarle County for experiencing career and technical education without attending CATEC. Monticello offers at least 34 CTE classes and houses its own Microsoft IT Academy and Health and Medical Sciences Academy. Western offers at least 27 CTE classes, including Teachers for Tomorrow, and houses the Environmental Science Academy. Albemarle High School offers at least 30 CTE classes, including several Fashion and Marketing classes, and houses the Math and Engineering Sciences Academy. To say that the base schools offer CATEC competition is an understatement, as students take many of these CTE courses for dual enrollment credit without leaving their base high school. Additionally, base high schools offer similar programming, so if a student does not have a strong career inclination, he or she is not likely to explore a class at CATEC when offered a similar course. For a complete list of ACPS CTE courses, see <https://www2.k12albemarle.org/acps/students/guide/Pages/index.aspx>. It seems that it is necessary to catalogue the options available to students and strategically plan the next center and/or academy offerings. This would include moving certain classes to or from CATEC and to or from the base schools. If the academy transportation pilot proves successful, this could be a huge insight for CATEC and any other future planning for center models as it would show that students are willing to leave the base high school for the right program.

Besides competition from the base high schools, PVCC may view CATEC as competition based on some responses. PVCC requires students to be dual enrolled while Reynolds allows more flexibility. Additionally, offering dual enrollment allows students to take those credits to any school not just PVCC and CATEC offers certifications and apprenticeships that PVCC does not.

Another challenge that participants repeated is the idea that CATEC can be “an island” and that the joint governance structure poses distinct challenges. CATEC must exist with competing visions from ACPS, Charlottesville City, and its own School Board. It seems that neither school division wants to “own” CATEC. Since CATEC is a joint venture, challenging aspects may be ignored or criticized, and participants felt that there is little support from either school division. Every interview included a discussion about the differences in vision of the two school systems and of the administrative differences that affect the day-to-day instruction for students attending CATEC.

One small example is that the two school divisions are not on the same school calendar, nor do they operate under the same parameters for inclement weather. If one school division is out of school, students from the other school division may still attend. Other examples identified include housing separate data in PowerSchool or splitting administrative functions between the city and the county (payroll, facility maintenance, etc.). If the program continues with the same governance structure, it could be helpful to identify all of these challenges and brainstorm solutions, although most of the leaders acknowledged these challenges as inherent to the joint design.

Several interviewees commented on the idea that CATEC can provide fewer options in some ways than the programming offered at the base high schools. Examples are, “Everyone knows CATEC is to get a job,” or “If you go to CATEC, you’re really saying you know what you want to be.” When people said this, they are inferring that students are not afforded the option to go to college by choosing CATEC because the skills learned are so specific. People do not view the courses at CATEC as avenues for students to pursue an interest. They view CATEC as the place to learn a job skill. Those interviewed also commented that students have a misconception about the amount of reading and technical information required by CATEC’s courses. On the Albemarle County Public Schools website, it states that, “High School 2022 (HS2022) is a focused, four-year effort to guarantee meaningful and relevant high school experiences that best serve the needs and engage the interests of every student. An extension of innovative programs developed by our teachers and embraced by our students, High School 2022 empowers students to identify, develop and pursue their interests.” These two ideas do not have to

be mutually exclusive, and perhaps efforts to highlight both the high level of student interest in classes and the tangible benefit of job skills, industry credentials, and dual enrollment credits can be maximized by school counselors and principals at all schools. (The above comments show that the way that people talk about CATEC promotes or engrains the image. For example, why would it be a negative to “know what you want to be” or to get skills “to get a job?” When the people interviewed made these statements, it was to illustrate the negative ways people talk about CATEC. These statements in particular are part of the larger challenge concerning what the community values for their students’ futures.)

Promoting career and technical education will be an important component for High School 2022 and for CATEC. Several technical center directors spoke about including more tenth graders in CTE courses by incorporating levels I, II, and III instead of just levels I and II. Additionally, all fifth-, seventh-, and ninth-graders tour their buildings. Several directors attribute enrollment success with these types of recruitment and selection efforts. Other ideas include requiring an application and good attendance for selection into programs or bringing counselors on a tour of the building to see the programs so that they can more clearly articulate the offerings to students. They also stressed the importance of introducing programs to elementary and middle school students.

## **Additional Research**

Nationally, a new vision of CTE fits the vision of Albemarle’s High School 2022. It calls for CTE to transform to meet the needs of the ever-changing workplace in an increasingly global economy. It “calls for breaking the silos of academic and technical education and secondary and postsecondary education” (NASDCTEC, 2013).

The research presented to the School Board in 2013-14 from the Bridgewater Group, has not changed significantly. The report highlights the development of the sixteen career clusters and several innovative programs throughout our nation, and discusses current national workforce trends. The report also highlights the Weldon Cooper Center research around essential workforce skills for employees. These skills have been central to the High School 2022 discussion as well. The Demographics Research Group from the Weldon Cooper Center and in collaboration with VDOE recently evaluated Virginia’s current set of 21 Workplace Readiness Skills to be certain they are up-to-date and aligned with the modern-day needs of employers and recommended some minor revisions (Crespin, Holzman, Muldoon, & Sen, 2017). The current most important skills selected by employers are Integrity, Positive Work Ethic, Speaking and Listening, Teamwork, and Customer Service. The top five skills most lacking included Creative Thinking and Problem-Solving, Positive Work Ethic, Initiative and Self-Direction, Time, Task, and Resource Management, and Speaking and Listening. The top five future workplace skills reported are Critical Thinking and Problem-Solving, Information Technology, Initiative and Self-direction, Information Literacy, and Creativity and Innovation (Crespin, Holzman, Muldoon, & Sen, 2017).

Locally, the Virginia Department of Education shows the top five Employers in Albemarle County are The University of Virginia/Blue Ridge Hospital, the County of Albemarle, Martha Jefferson Hospital, State Farm Automobile Insurance, and the U.S. Department of Defense (VDOE, 2015). Perhaps exploring content related to the Government and Public Administration career cluster would be beneficial. During the interview process, a former CATEC leader emphasized the biotechnology start-ups increasing in the area as an avenue for exploration as well. Providing real-world experience will be a central component for future CTE and for high School 2022. The Virginia Department of Labor and Industry is expanding opportunity for youth apprenticeships and there are potential apprenticeships opportunities with the Department of Defense.

In March 2016, the Chairman of the Virginia Board of Workforce Development created the Demand Occupation Taskforce to identify the fields and occupations for the Virginia Demand Occupations (VDO) List. The taskforce will annually develop and publish the list of occupations and related programs. The taskforce identified three primary criteria for inclusion on the Virginia Demand Occupations List. They include: 1) the occupational groups’ relevance to the State’s economic development strategy, 2) the degree to which advanced

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skills are required for entry into an occupation, and 3) the projected statewide demand for an occupation. Strategic to Virginia's Economy The Demand Occupation Taskforce selected the following major occupation groups for inclusion in the Demand Occupations List for 2016- 2017 year based on the degree to which they support Virginia's economic development strategy.

15-0000 Computer and Mathematical Occupations	17-0000 Architecture and Engineering Occupations
19-0000 Life, Physical, and Social Science Occupations	25-0000 Education, Training, and Library Occupations
29-0000 Healthcare Practitioners and Technical Occupations	31-0000 Healthcare Support Occupations
43-0000 Office and Administrative Support Occupations	47-0000 Construction and Extraction Occupations
49-0000 Installation, Maintenance, and Repair Occupations	51-0000 Production Occupations
53-0000 Transportation and Material Moving Occupations	

Selected statewide occupational projections include many of the programs offered at CATEC and can be seen below.

## Selected Statewide Occupational Projections

Selected Occupation	2015 Median Wage <sup>1</sup>	2024 Projected Employment <sup>2</sup>	Predominant Education Level <sup>3</sup>
Registered Nurses	\$61,640	72,042	Bachelor's or more
Management Analysts	\$94,930	65,586	Bachelor's or more/Work experience
Accountants and Auditors	\$74,200	50,237	Bachelor's or more
Software Developers, Applications	\$103,490	45,360	Bachelor's or more
Elementary School Teachers (Except Spec. Ed.)	\$59,190	58,712	Bachelor's or more/Training/Certification
Computer Systems Analysts	\$95,370	35,183	Bachelor's or more
Software Developers, Systems Software	\$110,950	52,103	Bachelor's or more
Sales Representatives, Services, All Other	\$59,800	28,829	Bachelor's or more/Training/Certification
Licensed Practical Nurses	\$10,240	26,213	Associate/Some college/Training/Certification
Lawyers	\$123,230	24,149	Bachelor's or more
Police and Sheriff's Patrol Officers	\$49,860	20,855	Associate/Some college/Training/Certification
Marketing Research Analysts and Specialists	\$63,250	20,595	Bachelor's or more
Electricians	\$47,020	20,247	Associate/Some college/Training/Certification
Computer and Information Systems Managers	\$151,850	17,169	Bachelor's or more/Work experience
Plumbers, Pipefitters, and Steamfitters	\$44,170	13,536	High School/Training/Certification
Information Security Analysts	\$102,710	13,034	Bachelor's or more/Work experience
Heat, Air Conditioning, Refrigeration Mechanics	\$47,370	11,807	Associate/Some college/Training/Certification
Mental Health Counselors	\$43,460	10,374	Bachelor's or more/Training/Certification
Firefighters	\$48,730	10,187	Associate/Some college/Training/Certification
Industrial Machinery Mechanics	\$47,860	9,887	High School/Training/Certification
Paralegals and Legal Assistants	\$49,520	9,801	Associate/Some college
Personal Financial Advisors	\$85,710	8,021	Bachelor's or more/Training/Certification
Truck Mechanics and Diesel Engine Specialists	\$43,800	7,614	High School/Training/Certification
Operations Research Analysts	\$105,970	7,505	Bachelor's or more
Machinists	\$43,600	7,378	High School/Training/Certification
Physical Therapists	\$84,300	6,673	Bachelor's or more
Web Developers	\$78,680	6,638	Bachelor's or more
Health Specialties Teachers, Postsecondary	\$63,690	6,346	Bachelor's or more/Work experience
Radiologic Technologists	\$55,820	5,736	Associate/Some college
Dental Hygienists	\$80,770	5,383	Associate/Some college
Medical and Clinical Laboratory Technologists	\$56,020	5,154	Bachelor's or more
Nurse Practitioners	\$94,340	5,045	Bachelor's or more
Manufacturing Maintenance and Repair Workers	\$44,600	4,880	High School/Training/Certification
Dentists, General	\$127,980	4,692	Bachelor's or more
Automotive Body and Related Repairers	\$45,070	4,606	High School/Training/Certification
Clinical, Counseling, and School Psychologists	\$68,830	4,317	Bachelor's or more/Training/Certification
Construction and Building Inspectors	\$56,010	4,271	Associate/Some college/Training/Certification/Work experience
Special Education Teachers, Secondary School	\$57,050	4,159	Bachelor's or more/Training/Certification
Eligibility Interviewers, Government Programs	\$38,890	4,071	High School/Training/Certification
Speech-Language Pathologists	\$76,390	3,950	Bachelor's or more
Brickmasons and Blockmasons	\$45,240	3,653	High School/Training/Certification
Water/Wastewater Treatment/System Operators	\$40,940	3,652	Associate/Some college/Training/Certification
Environmental Scientists and Specialists	\$70,300	3,614	Bachelor's or more
Chefs and Head Cooks	\$38,480	3,502	High School/Work experience
Security and Fire Alarm Systems Installers	\$42,820	3,345	High School/Training/Certification
Interpreters and Translators	\$62,410	3,325	Bachelor's or more/Training/Certification
Technical Writers	\$75,750	3,316	Bachelor's or more/Training/Certification/Work experience
CTE Teachers, Secondary School	\$50,200	2,677	Bachelor's or more/Training/Certification/Work experience

<sup>1</sup> Wage data from: the US Bureau of Labor Statistics Occupational Employment Statistics Program. Retrieved via <https://www.bls.gov/oes/civ/wk.htm>. <sup>2</sup> Five-year (long term) projections for Multiple Occupations in Virginia in 2014-2024. Retrieved via <https://data.virginalmi.com>. <sup>3</sup> Predominant level of education and training information determined by Full Workers based on U.S. Bureau of Labor Statistics occupational education and training data. Retrieved via <http://creativelabworks.org/labor-market-data/>.

Complete listings of occupations projections for the state of Virginia can be found here:

<https://data.virginalmi.com/vosnet/analyzer/results.aspx?enc=89GrFwVduKBsnTQJdTc3xQ==>

Music Industry does not translate to a specific pathway and Cosmetology relates to the occupational field of "Hairdressers and Cosmetologists." On the Bureau of Labor Statistics the entry wage in Virginia was \$18,560 while the experienced end of the range was \$44,291.

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State trends can be visited on VDOE for each of the sixteen career clusters and a snapshot is included here:  
[http://www.doe.virginia.gov/instruction/career\\_technical/statistics\\_reports/performance\\_trends/cte\\_highlights\\_2013-14.pdf](http://www.doe.virginia.gov/instruction/career_technical/statistics_reports/performance_trends/cte_highlights_2013-14.pdf).

The sixteen career clusters and 79 career pathways can be found here:  
<https://cte.careertech.org/sites/default/files/CareerClustersPathways.pdf>

## Part II Conclusions

This section explored what could be learned for future center planning. Albemarle County students are interested in the topics that CATEC is offering as part of its academies, but they are not enrolling in the programs at CATEC. The top categories of interest revealed by survey comments include Health and Medical Sciences and STEM. Interviews show that while the academy build-out was completed by design, the programming and structure of the academies at CATEC are still not attractive to students.

Because students suggest that they would like real-world, interdisciplinary experiences, several ideas could emerge. Programs could be developed at CATEC to explore interdisciplinary options, such as with the “Technical Eats” bus concept that students worked on this year. A future academy should be creative with curriculum, allowing students to meet broad standards through a variety of ways. Combining students in two disciplines, such as technology and fine arts could be very powerful as well.

Scheduling is the next biggest barrier for students following programming. Providing transportation is a good first step (transportation is already provided to CATEC and now will be provided for other ACPS academies) and experimenting with course schedules would be another process improvement.

CATEC does do a good job of providing their students with real-world experiences through mentorships, apprenticeships, and job shadowing and any future center will have to work towards robust business and community partnerships. Strategically, working with CATEC could provide more opportunities for all parties.

Future center planning should be strategic, considering all ACPS CTE courses and academies, including CATEC so that student enrollment and resources including building spaces, teachers, and equipment are maximized.

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## Appendix A: Credential Information by Trade, School Year 17-18

<b>Cosmetology I &amp; II</b>	<b>Certifications/Industry Credentials</b>	
<b>Cosmetology I</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> </ul>	
<b>Cosmetology II</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• State Board Practical, State Board Written</li> </ul>	

<b>Culinary Arts Intro, I, II</b>	<b>Certifications/Industry Credentials</b>	
<b>Culinary Arts Intro</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• ServSafe Food Handler (maybe)</li> </ul>	
<b>Culinary Arts I</b>		<b>Dual Enrollment</b>
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• Dual-enrollment</li> <li>• BLS AHA Life Support (CPR and First Aid), (those dual-enrolled)</li> <li>• ServSafe Food Handler</li> <li>• ServSafe Manager</li> <li>• NOCTI</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment PVCC 12 credits</li> </ul>
<b>Culinary Arts II</b>		<b>Dual Enrollment</b>
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• Dual-enrollment</li> <li>• BLS AHA Life Support (CPR and First Aid), (those dual-enrolled)</li> <li>• ServSafe Food Handler</li> <li>• ServSafe Manager</li> <li>• NOCTI</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment PVCC 8 credits</li> </ul>

<b>Automotive Service Technology</b>	<b>Certifications/Industry Credentials</b>	<b>Dual Enrollment</b>
<b>Automotive Service Technology I</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• SP2</li> <li>• ASE:           <ol style="list-style-type: none"> <li>1. Brakes</li> <li>2. Engine Repair</li> <li>3. Maintenance</li> <li>4. Light Repair</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment- J. Sargaent Reynolds 13 credits</li> </ul>
<b>Automotive Service Technology II</b>		<b>Dual Enrollment</b>
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• SP2</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment- J. Sargaent Reynolds</li> </ul>

	<ul style="list-style-type: none"> <li>• ASE:</li> </ul> <ol style="list-style-type: none"> <li>1. Suspension and Steering</li> <li>2. Brakes</li> <li>3. Electrical/Electronic Systems</li> <li>4. Engine Performance</li> <li>5. Engine Repair</li> <li>6. Automatic Transmission/Transaxle</li> <li>7. Manual Drive Train and Axles</li> <li>8. Heating and Air Conditioning</li> <li>9. Maintenance and Light Repair</li> <li>10. Automobile Service Technology</li> </ol>	12 credits
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<b>Automotive Body I and II</b>	<b>Certifications/Industry Credentials</b>	
<b>Automotive Body I and II</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• SP2: Collision Safety Collision Pollution Prevention</li> <li>• ASE:  <ol style="list-style-type: none"> <li>1. Painting and Refinishing</li> <li>2. Structural Analysis and Damage Repair</li> <li>3. Non-structural Analysis and Damage Repair</li> </ol> </li> </ul>	

<b>Building Trades I and II</b>	<b>Certifications/Industry Credentials</b>	<b>Dual Enrollment</b>
<b>Building Trades I and II</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• OSHA 10</li> <li>• NCCER Core (have to pass all to be certified)</li> <li>• NCCER Carpentry Level 1</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC 12 credits</li> </ul>

<b>Electricity I and II</b>	<b>Certifications/Industry Credentials</b>	
<b>Electricity I</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• NCCER Core (have to pass all to be certified)</li> <li>• Electrical Level 1</li> </ul>	

<b>Fire Fighting I and II</b>	<b>Certifications/Industry Credentials</b>	<b>Dual Enrollment</b>
<b>Firefighting I</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• BLS AHA Life Support (CPR and First Aid)</li> <li>• Firefighting tests:  <ul style="list-style-type: none"> <li>• DFP Firefighter I</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC and JSR 8 credits</li> </ul>

	<ul style="list-style-type: none"> <li>• DFP Firefighter II</li> <li>• Hazardous Materials Operation Certified</li> <li>• FST 110</li> <li>• FST 121</li> <li>• FEMA 100</li> <li>• FEMA 200</li> <li>• FEMA 700</li> <li>• FEMA 800</li> <li>• Terrorism Awareness</li> <li>• National Traffic Incident Management Safety Certificate</li> <li>• VDFP ITR</li> <li>• Pegasus Landing Zone</li> <li>• Bloodborne Pathogen</li> </ul>	
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<b>EMT I &amp; II</b>	<b>Certifications/Industry Credentials</b>	<b>Dual enrollment</b>
<b>EMT I and II</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• BLS AHA Life Support (CPR and First Aid)</li> <li>• National Registry EMT-B</li> <li>• FEMA 100</li> <li>• FEMA 700</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC 10 credits</li> </ul>

<b>Nurse Aide</b>	<b>Certifications/Industry Credentials</b>	<b>Dual Enrollment</b>
<b>Nurse Aide I</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• BLS AHA Life Support (CPR and First Aid)</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC 11 credits</li> </ul>

<b>Pharmacy Technician</b>	<b>Certifications/Industry Credentials</b>	<b>Dual enrollment</b>
<b>Pharmacy Technician I</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• BLS AHA Life Support (CPR and First Aid)</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC 18 credits</li> </ul>

<b>Dental Careers</b>	<b>Certifications/Industry Credentials</b>	<b>Dual Enrollment</b>
<b>Dental Careers I and II</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• BLS AHA Life Support (CPR and First Aid)</li> <li>• DANB Infection Control Certification</li> <li>• Dental Radiation Safety Certification</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC 4 credits</li> </ul>

<b>Computer Networking I &amp; II</b>	<b>Certifications/Industry Credentials</b>	<b>Dual Enrollment</b>
<b>Computer Networking I and II (Year 1)</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC</li> </ul>

	<ul style="list-style-type: none"> <li>• CompTIA A+ (maybe)</li> <li>• CISCO (maybe)</li> <li>• CCENT (maybe)</li> <li>• CCNA-RS (maybe)</li> </ul>	10 credits
<b>Computer Networking III and IV (Year 2)</b>		
	<ul style="list-style-type: none"> <li>• Workplace Readiness Skills</li> <li>• CompTIA A+</li> <li>• CISCO</li> <li>• CCENT</li> <li>• CCNA-RS</li> </ul>	<ul style="list-style-type: none"> <li>• Dual-enrollment-PVCC 6 credits</li> </ul>

**2018/2019**

**High School and College Credit Dual Enrollment Programs**

Dual Enrolled with JSRCC --- Dual Enrolled with PVCC --- Dual Enrolled with both JSRCC & PVCC

CATEC Class	College Credit	College Credit Course Code
<b>Auto Technology</b>	13 credits <div style="border: 1px solid black; padding: 2px; display: inline-block;">Year 1</div> 12 credits <div style="border: 1px solid black; padding: 2px; display: inline-block;">Year 2</div>	<u>AUT101</u> Intro to Automotive Sys.(3) <u>AUT236</u> Automotive Climate Control (4) <u>AUT241</u> Automotive Electricity I (3) <u><u>AUT242</u> Automotive Electricity II (3)</u> <u>AUT111</u> Automotive Engines I(4) <u>AUT236</u> State Inspection (2) <u>AUT266</u> Alignment, Suspension & Steering (3) <u>AUT265</u> Automotive Braking Systems (3)
<b>Building Trades</b>	12 credits	<u>BLD105</u> Shop Practices & Procedures (3) <u>BLD110</u> Introduction to Construction (3) <u>BLD135</u> Building Construction (3) <u>BLD187</u> Structure Completion (3)
<b>Culinary Arts</b>	12 credits <div style="border: 1px solid black; padding: 2px; display: inline-block;">Year 1</div> 8 credits Upon successful completion of CPR/First Aid certification <div style="border: 1px solid black; padding: 2px; display: inline-block;">Year 2</div>	<u>HRI106</u> Principles of Culinary Arts(3) <u>HRI158</u> Sanitation and Safety(3) <u>HRI119</u> Applied Nutrition for Food Service(3) <u><u>HRI219</u> Stock, Soup and Sauce Preparation(3)</u> <u>HRI128</u> Principles of Baking (3) <u>HLT100</u> First Aid/CPR (2) <u>HRI218</u> Fruit, Vegetable and Starch Prep (3)
<b>Nurse Aide</b>	11 credits	<u>HCT101</u> Health Care Technician I (3) <u>HCT102</u> Health Care Technician II (3) <u>HLT100</u> First Aid/CPR (2) <u>HLT130</u> Normal Nutrition (1) <u>HLT141</u> Intro to Medical Terminology (2)
<b>Firefighting</b>	8 credits Upon successful completion of CPR/First Aid certification	<u>FST110</u> Fire Behavior & Combustion (3) <u>FST121</u> Principal of Fire & Emerg Svcs (3) <u>HLT100</u> First Aid/CPR (2)
<b>Pharmacy Technician</b>	18 credits Upon successful completion of CPR/First Aid certification	<u>HLT141</u> Intro to Medical Terminology (2) <u>HLT195</u> Intro to Pharmacology (3) <u>HLT100</u> First Aid/CPR (2) <u>HLT250</u> Pharmacology (3) <u>HLT261</u> Basic Pharmacy I (3) <u>HLT263</u> Basic Pharmacy I Lab (1) <u>HLT262</u> Basic Pharmacy II (3) <u>HLT264</u> Basic Pharmacy II Lab (1)
<b>Dental Assistant</b>	4 credits Upon successful completion of CPR/First Aid certification	<u>HLT141</u> Intro to Medical Terminology (2) <u>HLT100</u> First Aid/CPR (2)
<b>EMT</b>	10 credits Upon successful completion of CPR/First Aid certification	<u>EMS111</u> Emergency Medical Technician (7) <u>EMS</u> Emergency Medical Technician Clinical (1) <u>HLT100</u> First Aid/CPR (2)
<b>IT/Cyber Security</b>	10 credits <div style="border: 1px solid black; padding: 2px; display: inline-block;">Year 1</div> 6 credits <div style="border: 1px solid black; padding: 2px; display: inline-block;">Year 2</div>	<u>ITN101</u> Intro to Networking (4) <u>ETR149</u> PC Repair (3) <u><u>ITN106</u> Microcomputer Operating Systems (3)</u> <u>ITN111</u> Windows Server Administration (3) <u>ETR164</u> Upgrading & Maintaining PC's (3)



**VIRGINIA DEPARTMENT OF EDUCATION  
CAREER AND TECHNICAL EDUCATION**

**ANNUAL PERFORMANCE REPORT (APR)**

**FOR**

**CHARLOTTESVILLE-ALBEMARLE TECHNICAL CENTER**

**SCHOOL YEAR  
2016-2017**

## (1S1 & 1S2) Academic Attainment

**Academic Attainment** - Students (based on responsible school division) who completed a CTE program (all and special populations) and were also enrolled in an academic course, for which a Standards of Learning (SOL) end-of-course test is required, will attain a passing score on the corresponding test.

**Performance Standard:** **1S1 English: Reading = 80.00%**  
**1S2 Mathematics (Highest Level) = 80.00%.**

ALL CTE COMPLETERS PERFORMANCE			
SOL Test	2016-2017	2015-2016	2014-2015
EOC English: Reading (1S1)	N/A	N/A	N/A
EOC Mathematics (Highest level) (1S2)	N/A	N/A	N/A

ALL SPECIAL POPULATIONS PERFORMANCE	
SOL Test	2016-2017
EOC English: Reading (1S1)	N/A
EOC Mathematics (Highest Level) (1S2)	N/A

## (2S1) Technical Skills Attainment

**Technical Skills Attainment<sup>1</sup> consists of five Performance Measures:**

- A. The percentage of completers<sup>2</sup> that attain 80% of the essential competencies on the state-provided, industry-validated competency lists – **91.00%**
- B. Completers participating in one or more Board approved credentialing tests – **80.00%**
- C. Completers taking and passing credentialing tests – **80.00%**
- D. Completers passing credentialing tests – **72.00%**
- E. Completers who passed a credentialing test plus the Completers who earned an Advanced Studies Diploma and did not pass a credentialing test<sup>3</sup> – **75.00%**

<sup>1</sup> For students based on CTE serving school division

<sup>2</sup> A Career and Technical Education Program Completer is a student who has met the requirements for a Career and Technical concentration or specialization and all requirements for high school graduation or an approved alternative education program

<sup>3</sup> Performance measure for College and Career Readiness required by the Virginia Board of Education

## (2S1) Technical Skills Attainment (cont.)

ALL CTE COMPLETERS				
PERFORMANCE STANDARD	2016-2017	2015-2016	2014-2015	
A. Student Competency Rate <sup>4</sup>	100.00% (83 of 83)	100.00% (61 of 61)	100.00% (61 of 61)	
B. Completers Participating in a Credentialing Test Rate	100.00% (83 of 83)	100.00% (61 of 61)	96.72% (59 of 61)	
C. Test Takers (Completers) Passing Credentialing Test Rate	87.95% (73 of 83)	78.69% (48 of 61)	83.05% (49 of 59)	
D. Completers Passing Credentialing Test Rate <sup>5</sup>	87.95% (73 of 83)	78.69% (48 of 61)	80.33% (49 of 61)	
E. Completers who passed a credentialing test plus Completers who earned an Advanced Studies Diploma and did not pass a credentialing test <sup>5</sup>	87.95% (73 of 83)	78.69% (48 of 61)	78.69% (48 of 61)	
Information Indicator – Completers who earned an Advanced Studies Diploma and passed a credentialing test	19.28% (16 of 83)	14.75% (9 of 61)	26.23% (16 of 61)	

ALL SPECIAL POPULATIONS PERFORMANCE				
PERFORMANCE STANDARD	2016-2017	2015-2016	2014-2015	
A. Student Competency Rate <sup>4</sup>	100.00% (56 of 56)	100.00% (46 of 46)	100.00% (41 of 41)	
B. Completers Participating in a Credentialing Test Rate	100.00% (56 of 56)	100.00% (46 of 46)	97.56% (40 of 41)	
C. Test Takers (Completers) Passing Credentialing Test Rate	82.14% (46 of 56)	73.91% (34 of 46)	75.00% (30 of 40)	
D. Completers Passing Credentialing Test Rate <sup>5</sup>	82.14% (46 of 56)	19.28% (34 of 46)	73.17% (30 of 41)	
E. Completers who passed a credentialing test plus Completers who earned an Advanced Studies Diploma and did not pass a credentialing test <sup>5</sup>	82.14% (46 of 56)	73.91% (34 of 46)	68.29% (28 of 41)	

Information Indicator – Completers who earned an Advanced Studies Diploma and passed a credentialing test	14.29% (8 of 56)	15.22% (7 of 46)	21.95% (9 of 41)
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<sup>4</sup> Completers who have attained 80% of the Student Competency

<sup>5</sup> Performance measure for College and Career Readiness required by the Virginia Board of Education

## (3S1) Secondary School Completion

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**Secondary School Completion** – Students (based on responsible school division) who completed CTE programs and graduated from secondary education.

**Performance Standard: 3S1 Secondary School Completion = 96.00%.**

2016-2017	2015-2016	2014-2015
N/A	N/A	N/A

## (4S1) Graduation Rate

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**Graduation Rate** – The number of CTE completers (based on CTE serving school division) who earned an Advanced Studies Diploma, International Baccalaureate Diploma or Standard Diploma.

**Performance Standard: 4S1 Graduation Rate = 93.00%.**

2016-2017	2015-2016	2014-2015
93.98% (78 of 83)	88.52% (54 of 61)	91.80% (56 of 61)

## (5S1) Secondary Placement (Transition) Rate

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**Secondary Placement (Transition) Rate** – CTE completers (based on CTE serving school division) will successfully transition from secondary school to employment, military, further education, or full-time equivalency of part-time combinations of transition indicators.

**Performance Standard: 5S1 Secondary Transition Rate = 93.00%.**

ALL CTE COMPLETERS		
2016-2017	2015-2016	2014-2015
93.62% (44 of 47)	95.65% (44 of 46)	95.24% (60 of 63)

ALL SPECIAL POPULATIONS PERFORMANCE	
2016-2017	
93.94%	(31 of 33)

## (5S1) Program Completer Response Rate (Cont.)

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**Program Completer Response Rate** - The response rate to the Career and Technical Education Student Follow-Up Survey for school year 2016-2017.

**Performance Standard: 5S1 Completer Response Rate = 75.00%.**

2016-2017	2015-2016	2014-2015
77.05% (47 of 61)	75.41% (46 of 61)	75.00% (63 of 84)

## (6S1 & 6S2) Nontraditional Career Preparation

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**Nontraditional Career Preparation (Enrollment)** – The total (combined) enrollment rate (based on CTE serving school division) in the state-identified courses for nontraditional career preparation of the gender that comprises less than 25%.

**Performance Standard: 6S1 Nontraditional Career Preparation Enrollment = 31.00%**

ALL CTE NONTRADITIONAL ENROLLMENT		
2016-2017	2015-2016	2014-2015
10.54% (37 of 351)	12.44% (27 of 217)	8.02% (15 of 187)

**Nontraditional Career Preparation (Completion)** – The total (combined) completion rate (based on CTE serving school division) in the state-identified courses for nontraditional career preparation of the gender that comprises less than 25%.

**Performance Standard: 6S2 Nontraditional Career Preparation Completion = 27.00%.**

ALL CTE NONTRADITIONAL COMPLETERS		
2016-2017	2015-2016	2014-2015
10.53% (8 of 76)	14.04% (8 of 57)	6.90% (4 of 58)

## 2016-2017 Charlottesville-Albemarle Technical Center Annual Performance Summary

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Standard	All Students		Special Population	
	Met	Not Met	Met	Not Met
1S1 Academic Attainment: Reading				
1S2 Academic Attainment: Mathematics (Highest Level)				
<u>2S1 Technical Skills Attainment</u>				
A. Student Competency Rate	✓		✓	
B. Completers Participating in Credentialing Test Rate	✓		✓	
C. Test Takers (Completers) Passing Credentialing Test Rate <sup>1</sup>	✓		✓	
D. Completers Passing Credential Test Rate <sup>2</sup>	✓		✓	
E. Completers who passed a credentialing test plus Completers who earned an Advanced Studies Diploma and did not pass a credentialing test <sup>2</sup>	✓		✓	
3S1 Secondary School Completion				
4S1 Student Graduation Rate	✓			
5S1 Secondary Placement (Transition) Rate	✓		✓	
5S1 Program Completer Response Rate	✓			
6S1 Nontraditional Career Preparation (Enrollment)		X		
6S2 Nontraditional Career Preparation (Completion)		X		

<sup>1</sup> Perkins CAR measure for Technical Skills Attainment

<sup>2</sup> Performance measure required by the Virginia Board of Education

The 2016-2017 Statewide Annual Performance Report will be located at

[2016-2017 Statewide Annual Performance Report -](#)

[http://www.doe.virginia.gov/instruction/career\\_technical/statistics\\_reports/index.shtml](http://www.doe.virginia.gov/instruction/career_technical/statistics_reports/index.shtml)

# PATHWAYS TO SUCCESS

From CATEC → PVCC → Employment



## WHAT IS THE PATHWAYS TO SUCCESS PROGRAM?

Pathways to Success prepares CATEC students in three different professional areas (cybersecurity, health care, and hospitality) for in-demand job certifications and foundational skills for them to succeed at Piedmont Virginia Community College (PVCC) and beyond in a career of their choice.

While partaking in Pathways to Success, students in the three professional realms will work through established dual enrollment pathways. These pathways, beginning at CATEC, will lead students to PVCC and then to a job in the Charlottesville-Albemarle area. An integral piece of Pathways to Success is the coordinated partnership between CATEC and PVCC, with students receiving coordinated support services between the two institutions to ensure student success.

*"We learn what it takes to start out in a job as a pharmacy technician but also learn about the ways that medicine affects society."*

- Pharmacy Technician Student

## WHY SHOULD I TAKE PART IN THE PATHWAYS TO SUCCESS PROGRAM?

- The program benefits CATEC students at a cost savings of \$155.90 per credit hour. Students in dual-enrollment pathways can take up to 20 credits, at an overall cost savings of \$3,118. On top of cost savings, students will receive specialized support services to support their transition from CATEC to PVCC and then on to employment.
- Students that participate in Pathways to Success will forge meaningful relationships with other students with similar interests along with local experts in their field of interest.
- Since Pathways to Success incorporates PVCC Student Services, it's an excellent way to learn about PVCC and its program offerings and get a head-start on your college education.

## WHAT IS THE EMPLOYMENT OUTLOOK FOR THESE PROGRAMS?

- Network Systems/Cybersecurity:** According to the Information Technology and Innovation Foundation, Virginia ranks among the nation's best globalized, entrepreneurial, IT-driven, and innovative economies, thus creating a need for high-quality cybersecurity training.
- Health Care:** Regional employers depend on more than 300 highly trained entry- and mid-level applicants per year to fuel the pipeline of workers needed.
- Hospitality:** Due to the bustling wine and beverage industry in the Central Virginia area, Accommodations and Foodservices is among the top five largest industries in the region with over 10,000 employees with a growing need for even more.

## WHAT ARE THE BENEFITS OF TAKING PART IN CLINICALS & INTERNSHIPS?

Students at CATEC are given the opportunity to partake in internship and clinical experiences. Students enrolled in culinary arts and IT/cybersecurity work at coordinated industry internships, which integrate classroom study with work-related experience. Students in health science programs (e.g., EMT, CNA, and pharmacy technician) partake in clinical experience, in which they get hands-on skills in their field of study. The benefit of internships and clinicals is that they connect what students learn in the classroom to the real world.

## WHERE CAN I GET MORE INFORMATION?

Visit [www.pvcc.edu/catec](http://www.pvcc.edu/catec) or contact the PVCC Community Career Pathway Coordinator. Please see back page for contact information.

# PATHWAY OPTIONS

## CULINARY ARTS/ HOSPITALITY

As adopted from the Commonwealth of Virginia Plan of Study. Note: This plan of study is a pathway into the Culinary Arts Program at PVCC



### CATEC      20 credits (over two years)

#### Year One at CATEC

HRI 106	Principles of Culinary Arts	3
HRI 158	Sanitation & Safety	3
HRI 119	Applied Nutrition for Food Service	3
HRI 219	Stock, Soup & Sauce Preparation	3

#### Year Two at CATEC

HRI 128	Principles of Baking	3
HLT 100	CPR/First Aid	2
HRI 218	Fruit, Vegetable & Starch Preparation	3

### PVCC A.A.S. Degree in Culinary Arts 67 credits

The list below includes all necessary classes; some may have already been completed at CATEC. Classes available or completed at CATEC are noted in blue below. See [www.pvcc.edu/culinary](http://www.pvcc.edu/culinary) for the most up-to-date list of curriculum & program requirements at PVCC.

#### First Semester (Fall) 16 credits

SDV 100	College Success Skills	1
ENG 111	College Composition I	3
<b>HRI 106</b>	<b>Principles of Culinary Arts I</b>	<b>3</b>
<b>HRI 158</b>	<b>Sanitation &amp; Safety</b>	<b>3</b>
HRI 219	Stock, Soup, & Sauce Preparation	3
_____	Social Science Elective (1)	3

#### Second Semester (Spring) 14 credits

<b>HLT 100</b>	<b>First Aid &amp; CPR</b>	<b>2</b>
<b>HRI 119</b>	<b>Applied Nutrition for Food Service</b>	<b>3</b>
<b>HRI 128</b>	<b>Principles of Baking</b>	<b>3</b>
HRI 220	Meat, Seafood & Poultry Preparation	3
MTH 120	Intro. to Mathematics or approved Technical Elective (HRI 190, 134, 159, 215, 224, or 251)	3

#### Third Semester (Summer) 7 credits

HRI 159	Intro. to Hospitality Industry Computer Systems	4
<b>HRI 218</b>	<b>Fruit, Vegetable, &amp; Starch Preparation</b>	<b>3</b>

#### Fourth Semester (Fall) 15 credits

HRI 145	Garde Manger	3
HRI 206	International Cuisine	3
HRI 215	Food Purchasing	3
HRI 251	Food & Beverage Cost Control I	3
ENG 112	College Composition II	3

#### Fifth Semester (Spring) 15 credits

HRI 134	Food & Beverage Service Management	3
HRI 207	American Regional Cuisine	3
HRI 224	Recipe & Menu Management	3
HRI 190	Coordinated Internship	3
_____	Humanities Elective	3

#### Total 67 credits

## EMERGENCY MEDICAL SERVICES INTERMEDIATE

As adopted from the Commonwealth of Virginia Plan of Study. Note: This plan of study is a pathway into the EMS-Intermediate Program at PVCC



### CATEC      10 credits

EMS 111	Emergency Medical Technician - Basic	7
EMS 120	Emergency Medical Technician - Basic Clinical	1
HLT 100	First Aid/CPR	2

### PVCC Career Studies Certificate in EMS - Intermediate 31 credits

The list below includes all necessary classes; some may have already been completed at CATEC. Classes available or completed at CATEC are noted in blue below. See [www.pvcc.edu/culinary](http://www.pvcc.edu/culinary) for the most up-to-date list of curriculum & program requirements at PVCC.

#### First Semester (Fall) 12 credits

BIO 145	Human Anatomy & Physiology for Health Sciences	4
<b>EMS 111</b>	<b>Emergency Medical Technician</b>	<b>7</b>
<b>EMS 120</b>	<b>Emergency Medical Technician - Basic Clinical</b>	<b>1</b>

#### Second Semester (Spring) 9 credits

EMS 151	Introduction to Advanced Life Support	4
EMS 152	Advanced EMT Completion	2
EMS 153	Basic ECG Recognition	2
EMS 170	ALS Internship	1

#### Third Semester (Fall) 10 credits

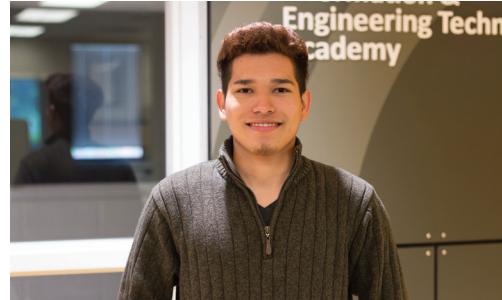
EMS 154	ALS Cardiac Care	2
EMS 157	ALS Trauma Care	3
EMS 159	ALS Special Populations	3
EMS 172	ALS Clinical Internship II	1
EMS 173	ALS Field Internship II	1

#### Total 31 credits



## NETWORK SYSTEMS/ CYBERSECURITY

As adopted from the Commonwealth of Virginia Plan of Study. Note: This plan of study is a pathway into Cybersecurity Program at PVCC



### CATEC      16 credits

#### Year One

ITN 101	Introduction to Network Concepts	4
ETR 149	PC Repair	3
ITN 106	Microcomputer Operating Systems	3

#### Year Two

ITN 111	Windows Server Administration	3
ETR 164	Upgrading & Maintaining PCs	3

### PVCC A.A.S. Degree in Information Systems Technology: Specialization in Cybersecurity 64 credits

The list below includes all necessary classes; some may have already been completed at CATEC. Classes available or completed at CATEC are noted in blue below. See [www.pvcc.edu/culinary](http://www.pvcc.edu/culinary) for the most up-to-date list of curriculum & program requirements at PVCC.

#### First Semester

ENG 111	College Composition I	3
MTH 115	Technical Mathematics	3
SDV 100	College Success Skills	1
CSC 110	Introduction to Computing	3
_____	Social Science Elective	3
_____	Humanities Elective	3

#### Second Semester

ENG 112	College Composition II	3
ETR 164	Upgrading & Maintaining PC Hardware	3
<b>ITN 106</b>	<b>Microcomputer Operating Systems</b>	<b>3</b>
<b>ETR 149</b>	<b>PC Repair</b>	<b>3</b>
ITE 215	Advanced Computer Applications & Integration	4

#### Third Semester

<b>ITN 101</b>	<b>Introduction to Network Concepts</b>	<b>4</b>
ITD 110	Web Page Design	3
ITD 132	Structured Query Language	3
<b>ITE 182</b>	<b>User Support/Help Desk Principles</b>	<b>3</b>
_____	Technical Elective (1)	3

#### Fourth Semester

ITN 111	Server Administration	3
<b>ITP 120</b>	<b>Java Programming</b>	<b>4</b>
_____	Technical Electives (3)	9

#### Total

64 credits

\*Note: CATEC offers CISCO certifications and PVCC offers CompTIA

Technical Elective Options:  
ITN 170, ITN 208, ITN 260, ITN 261, ITN 276, ITN 277; ITP 132, ITP 136, ITP 140, ITP 141, ITP 220

# PATHWAY OPTIONS

## NURSE AID

As adopted from the Commonwealth of Virginia Plan of Study. Note: This plan of study is a pathway into the Certified Nurse Aid (CNA) Program at PVCC



### CATEC 11 credits

HCT 101	Healthcare Technician I	3
HCT 102	Healthcare Technician II	3
HLT 100	First Aid/CPR	2
HLT 130	Normal Nutrition	1
HLT 141	Introduction to Medical Terminology	2

### PVCC A.A.S. Degree in Nursing 67 credits

The list below includes all necessary classes; some may have already been completed at CATEC. Classes available or completed at CATEC are noted in blue below. See [www.pvcc.edu/culinary](http://www.pvcc.edu/culinary) for the most up-to-date list of curriculum & program requirements at PVCC.

#### General Education Courses

##### First Semester 14 credits

SDV 100	College Orientation	1
ITE 119	Information Literacy	3
ENG 111	College Composition I	3
BIO 141	Human Anatomy & Physiology I	4
PSY 230	Developmental Psychology	3

##### Second Semester 17 credits

ENG 112	College Composition II	3
BIO 142	Human Anatomy & Physiology II	4
SOC 200	Introduction to Sociology	3
BIO 150	Microbiology	4
_____	Humanities elective	3

\*Apply to PVCC Nursing Program\*

#### Nursing Program First Semester

NUR 100	Introduction to Nursing & Health	1
NUR 108	Nursing Principles & Concepts I	6
NUR 226	Health Assessment	2

#### Nursing Program Second Semester

NUR 112	Nursing II	7
NUR 230	Pharmacology	3

#### Nursing Program Third Semester

NUR 201	Psychiatric Nursing	4
NUR 202	Medical-Surgical Nursing	4

#### Nursing Program Fourth Semester

NUR 245	Maternal/Newborn Nursing	4
NUR 246	Parent/Child Nursing	4
NUR 254	Nursing Dimensions	1

**Total** 67 credits

## PHARMACY TECHNICIAN

As adopted from the Commonwealth of Virginia Plan of Study. Note: This plan of study is a pathway into the Pharmacy Technician Program at PVCC



### CATEC 18 credits

HLT 141	Medical Terminology	2
HLT 195	Introduction to Pharmacy Tech	3
HLT 100	First Aid/CPR	2
HLT 250	General Pharmacology	3
HLT 261	Basic Pharmacy I	3
HLT 262	Basic Pharmacy II	3
HLT 263	Basic Pharmacy I Lab	1
HLT 264	Basic Pharmacy II Lab	1

### PVCC Career Studies Certificate in Pharmacy Technician 29 credits

The list below includes all necessary classes; some may have already been completed at CATEC. Classes available or completed at CATEC are noted in blue below. See [www.pvcc.edu/culinary](http://www.pvcc.edu/culinary) for the most up-to-date list of curriculum & program requirements at PVCC.

#### First Semester (Fall) 12 credits

HLT 141	Medical Terminology	2
BIO 145	Anatomy & Physiology for Health Sciences	4
ITE 119	Information Literacy	
OR		
ITE 120	Principles of Information Systems	3
HLT 195	Introduction to Pharmacy	3

#### Second Semester (Spring) 11 credits

HLT 250	General Pharmacology	3
HLT 261	Basic Pharmacy I	3
HLT 262	Basic Pharmacy II	3
HLT 263	Basic Pharmacy I Lab	1
HLT 264	Basic Pharmacy II Lab	1

#### Third Semester (Summer) 6 credits

HLT 290	Coordinated Internship	5
HLT 295	Pharmacy Technician Capstone	1

#### Total 29 credits



**CATEC**  
CHARLOTTESVILLE ALBEMARLE  
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## SPOTLIGHT

Charlottesville Albemarle Technical Education Center (CATEC) is a regional technical education center that helps high school students and adults obtain the jobs that they seek. It includes a centralized, unified career development program that helps students develop strategic approaches to cultivating their own successful careers. CATEC houses two academies that offer educational and career pathways for students in partnership with post-secondary institutions and employers.

Students in the Healthcare/Medical Services and Information/Engineering Technology Academies and the Culinary Arts Program may qualify to receive industry certifications and credentials, along with dual-enrollment credits offered by Piedmont Virginia Community College. Graduates of CATEC are encouraged to continue their education utilizing the dual-enrollment credits they received while in high school. Learn more about CATEC at [www.catec.org](http://www.catec.org).



## EMPLOYMENT OUTLOOK FOR PATHWAYS PROGRAMS

### CULINARY ARTS/HOSPITALITY

Overall, employment in the culinary arts is projected to grow. In response to increased consumer demand, more restaurants, grocery stores, catering services, and other dining venues will open and will require more cooks to prepare food. Average earnings will vary with locality, experience, type of employer, and education. In 2016, the annual median salary for chefs and head cooks was \$43,180. Cooks earned a median salary of \$22,850 (source: [www.bls.gov](http://www.bls.gov)).

### EMERGENCY MEDICAL SERVICES

Employment of EMTs and paramedics is projected to grow 24 percent from 2014 to 2024, much faster than the average for all occupations. Earnings will vary by job, location, education, and experience. The median annual wage for EMTs and paramedics was \$32,670 in May 2016. (source: [www.bls.gov](http://www.bls.gov)).

### NETWORK SYSTEMS/ CYBERSECURITY

Employment of information security analysts is projected to grow 18 percent by 2024, much faster than the average for all occupations. Demand for information security analysts is expected to be very high, and job prospects will

be best for those with related work experience. Average earnings will vary with locality, experience, employer type, and education. The median annual wage for information security analysts was \$92,600 in May 2016. Virginia employs more than 11 percent of the nation's cybersecurity professionals, and the median wage for information security analysts in the Commonwealth is \$105,440 annually (source: [www.bls.gov](http://www.bls.gov)).

### NURSE AID

Overall, employment of nursing assistants and orderlies is projected to grow 11 percent from 2016 to 2026, faster than the average for all occupations. As the baby-boom population ages, nursing assistants and orderlies will be needed to assist and care for elderly patients. The median annual wage for nursing assistants was \$26,590 in May 2016.

### PHARMACY TECHNICIAN

Employment of pharmacy technicians is projected to grow nine percent from 2014 to 2024, faster than the average for all occupations. Earnings will vary by job, location, education, and experience. The median annual wage for pharmacy technicians was \$30,920 in May 2016 (source: [www.bls.gov](http://www.bls.gov)).

## Quick Facts About PVCC

- PVCC serves more than 5,500 students each year that come from throughout the college's service region, which includes the counties of Albemarle, Buckingham, Fluvanna, Greene, Louisa, and Nelson, as well as the City of Charlottesville.
- A PVCC student has been named the top Virginia community college student, or New Century Scholar, for eight of the 17 designations. To date, PVCC has the highest number of New Century Scholars out of the 23 colleges that comprise the Virginia Community College System.
- PVCC is home to more than 40 student clubs and organizations including the Student Government Association, *The Forum* student newspaper, The Fall Line Literary Arts Magazine, the Phi Theta Kappa International Honor Society, and many other groups that encompass a wide variety of programs and interests—everything from visual and creative arts to rocket building and STEM. Clubs are open to any current PVCC student.
- PVCC students have access to the college's Fitness Center, outdoor volleyball and basketball courts, softball fields, and community garden. Learn more at [www.pvcc.edu/studentlife](http://www.pvcc.edu/studentlife).

## Contact Information

### Pathways to Success Contacts

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#### NON DISCRIMINATION STATEMENT

Piedmont Virginia Community College is an equal opportunity institution providing educational and employment opportunities, programs, services, and activities. PVCC does not discriminate on the basis of age, color, disability, family medical history or genetic information, military service, national origin, parental status, political affiliation, race, religion, sex (including pregnancy and gender identity), sexual orientation, or any other non-merit base factor. The College also prohibits sexual harassment including sexual violence or misconduct. PVCC offers programs in the following vocational areas: business, construction, culinary arts, health care, police science and technology. Some of the vocational programs offer admission based on selective criteria through a separate application process that is nondiscriminatory. These programs are: Diagnostic Medical Sonography, Emergency Medical Services, Nursing, Practical Nursing, Radiography and Surgical Technology. The following person has been designated to handle inquiries regarding any of these policies: Human Resources Manager, 501 College Dr., Main Building, Room M810, Charlottesville, VA 22902; 434.961.6567.

#### GAINFUL EMPLOYMENT STATEMENT

Visit [www.pvcc.edu/gainful](http://www.pvcc.edu/gainful) for PVCC graduation rates and other gainful employment information about our programs of study.