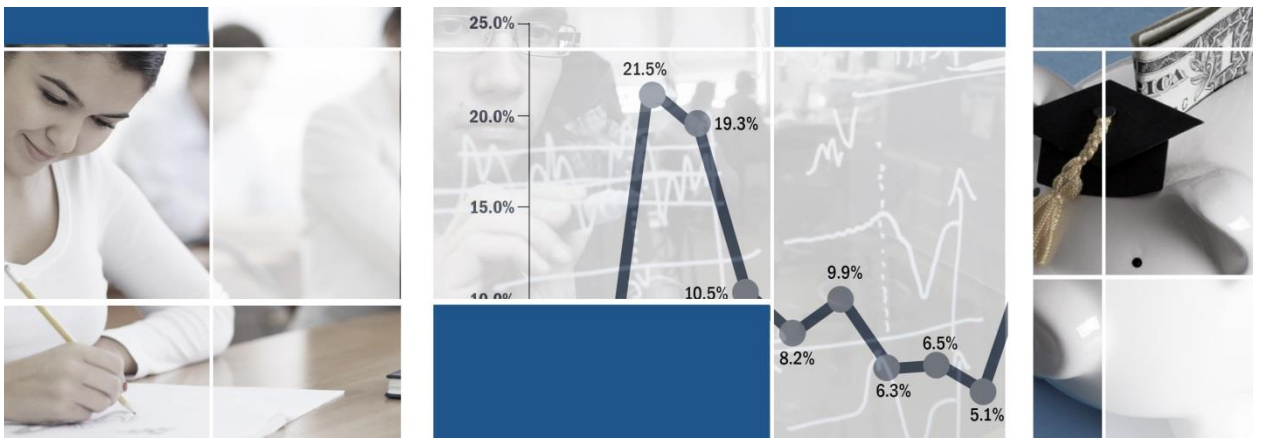


January 31, 2018



The New Economy Workforce Credential Grant

Annual Report for 2017

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Executive Summary

The General Assembly and Governor established the New Economy Workforce Credential grant program in 2016. In FY 2017, the Virginia Community College System and the Southern Virginia Higher Education Center offered training aligned to high-demand occupations and fields as identified by the Virginia Board for Workforce Development. The following includes a summary of observations from the first year of implementation of the program:

- Training and workforce credentials were aligned to high-demand fields identified by the Virginia Board for Workforce Development.
- Collectively, these institutions enrolled 4,961 students. Of those, 4,636 completed training and 3,072 reported a credential attained.
- Of the students who enrolled, 93% completed training.
- 66% of those completing training reported a credential attained.
- 61% of students were male.
- The average age of a student was 35 years.
- The median pre-training wages one-year prior to enrollment was \$22,000.
- Program demand has exceeded current funding levels for FY 2017 and FY 2018.
- A recent Joint Legislative Audit and Review Commission study of the Virginia Community College System included a review of the program. The Commission made two recommendations regarding the methodology to identify high-demand fields and the prioritization of funds based on areas that have high unmet demand.
- SCHEV staff will work with the Virginia Board for Workforce Development and eligible training providers in the coming year to address the JLARC recommendations.

Program Overview

During the 2016 session, the General Assembly passed HB 66 and SB 576, which established the New Economy Workforce Grant Program. This grant program, the first of its kind, provides a pay-for-performance model for funding noncredit workforce training that leads to a credential in a high-demand field. The program also includes requirements for students to complete the program in order to avoid paying additional costs. A summary of the major key components of the program are included below. Additional information is available through the [Code of Virginia](#).

Program Purpose

The Governor and the General Assembly outlined three primary purposes of program based on the requirements outlined in § 23.1-627.2. of the Code of Virginia code:

The New Economy Workforce Credential Grant is established for the purpose of (i) creating and sustaining a demand-driven supply of credentialed workers for high-demand occupations in the Commonwealth by addressing and closing the gap between the skills needed by workers in the Commonwealth and the skills of the available workforce in the Commonwealth; (ii) expanding the affordability of workforce training and credentialing; and (iii) increasing the interest of current and future Virginia workers in technician, technologist, and trade-level positions to fill the available and emerging jobs in the Commonwealth that require less than a bachelor's degree but more than a high school diploma.

The program also defines two key elements:

- **High-demand field:** a “discipline or field in which there is a shortage of skilled workers to fill current job vacancies or anticipated additional job openings.”
- **Noncredit workforce credential:** a “competency-based, industry-recognized, portable, and third-party-validated certification or occupational license in a high-demand field.”

Program Requirements and Pay-for-performance Model

The program focuses on a pay-for-performance model that provides payments for costs to training providers only when an individual completes training and when an individual completes a credential.

The following is a brief overview of the program requirements.

- **Eligible institutions and type of training:** Community colleges, higher education centers and Richard Bland College for noncredit training
- **Funding:** FY 2017 \$5million; FY 2018 \$7.5 million; awarded on a first-come, first-served basis
- **Alignment to high-demand fields:** Training programs should align with the high-demand fields set by the Virginia Board for Workforce Development. Boards of eligible training providers are required to approve the aligned training programs.
- **Payments and cost of the program:** The program shares the cost between the student, the training provider and the state. The following provides an explanation of how costs and paid based on performance. In addition, the table at the bottom of the page, illustrates the pay-for-performance model.

- **Student responsibility:** Students are required to pay one-third of the total cost of the program upon enrollment. Students may use third-party funds, such as noncredit financial aid, training vouchers or employer payment to cover this cost. If the student does not complete the program, then the student is required to pay an additional one-third of the cost of the program
- **State:** If the student completes the training, then the state provides one-third of the cost of the program, up to \$1,500 to the institution. If the student reports a credential, then the state pays an additional one-third of the cost of the program, up to \$1,500.
- **Institution:** If a student does not report a credential earned, then the institution does not receive state funding for one-third of the cost of the program.
- **Reporting and payments:** Eligible training provider must provide student-level data to SCHEV to receive funding.
- **Administration:** SCHEV is responsible for administering the program, conducting periodic assessment of the program, collecting student data, and making final decisions on disputes between eligible institutions and grant recipient.

Program Pay-for-Performance Model

Payment Scenario if a student...	Student Pays ...	State Pays ...*	Training Provider...
... Completed training and credential	1/3 program cost	2/3 program cost*	
... Completed training but did not earn or report credential to the training provider	1/3 program cost	1/3 program cost*	Loses 1/3 of the program cost
... Did not complete training and did not earn or report a credential	2/3 program cost	No cost	Loses 1/3 of program cost

*Maximum contribution is \$3,000

High-demand Field and Training Alignment Process

Identification of High-demand Fields

The code requires that the Virginia Board for Workforce Development identify high-demand occupational fields. In spring of 2016, the Virginia Board for Workforce Development developed a methodology to identify high-demand programs. This methodology used the following criteria:

- The relevance of the occupational group to the State’s economic development strategy as outlined in the Governor McAuliffe’s [New Virginia Economy](#) strategy document.

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- The projected annual statewide job openings as based on Virginia Employment Commission/Bureau of Labor Statistics 10-year employment projections. This level was set at 50 annual openings.
- The degree to which the occupations require advanced skills as measured by entry level education. This was limited to greater than high school diploma and less than a Master's degree.

The Board also allowed a petition process if a region identified an occupation that was not included on the list, to be added if the region could demonstrate demand. A complete description of the programs is available on the [Elevate Virginia website](#).

Based on a review of the occupations meeting the criteria above, the Virginia Board for Workforce Development identified high-demand occupations in 11 fields. The following is a list of the occupational fields and estimated annual openings for the high-demand occupations with these fields. Appendix A includes a full list of the high-demand occupations, including the average openings growth rate, annual replacement and growth openings and average annual wages.

Total Annual Openings for High-demand Occupations by Occupational Field

Occupational Field	Total Annual Openings for High-demand Occupations (includes openings from growth and replacement)
Architecture and Engineering	2,268
Computer and Mathematical	8,525
Construction and Extraction	4,020
Education, Training, and Library	6,881
Healthcare Practitioners and Technical	5,379
Healthcare Support	3,930
Installation, Maintenance, and Repair	4,782
Life, Physical, and Social Science	372
Office and Administrative Support	15,704
Production	2,600
Transportation and Material Moving	3,207
Total	57,668

Source: Virginia Board for Workforce Development selection of high-demand occupations based on Virginia Employment Commission/Bureau of Labor Statistics 10-year employment projections for 2016.

Training Programs Offered by Eligible Training Providers

To date, the Virginia Community College System and the Southern Virginia Higher Education Center are the only eligible training providers offering the programs. Once the Virginia Board for Workforce Development identified the high-demand fields, these

eligible training providers developed or aligned existing noncredit training programs to meet the new credential criteria and their boards approved the programs.

Once the programs were approved, the eligible training provider boards submit their lists to the Virginia Board for Workforce Development. A [full list](#) of high-demand occupations and aligned training programs offered by eligible training providers is maintained and updated on the workforce credential section of the Elevate Virginia website.

Training providers offered courses leading to a credential in nine of the 11 occupational fields identified. The two fields that do not have aligned training programs are (1) life, physical and social science and (2) architecture and engineering. Those fields had the lowest rates of projected annual job openings and primarily required a bachelor’s degree for job entry. The following table is a sample list by occupational field of the types of training and credentials students could attain upon completion.

Sample Workforce Training and Certifications Offered by Occupational Field

Occupational Field	Sample Workforce Training/Certification Offered
Computer and Mathematical (15)	CompTIA A+, Network+ and Server+ Computer Entry Level (CISCO Networking Technician and Associate, CompTIA IT Fundamentals); Information Systems Security Project Management Professional (PMP)
Construction and Extraction (47)	Construction (Project Management, Carpentry, Contractor's License), Plumbing & Electrical, VDOT Materials Certifications (Slurry Surfacing, Asphalt Field, Asphalt Plant, Surface Treatment) Welding
Education, Training, and Library (25)	Career Switcher/Teaching License
Healthcare Practitioners and Technical (29)	Emergency Medical, Pharmacy, EKG Technician
Healthcare Support (31)	Certified Nurse Aide (CNA) Medical Assistant and Medication Aide Phlebotomy Technician
Installation, Maintenance, and Repair (49)	Electrical and electrical systems, Engine Repair HVAC, Power Line Worker

Occupational Field	Sample Workforce Training/Certification Offered
Office and Administrative Support (43)	Billing and Coding Specialist, Customer Services and Sales, Medical Administrative Assistant Professional Coder, SHRM Certified Professional
Production (51)	Backflow Prevention, Electronics assembly (JSTD-001 Certification), Machine tool operations, Manufacturing Technician 1 (MT1), Manufacturing entry level (specialist and production technician), Mechatronics, Six Sigma Millwright certifications (industrial machine installation, maintenance, troubleshooting and repair), Welding (flux, gas and general)
Transportation and Material Moving (53)	Commercial Driver's License, Logistics Associate Logistics Technician, Remote Pilot Airman Certification

FY 2017 Enrollment, Training Completions and Reported Credentials Attained

Training and Credentials by Occupational Field

The FY 2017 data are based on all students completing a training course between July 1, 2016, and June 30, 2017. Eligible training providers are allowed up to 180 days after the completion of training to obtain verification that a student earned a credential. Training providers may verify this information either through receiving information from a student or through a record match with the entity issuing the credential. The following is a summary table of enrollments, completions and reported credentials by occupational field. A full list by credential type is available in Appendix B.

FY 2017 Enrollment, Training Completion and Reported Credentials by Occupational Field

Occupational Field	Total Annual Job Openings	Enrolled in Credential Training	Completed Credential Training	Reported a Credential Attained*
Architecture and Engineering	2,268	-	-	-
Computer and Mathematical	8,525	668	654	143
Construction and Extraction	4,020	280	273	232
Education, Training, and Library	6,881	121	105	104
Healthcare Practitioners and Technical	5,379	184	166	44
Healthcare Support	3,930	776	734	426
Installation, Maintenance, and Repair	4,782	196	182	165
Life, Physical, and Social Science	372	-	-	-
Office and Administrative Support	15,704	266	256	186
Production	2,600	876	835	602
Transportation and Material Moving	3,207	1,594	1,431	1,170
Total	57,668	4,961	4,636	3,072

Source: Virginia Board for Workforce Development selection of high-demand occupations based on Virginia Employment Commission/Bureau of Labor Statistics 10-year employment projections for 2016.

*Reported a credential attained: Indicates that the training provider reported a credential attained by a student either through verification with the student or through a record match with the entity issuing the credential with 180 days of program completion. Low figures may not indicate that a student did not complete the credential as some students may not verify the credential with the training provider after training is complete.

Training and Credentials by Eligible Training Provider

The number of students enrolling across training providers varied by institution. Some colleges delayed the start of the program as they worked to develop training and build the infrastructure to operate the training programs in the initial year. Delayed program starts may impact the lower figures.

FY 2017 Enrollment, Training Completion and Reported Credentials by Eligible Training Provider

	Enrolled	Completed Training	Reported a Credential Attained
Blue Ridge CC	428	386	267
Central Virginia CC	155	150	73
Dabney Lancaster CC	34	34	31
Danville CC	72	70	29
Eastern Shore CC	54	54	40
Germanna CC	430	362	314
John Tyler/Reynolds CC (CCWA)	617	575	446
Lord Fairfax CC	359	336	263
Mountain Empire CC	8	5	4
New River CC	50	46	24
Northern Virginia CC	656	638	213
Patrick Henry CC	51	48	37
Paul D. Camp CC	35	34	27
Piedmont CC	427	387	291
Rappahannock CC	162	157	91
Southern Virginia Higher Ed Center	82	78	56
Southside Virginia CC	444	439	317
Southwest Virginia CC	49	48	14
Thomas Nelson CC	239	219	124
Tidewater CC	134	124	100
Virginia Highlands CC	25	23	19
Virginia Western CC	372	354	242
Wytheville CC	78	69	50

Student Demographics, Completion Rates and Wages Prior to Training

Overall, the majority of students tend to be adults with an average age of 35 years. Sixty-one percent of students in FY 2017 were male but the percentages vary based on the type of workforce training.

Post-wages are not available for participants due to lags in data reporting and allowing adequate time to elapse post-credential attainment for individuals to accumulate earnings. These are expected to be available in summer of 2018 and SCHEV staff will

provide updated data at that time. Annual wages prior to the start of training are available and these were reviewed to identify earning prior to entering the program. Initial analysis of wages prior to the start of indicate that the median pre-training annual earnings were approximately \$22,000 annually. These are estimated based on wage record matches with the Virginia Employment Commission.

The average training completion rate for the program was 93% and the average rate of credentials reported as a percentage of those completing training was 66%.

Student Demographics and Pre-Training Annual Wages

Sex	
Male	61%
Female	38%
Unknown	<1%
Average Age	35 years
Pre-training annual median wages*	\$22,000
Training completion rate (completed training as a percentage of those who enrolled)	93%
Credential reported rate (reported credentials attained as a percentage of those who completed training)	66%
*Preliminary wages based on Virginia Employment Commission wage record matches.	

Average Program Costs

Average tuition costs vary by credential. Rate are impacted by the time required for training and the resources to support training (such as supplies for welding or tractors for a commercial driver’s license). On average, total program costs (tuition) averaged \$2,636. Since the grant program is designed to require a student to only pay one-third of the cost of the program, the average cost to the student was \$879. The table on the follow page includes the average cost by credential area and occupational field for program offered in FY 2017.

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Average Program Costs and Average Cost to Students for Training Programs in FY 2017

Occupational Field	Training/Credential	Average Program Cost (Tuition Rate)	Average Cost to Student (1/3 of Cost)
Computer and Mathematical (15)	CompTIA A+	\$ 2,060	\$ 683
	CompTIA Network+	\$ 1,172	\$ 391
	CompTIA Server+	\$ 700	\$ 234
	Computer Entry Level (CISCO Networking Technician and Associate, CompTIA IT Fundamentals)	\$ 1,318	\$ 439
	Information Systems Security (CompTIA Security, Certified professional and ethical hacker)	\$ 1,417	\$ 472
	Project Management Professional (PMP)	\$ 1,088	\$ 363
Construction and Extraction (47)	Construction (Project Management, Carpentry, Contractor's License)	\$ 770	\$ 257
	Core - Introductory Craft Skills	\$ 1,488	\$ 496
	Plumbing & Electrical (including license renewal)	\$ 1,191	\$ 397
	VDOT Materials Certifications (Slurry Surfacing, Asphalt Field, Asphalt Plant, Surface Treatment)	\$ 344	\$ 115
	Welding	\$ 3,417	\$ 1,139
	Work Zone Flagger	\$ 683	\$ 228
Education, Training, and Library (25)	Teaching License	\$ 3,905	\$ 1,302
Healthcare Practitioners and Technical (29)	Emergency Medical, Pharmacy, EKG Technician	\$ 1,352	\$ 451
Healthcare Support (31)	Certified Nurse Aide (CNA)	\$ 1,860	\$ 620
	Medical Assistant and Medication Aide	\$ 2,965	\$ 988
	Phlebotomy Technician	\$ 2,450	\$ 817
Installation, Maintenance, and Repair (49)	Electrical and electrical systems	\$ 1,332	\$ 444
	Engine Repair	\$ 370	\$ 123
	HVAC (includes license renewal)	\$ 1,349	\$ 450

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Occupational Field	Training/Credential	Average Program Cost (Tuition Rate)	Average Cost to Student (1/3 of Cost)
	Other (Driveline/Hydraulics and Workready Foundations CORE)	\$ 838	\$ 279
	Power Line Worker	\$ 4,500	\$ 1,500
Office and Administrative Support (43)	Billing and Coding Specialist	\$ 3,345	\$ 1,115
	Customer Services and Sales	\$ 738	\$ 246
	Medical Administrative Assistant	\$ 1,631	\$ 544
	Professional Coder	\$ 1,577	\$ 526
	SHRM Certified Professional	\$ 2,109	\$ 703
Production (51)	Backflow Prevention	\$ 949	\$ 316
	Electronics assembly (JSTD-001 Certification)	\$ 988	\$ 329
	Machine tool operations (milling, turning, drill press, machining, planning bench work and layout)	\$ 1,630	\$ 543
	Manufacturing Technician 1 (MT1)	\$ 2,166	\$ 722
	Manufacturing entry level (specialist and production technician)	\$ 1,539	\$ 513
	Mechatronics and Six Sigma	\$ 2,395	\$ 798
	Millwright certifications (industrial machine installation, maintenance, troubleshooting and repair)	\$ 1,650	\$ 550
	Welding (flux, gas and general)	\$ 1,794	\$ 598
Transportation and Material Moving (53)	Commercial Driver's License	\$ 4,395	\$ 1,468
	Logistics Associate	\$ 874	\$ 291
	Logistics Technician	\$ 1,912	\$ 637
	Remote Pilot Airman Certification	\$ 1,919	\$ 640
Total		\$ 2,636	\$ 879

Additional Observations and Next Steps

Since the inception of the Workforce Credential Grant in 2016 demand for the program has exceeded original funding levels and the program included in a Joint Legislative Audit and Review Commission review of the Virginia Community College System. The following describes the impacts of the high demand on the program and the outcomes of a Joint Legislative Audit and Review Commission study of the program in 2017. It also includes next steps that SCHEV staff will take in the coming year.

Demand for Workforce Credentials and JLARC Review of the Program

While institutions had a short amount of time to implement the program in 2016 (the program was established during the 2016 General Assembly session and implementation began July 1, 2016), the program quickly reached capacity. Within seven to eight months, the program had obligated the initial \$4.5 million allocated for the fiscal year. As a result, in 2017 the General Assembly transferred \$1 million from the FY 2018 allocation to FY 2017 to cover the gap in funding. The high demand occurred again in FY 2018, and by November 2018 the program had obligated all of the FY 2018 funds (\$7.5 million). As a result, enrollments into the program were placed on hold pending additional funding.

During this time, JLARC also was asked to review the program as part of a larger study of the Virginia Community College System. The [report made two recommendations](#) regarding the program. The first recommendation focused on prioritization of funding to align with unmet demand and the second recommendation focused on developing a methodology to identify regional employer demand and demand where there are worker shortages. The full recommendations are included below.

RECOMMENDATION 20 The Virginia General Assembly may wish to amend the Code of Virginia to (i) clarify that Workforce Credentials Grant (WCG) funds be prioritized for, though not limited to, credentials for which there is a documented unmet employer demand and (ii) permit colleges to use a portion of their WCG funds to address the infrastructure or personnel challenges associated with program development or expansion if these challenges cannot be financed through other resources. (Chapter 6)

RECOMMENDATION 21 The Virginia Board for Workforce Development, in collaboration with the Virginia Community College System and the State Council of Higher Education for Virginia, should develop a methodology that can be used by community colleges to identify regional employer demands for occupations and distinguish between demand that is sufficiently met by the existing workforce and

demand that is not. The Board should incorporate in the methodology both labor market data and qualitative feedback from employers. (Chapter 6)

Next Steps

Based on the data review, program observations and recommendations from JLARC, SCHEV staff members will focus on the following actions in FY 2018-2019. These steps include:

- Partnering with the Virginia Community College System and the Virginia Board for Workforce Development to develop a methodology for identifying regional and unmet demand as recommended by JLARC. This is expected to be completed in Spring 2018.
- Identifying a process with training providers to estimate demand for the program for FY 2019 based on the revised methodology and to prioritize programs if funds are limited.

Appendix A: High-demand Occupations by Field

High-demand Occupations (more than 50 total openings)	Total Base Employment	Average 10-year growth rate (pct)	Total Annual Growth Openings	Total Annual Replacement Openings	Total Openings (Growth + Replacement)	Average Annual Wages
Architecture and Engineering (17)						
Aerospace Engineers	4,320	20.9	90	100	190	\$ 126,620
Architects, Except Landscape and Naval	3,444	15.7	54	82	136	\$ 82,830
Civil Engineering Technicians	2,831	4.5	13	59	72	\$ 44,120
Civil Engineers	8,716	20.4	178	212	390	\$ 83,100
Computer Hardware Engineers	1,982	17.1	34	43	77	\$ 116,980
Electrical and Electronics Engineering Technicians	5,033	8.4	42	104	146	\$ 64,850
Electrical Engineers	6,218	10.4	65	136	201	\$ 94,760
Electronics Engineers, Except Computer	5,181	8.8	46	113	159	\$ 103,340
Engineering Technicians, Except Drafters, All Other	3,539	1.9	7	73	80	\$ 71,780
Engineers, All Other	5,083	4.1	21	94	115	\$ 105,360
Environmental Engineers	2,482	17.9	44	60	104	\$ 95,790
Industrial Engineers	3,873	9.6	37	113	150	\$ 86,880
Mechanical Engineers	7,902	7.6	60	270	330	\$ 95,320
Nuclear Engineers	2,372	2.6	6	60	66	\$ 86,280
Surveying and Mapping Technicians	1,596	14.3	23	29	52	\$ 43,370
Architecture and Engineering (17) Total	64,572	10.9	720	1,548	2,268	\$ 86,759
Computer and Mathematical (15)						
Computer Network Architects	11,379	24.5	279	179	458	\$ 110,590
Computer Network Support Specialists	8,858	15.6	138	139	277	\$ 71,240
Computer Occupations, All Other	10,295	-3.6	-	162	162	\$ 97,630
Computer Programmers	10,331	11.6	120	270	390	\$ 78,300
Computer Systems Analysts	31,016	29.6	918	487	1,405	\$ 99,950
Computer User Support Specialists	18,404	25.2	464	289	753	\$ 53,430

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Database Administrators	6,215	24.9	155	118	273	\$ 91,500
Information Security Analysts	10,025	50.3	504	158	662	\$ 106,350
Network and Computer Systems Administrators	20,146	20.5	413	317	730	\$ 89,950
Operations Research Analysts	4,789	36.7	176	108	284	\$ 99,760
Software Developers, Applications	33,373	31.6	1,054	428	1,482	\$ 103,680
Software Developers, Systems Software	31,321	33.7	1,055	402	1,457	\$ 113,450
Web Developers	5,291	20.6	109	83	192	\$ 78,850
Computer and Mathematical (15) Total	201,443	24.7	5,385	3,140	8,525	\$ 91,898

Construction and Extraction (47)

Brickmasons and Blockmasons	2,919	33.0	96	31	127	\$ 42,460
Carpenters	24,834	23.5	584	306	890	\$ 40,160
Construction and Building Inspectors	3,298	15.5	51	78	129	\$ 54,330
Electricians	18,681	15.5	290	352	642	\$ 46,200
First-Line Supervisors of Construction Trades and Extraction Workers	21,411	22.2	475	231	706	\$ 60,970
Helpers--Electricians	3,019	34.3	104	47	151	\$ 27,320
Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	1,887	25.1	47	30	77	\$ 28,320
Highway Maintenance Workers	4,455	6.2	27	66	93	\$ 34,500
Insulation Workers, Mechanical	1,548	35.3	55	20	75	\$ 38,250
Operating Engineers and Other Construction Equipment Operators	9,525	19.5	186	212	398	\$ 38,890
Paving, Surfacing, and Tamping Equipment Operators	2,144	23.3	50	31	81	\$ 36,080
Plumbers, Pipefitters, and Steamfitters	12,982	16.5	214	161	375	\$ 45,360
Sheet Metal Workers	5,442	13.9	76	103	179	\$ 43,780
Structural Iron and Steel Workers	1,960	16.7	33	64	97	\$ 41,840
Construction and Extraction (47) Total	114,105	21.5	2,288	1,732	4,020	\$ 41,318

Education, Training, and Library (25)

Adult Basic and Secondary Education and Literacy Teachers and Instructors	2,978	13.4	40	51	91	\$ 56,720
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Career/Technical Education Teachers, Secondary School	3,502	10.9	38	95	133	\$ 60,130
Elementary School Teachers, Except Special Education	35,071	18.5	650	772	1,422	\$ 58,750
Graduate Teaching Assistants	3,933	16.4	64	59	123	\$ 21,780
Kindergarten Teachers, Except Special Education	4,085	18.8	77	115	192	\$ 57,720
Library Technicians	2,481	15.3	38	134	172	\$ 32,690
Middle School Teachers, Except Special and Career/Technical Education	16,085	18.5	298	354	652	\$ 58,140
Preschool Teachers, Except Special Education	8,684	19.7	171	244	415	\$ 33,020
Secondary School Teachers, Except Special and Career/Technical Education	22,889	11.3	259	622	881	\$ 61,180
Self-Enrichment Education Teachers	5,790	21.6	125	99	224	\$ 41,360
Special Education Teachers, Kindergarten and Elementary School	6,039	11.1	67	103	170	\$ 57,220
Special Education Teachers, Middle School	2,962	11.1	33	51	84	\$ 57,900
Special Education Teachers, Secondary School	3,768	10.4	39	64	103	\$ 59,570
Substitute Teachers	27,999	12.8	358	478	836	
Teacher Assistants	29,371	13.3	392	666	1,058	\$ 24,960
Teachers and Instructors, All Other	11,421	11.3	130	195	325	\$ 55,850
Education, Training, and Library (25) Total	187,058	14.7	2,779	4,102	6,881	\$ 49,132
Healthcare Practitioners and Technical (29)						
Cardiovascular Technologists and Technicians	1,575	25.3	40	22	62	\$ 56,180
Dental Hygienists	4,295	48.0	206	110	316	\$ 79,230
Diagnostic Medical Sonographers	1,353	44.7	60	19	79	\$ 72,800
Emergency Medical Technicians and Paramedics	4,449	47.5	212	121	333	\$ 31,610
Health Technologists and Technicians, All Other	2,438	14.6	36	24	60	\$ 38,970
Healthcare Practitioners and Technical Workers, All Other	1,233	17.2	21	34	55	\$ 41,850
Licensed Practical and Licensed Vocational Nurses	21,876	26.7	584	534	1,118	\$ 40,020
Medical and Clinical Laboratory Technicians	3,825	37.5	144	100	244	\$ 39,570
Medical and Clinical Laboratory Technologists	4,131	19.9	82	108	190	\$ 54,690

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Medical Records and Health Information Technicians	3,697	21.4	79	98	177	\$ 37,600
Occupational Health and Safety Specialists	2,363	3.5	8	64	72	\$ 64,450
Opticians, Dispensing	2,168	26.9	58	62	120	\$ 38,040
Pharmacy Technicians	8,919	19.2	171	88	259	\$ 29,260
Radiologic Technologists	4,990	19.0	95	70	165	\$ 55,940
Registered Nurses	59,445	12.7	754	1,152	1,906	\$ 63,150
Respiratory Therapists	2,328	9.0	21	34	55	\$ 56,550
Surgical Technologists	2,216	22.9	51	22	73	\$ 45,990
Veterinary Technologists and Technicians	1,424	56.6	81	14	95	\$ 37,450
Healthcare Practitioners and Technical (29) Total	132,725	26.3	2,703	2,676	5,379	\$ 49,075

Healthcare Support (31)

Dental Assistants	8,455	37.3	316	175	491	\$ 36,140
Healthcare Support Workers, All Other	2,628	22.0	58	50	108	\$ 33,630
Massage Therapists	3,500	35.2	123	37	160	\$ 44,430
Medical Assistants	10,456	39.9	417	200	617	\$ 30,870
Medical Transcriptionists	1,874	10.3	19	36	55	\$ 32,950
Nursing Assistants	37,503	28.6	1,072	713	1,785	\$ 24,190
Occupational Therapy Assistants	614	62.1	38	15	53	\$ 58,820
Phlebotomists	3,150	44.1	139	60	199	\$ 32,620
Physical Therapist Aides	1,633	64.1	105	36	141	\$ 22,880
Physical Therapist Assistants	1,901	54.9	104	42	146	\$ 54,870
Veterinary Assistants and Laboratory Animal Caretakers	3,531	30.6	108	67	175	\$ 26,230
Healthcare Support (31) Total	75,245	39.0	2,499	1,431	3,930	\$ 36,148

Installation, Maintenance, and Repair (49)

Aircraft Mechanics and Service Technicians	1,844	1.9	4	49	53	\$ 53,990
Automotive Body and Related Repairers	4,246	17.4	74	82	156	\$ 59,880
Automotive Service Technicians and Mechanics	22,653	11.1	252	573	825	\$ 42,740
Bus and Truck Mechanics and Diesel Engine Specialists	7,238	9.9	71	154	225	\$ 42,340
Computer, Automated Teller, and Office Machine	3,628	7.8	28	76	104	\$ 41,000

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Repairers						
Electrical Power-Line Installers and Repairers	2,923	9.8	29	101	130	\$ 55,990
First-Line Supervisors of Mechanics, Installers, and Repairers	12,914	10.7	138	349	487	\$ 65,100
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	9,169	17.9	164	232	396	\$ 43,840
Helpers--Installation, Maintenance, and Repair Workers	4,623	17.5	81	139	220	\$ 25,490
Home Appliance Repairers	1,414	5.5	8	44	52	\$ 38,410
Industrial Machinery Mechanics	8,029	20.6	166	232	398	\$ 45,440
Installation, Maintenance, and Repair Workers, All Other	4,124	6.4	26	69	95	\$ 39,840
Maintenance and Repair Workers, General	32,438	11.1	361	623	984	\$ 38,140
Maintenance Workers, Machinery	2,196	15.2	33	28	61	\$ 46,240
Mobile Heavy Equipment Mechanics, Except Engines	3,212	10.2	33	93	126	\$ 45,620
Security and Fire Alarm Systems Installers	2,177	27.3	60	44	104	\$ 44,850
Telecommunications Equipment Installers and Repairers, Except Line Installers	4,908	7.7	38	67	105	\$ 55,100
Telecommunications Line Installers and Repairers	6,131	2.6	16	150	166	\$ 54,730
Tire Repairers and Changers	2,022	12.4	25	70	95	\$ 27,300
Installation, Maintenance, and Repair (49) Total	135,889	11.7	1,607	3,175	4,782	\$ 45,581
Life, Physical and Social Sciences (19)						
Biological Technicians	1,086	22.4	24	33	57	\$ 42,090
Environmental Scientists and Specialists, Including Health	3,416	14.1	48	101	149	\$ 84,120
Life, Physical, and Social Science Technicians, All Other	1,798	7.6	14	71	85	\$ 46,520
Social Scientists and Related Workers, All Other	3,368	7.5	25	56	81	\$ 103,640
Life, Physical and Social Sciences (19) Total	9,668	12.9	111	261	372	\$ 69,092
Office and Administrative Support (43)						
Bill and Account Collectors	9,161	13.7	125	258	383	\$ 36,050

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Billing and Posting Clerks	12,835	21.2	272	236	508	\$ 36,420
Bookkeeping, Accounting, and Auditing Clerks	49,952	14.8	740	459	1,199	\$ 37,680
Brokerage Clerks	1,371	11.3	16	35	51	\$ 41,160
Cargo and Freight Agents	1,785	8.9	16	48	64	\$ 37,960
Court, Municipal, and License Clerks	2,118	15.6	33	32	65	\$ 34,070
Customer Service Representatives	50,697	14.1	716	1,380	2,096	\$ 32,820
Data Entry Keyers	5,989	-23.3	-	72	72	\$ 30,750
Dispatchers, Except Police, Fire, and Ambulance	4,185	11.1	46	121	167	\$ 36,330
Eligibility Interviewers, Government Programs	3,706	15.0	56	74	130	\$ 39,930
Executive Secretaries and Executive Administrative Assistants	21,250	1.5	32	256	288	\$ 54,180
File Clerks	3,456	-0.3	-	79	79	\$ 27,220
First-Line Supervisors of Office and Administrative Support Workers	40,098	15.2	611	951	1,562	\$ 55,360
Hotel, Motel, and Resort Desk Clerks	6,709	5.5	37	318	355	\$ 21,020
Human Resources Assistants, Except Payroll and Timekeeping	4,430	-2.5	-	112	112	\$ 38,840
Information and Record Clerks, All Other	8,468	-7.3	-	183	183	\$ 39,070
Insurance Claims and Policy Processing Clerks	4,821	10.2	49	128	177	\$ 37,190
Interviewers, Except Eligibility and Loan	2,426	13.2	32	46	78	\$ 30,340
Library Assistants, Clerical	2,649	21.7	57	116	173	\$ 25,960
Loan Interviewers and Clerks	5,142	9.2	47	34	81	\$ 39,060
Mail Clerks and Mail Machine Operators, Except Postal Service	3,736	-6.7	-	86	86	\$ 28,250
Medical Secretaries	6,995	41.0	287	84	371	\$ 32,720
Office and Administrative Support Workers, All Other	8,200	2.9	24	230	254	\$ 34,830
Office Clerks, General	88,065	9.0	794	1,850	2,644	\$ 30,550
Order Clerks	4,183	-2.4	-	110	110	\$ 27,100
Payroll and Timekeeping Clerks	3,780	13.1	50	83	133	\$ 42,060
Police, Fire, and Ambulance Dispatchers	3,040	16.7	51	88	139	\$ 35,940
Postal Service Mail Carriers	7,120	-20.3	-	248	248	\$ 49,930

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Procurement Clerks	2,280	0.5	1	83	84	\$ 40,680
Production, Planning, and Expediting Clerks	7,865	8.3	65	196	261	\$ 47,770
Receptionists and Information Clerks	30,182	20.9	630	812	1,442	\$ 27,900
Reservation and Transportation Ticket Agents and Travel Clerks	4,116	-14.6	-	55	55	\$ 33,280
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	37,326	14.9	558	449	1,007	\$ 34,920
Shipping, Receiving, and Traffic Clerks	14,489	2.0	29	381	410	\$ 30,920
Tellers	12,899	2.8	36	601	637	\$ 27,870
Office and Administrative Support (43) Total	475,524	7.3	5,410	10,294	15,704	\$ 35,889
Production (51)						
Assemblers and Fabricators, All Other	5,789	10.2	59	92	151	\$ 30,620
Computer-Controlled Machine Tool Operators, Metal and Plastic	1,506	18.5	28	42	70	\$ 41,990
Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	2,203	-1.6	-	60	60	\$ 41,140
First-Line Supervisors of Production and Operating Workers	13,845	1.1	16	195	211	\$ 59,260
Food Batchmakers	1,953	-5.9	-	64	64	\$ 27,550
Inspectors, Testers, Sorters, Samplers, and Weighers	8,207	6.7	55	180	235	\$ 35,940
Machinists	7,459	11.1	82	171	253	\$ 42,190
Mixing and Blending Machine Setters, Operators, and Tenders	1,916	-2.4	-	54	54	\$ 39,780
Packaging and Filling Machine Operators and Tenders	8,402	-0.4	-	198	198	\$ 29,260
Photographic Process Workers and Processing Machine Operators	2,742	0.0	-	80	80	\$ 24,250
Printing Press Operators	5,669	9.2	52	100	152	\$ 35,870
Production Workers, All Other	6,883	4.0	27	180	207	\$ 30,340
Sawing Machine Setters, Operators, and Tenders, Wood	1,531	16.4	25	42	67	\$ 25,390
Structural Metal Fabricators and Fitters	1,483	9.4	14	60	74	\$ 34,880

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Team Assemblers	10,451	2.7	28	165	193	\$ 27,800
Water and Wastewater Treatment Plant and System Operators	3,179	13.7	44	112	156	\$ 40,380
Welders, Cutters, Solderers, and Brazers	9,133	8.4	77	224	301	\$ 40,690
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	1,453	26.4	38	36	74	\$ 40,460
Production (51) Total	93,804	7.1	545	2,055	2,600	\$ 35,988
Transportation and Material Moving (53)						
Air Traffic Controllers	1,240	6.9	8	55	63	\$ 134,240
Airline Pilots, Copilots, and Flight Engineers	2,808	1.2	3	81	84	\$ 111,370
Bus Drivers, School or Special Client	17,262	5.0	86	317	403	\$ 27,460
Bus Drivers, Transit and Intercity	3,638	15.6	57	67	124	\$ 34,670
Captains, Mates, and Pilots of Water Vessels	1,880	11.6	22	87	109	\$ 75,240
Crane and Tower Operators	1,686	22.4	38	58	96	\$ 50,070
Driver/Sales Workers	13,667	10.3	141	219	360	\$ 26,040
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	3,742	10.6	40	103	143	\$ 49,000
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	5,624	9.3	52	155	207	\$ 56,460
Flight Attendants	3,053	-6.9	-	50	50	
Heavy and Tractor-Trailer Truck Drivers	39,719	9.3	368	635	1,003	\$ 38,290
Light Truck or Delivery Services Drivers	19,386	4.2	82	310	392	\$ 34,440
Ship Engineers	1,539	11.6	18	69	87	\$ 67,640
Transportation Workers, All Other	1,979	4.2	8	78	86	\$ 37,970
Transportation and Material Moving (53) Total	117,223	8.2	923	2,284	3,207	\$ 57,145
Grand Total	1,607,256	15.2	24,970	32,698	57,668	\$ 50,752

Appendix B: FY 2017 Enrollment, Training Completion and Reported by Credentials and Occupational Field

Occupational Field	Certification Name(s)	Enrolled	Completed Training	Reported a Credential Completion
Computer and Mathematical (15)	CompTIA A+	181	178	35
	CompTIA Network+	146	143	16
	CompTIA Server+	25	24	19
	Computer Entry Level (CISCO Networking Technician and Associate, CompTIA IT Fundamentals)	60	58	11
	Information Systems Security (CompTIA Security, Certified professional and ethical hacker)	196	191	45
	Project Management Professional (PMP)	60	60	17
	Subtotal	668	654	143
Construction and Extraction (47)	Construction (Project Management, Carpentry, Contractor's License)	34	33	11
	Core - Introductory Craft Skills	101	100	91
	Plumbing & Electrical (including license renewal)	22	20	17
	VDOT Materials Certifications (Slurry Surfacing, Asphalt Field, Asphalt Plant, Surface Treat	17	17	11
	Welding	16	14	14
	Work Zone Flagger	90	89	88

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Occupational Field	Certification Name(s)	Enrolled	Completed Training	Reported a Credential Completion
	Subtotal	280	273	232
Education, Training, and Library (25)	Teaching License	121	105	104
Healthcare Practitioners and Technical (29)	Emergency Medical, Pharmacy, EKG Technician	184	166	44
Healthcare Support (31)	Certified Nurse Aide (CNA)	303	290	136
	Medical Assistant and Medication Aide	315	299	214
	Phlebotomy Technician	158	145	76
	Subtotal	776	734	426
Installation, Maintenance, and Repair (49)	Electrical and electrical systems	38	35	34
	Engine Repair	36	34	23
	HVAC (includes license renewal)	47	43	39
	Other (Driveline/Hydraulics and Workready Foundations CORE)	16	13	13
	Power Line Worker	59	57	56
	Subtotal	196	182	165
Office and Administrative Support (43)	Billing and Coding Specialist	114	110	92
	Customer Services and Sales	38	38	35
	Medical Administrative Assistant	40	38	35
	Professional Coder	52	49	13
	SHRM Certified Professional	22	21	11
	Subtotal	266	256	186
Production (51)	Backflow Prevention	37	36	7
	Electronics assembly (JSTD-001	20	20	18

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Occupational Field	Certification Name(s)	Enrolled	Completed Training	Reported a Credential Completion
	Certification)			
	Machine tool operations (milling, turning, drill press, machining)	30	29	28
	Machine tool operations (milling, turning, drill press, machining, planning bench work and la	70	66	56
	Manufacturing Technician 1 (MT1)	259	252	192
	Manufacturing entry level (specialist and production technician)	34	30	21
	Mechatronics and Six Sigma	28	28	12
	Millwright certifications (industrial machine installation, maintenance, troubleshooting and	10	10	10
	Welding (flux, gas and general)	388	364	258
	Subtotal	876	835	602
Transportation and Material Moving (53)	Commercial Driver's License	1,419	1,256	1,037
	Logistics Associate	43	43	26
	Logistics Technician	39	39	31
	Remote Pilot Airman Certification	93	93	76
	Subtotal	1,594	1,431	1,170
All		4,961	4,636	3,072