



# Tech Talent Investment Program

## December 2023



Virginia  
Office of  
Education  
Economics



STATE COUNCIL OF HIGHER  
EDUCATION FOR VIRGINIA





# Introduction

The Tech Talent Investment Program (TTIP), launched in 2019, is a historic \$1.1 billion investment in Virginia's tech talent pipeline. Participating institutions have set goals to increase the number of Bachelor of Science (BS) and Master of Science (MS) graduates in computer science and related fields by at least 30,000 over 20 years. Degree goals are equally divided between BS (16,000) and MS (16,000) programs. Fourteen institutions and the Virginia Community College System participate.

TTIP is overseen by the Virginia Secretary of Finance, in consultation with other designated reviewers: the Secretary of Education, the director of the Department of Planning and Budget, the director of the State Council of Higher Education for Virginia (SCHEV), the president of the Virginia Economic Development Partnership (VEDP), and the staff directors of the House Committee on Appropriations and the Senate Committee on Finance and Appropriations. SCHEV and the Virginia Office of Education Economics (VOEE) provide administrative support.

TTIP provides institutions with three different forms of support: operating expense funding, equipment support, and capital support. Institutions began receiving operating expense support in FY 2020. The amount is constant within institution for FY 2021–FY 2039. Institutions use their operating expense awards to fund faculty lines, provide scholarships to students, and cover other costs associated with normal operations. Institutions first received equipment support in FY 2021. Although 64 percent of equipment support was disbursed by FY 2024, some institutions will continue receiving support through FY 2029. Most capital support (92%) was also disbursed in the first two years of the program, with the majority going to Virginia Tech and George Mason University. These funds established TTIP's support of Virginia Tech's new Graduate Innovation Campus in Alexandria as well as George Mason University's Institute for Digital Innovation.

TTIP is structured as a performance-based funding model. Each participating institution signed a memorandum of understanding (MOU) and committed to producing a number of new degrees in the fields of computer science, computer engineering, and/or computer software engineering each year. Institutional awards are calculated annually based on the goals outlined in these MOUs using data from SCHEV. Institutions received their first round of awards in December 2019 (FY 2020) and are eligible to continue receiving annual awards through FY 2039. Fiscal years 2020 through 2023 were a grace period during which institutions received their full awards, regardless of performance. In FY 2024, institutions that failed to produce the target number of new degrees received commensurate reductions to their support, as outlined in their MOUs. The MOUs also allow for reductions based on other performance measures, including whether new degrees are from institutional growth or the reallocation of students from non-TTIP programs. Whether to apply reductions for underperformance on these additional measures is at the discretion of the Secretary of Finance and other designated reviewers. Reductions for FY 2024 were focused only on degree production. The designated reviewers will revisit the calculation of operating expense awards and reductions for FY 2025 and beyond. Equipment and capital awards are not subject to performance-based reductions.

As of the 2022–2023 academic/fiscal year, institutions were far exceeding their commitment to strengthen the tech talent pipeline in Virginia. Although not every institution is currently meeting its respective targets, the 14 TTIP BS programs have collectively produced two-and-a-half times as many graduates as promised. Those institutions produced 1,689 additional graduates, compared to a commitment of 682. Through the expansion of MS programs in Northern Virginia, Virginia Tech and George Mason University graduated 423 and 229 additional students, respectively.

Section § 23.1-1243 of the Virginia Code directs the Secretary of Finance, in consultation with the other designated reviewers, to submit an annual report to the chairs of the House Committee on Appropriations and the Senate Committee on Finance and Appropriations. The report should provide an update on the progress of each institution toward meeting their MOU targets and the total amount of grants awarded to each institution. The following tables include those analyses. Tables A and B report the degree progress of each TTIP institution through FY 2023. Tables C through F include information about award disbursements through FY 2024.

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On the cover: College of William & Mary, Christopher Newport University, George Mason University, Virginia Tech, Radford University, University of Virginia at Wise, University of Virginia, Virginia State University, University of Mary Washington, Longwood University, James Madison University, Norfolk State University, Old Dominion University, Virginia Commonwealth University

Table A displays the number of degrees each institution produced in the fields of computer science, computer engineering, and computer software engineering between FY 2019 and FY 2023. The baseline year is 2018–2019. Institutional performance is measured as the number of additional degrees above baseline. For instance, Old Dominion University graduated 103 students in the baseline year. In FY 2023, they produced 140 degrees, or 37 new degrees above baseline.

**Table A**  
Degrees in CS and Related Fields through FY 2023

<b>BS-Granting Institution</b>	<b>Baseline</b>				
	<b>2018–2019</b>	<b>2019–2020</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>
Christopher Newport University	70	72	89	61	75
College of William & Mary	62	73	78	93	95
George Mason University	307	338	378	413	413
James Madison University	102	116	110	105	123
Norfolk State University	17	15	15	29	20
Old Dominion University	103	126	140	127	140
Radford University	53	46	50	40	31
University of Virginia	239	245	310	281	355
Virginia Commonwealth University	97	112	128	141	142
Virginia State University	25	31	38	23	36
Virginia Tech	394	490	542	550	759
University of Mary Washington	59	66	51	63	55
Longwood University	17	20	12	12	16
University of Virginia at Wise	18	17	16	11	8
<b>MS-Granting Institution</b>					
Virginia Tech	97	98	151	169	394
George Mason University	111	108	144	102	317
<b>System-Level Participant</b>					
Virginia Community College System <sup>1</sup>	325	308	371	414	N/A

<sup>1</sup>VCCS is evaluated based on the number of students who graduate with associate degrees and then transfer into TTIP programs at 4-year institutions. These data are not available until the February following the end of the fiscal year, so production is through FY 2022.

Table B includes the total number of new degrees each institution produced by FY 2023. The third column lists the target number of cumulative new degrees for FY 2023 from each institution’s MOU. For instance, the University of Virginia produced 235 new degrees, compared to a commitment of 134 new degrees. If an institution produced at least as many new degrees as the target, it met its FY 2023 target. Institutions that met their FY 2023 targets received the full operating expense awards listed in their MOUs. Longwood University committed to producing fewer degrees by FY 2023, so performance could not be measured. Over the lifetime of TTIP, Longwood has committed to producing 107 additional degrees.

**Table B**  
**New Degrees in CS and Related Fields by FY 2023**

<b>BS-Granting Institution</b>	<b>Actual New Degrees</b>	<b>Target New Degrees</b>	<b>Met Target</b>
Christopher Newport University	17	14	Yes
College of William & Mary	91	55	Yes
George Mason University	315	111	Yes
James Madison University	46	67	No
Norfolk State University	11	5	Yes
Old Dominion University	121	68	Yes
Radford University	-45	20	No
University of Virginia	235	134	Yes
Virginia Commonwealth University	134	42	Yes
Virginia State University	28	13	Yes
Virginia Tech	765	97	Yes
University of Mary Washington	-1	59	No
Longwood University	-8	-5	N/A
University of Virginia at Wise	-20	1	No

**MS-Granting Institution**

Virginia Tech	423	631	No
George Mason University	229	124	Yes

**System-Level Participant**

Virginia Community College System <sup>1</sup>	118	40	Yes
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<sup>1</sup>VCCS is evaluated based on the number of students who graduate with associate degrees and then transfer into TTIP programs at 4-year institutions. These data are not available until the February following the end of the fiscal year, so production is through FY 2022.

Table C includes the amount of operating expense support institutions received through FY 2024. Fiscal years 2020 through 2023 were a grace period during which institutions received their full awards, regardless of performance. In FY 2024, institutions that had not produced their target number of cumulative new degrees through FY 2023 received commensurate reductions to their operating expense support. Three institutions that produced no new degrees through FY 2023 – Radford University, the University of Mary Washington, and the University of Virginia at Wise – did not receive any operating expense support for FY 2024.

**Table C**  
**Operating Expense Support through FY 2024**

BS-Granting Institution*	Support (\$) during Grace Period (No Reductions)				(\$ 2023–2024)			Total Support FY 2020–24
	2019–2020	2020–2021	2021–2022	2022–2023	Full Support per MOU	Reduction	Support after Reduction	
CNU	424,587	751,702	751,702	751,702	751,702	-	751,702	3,431,394
CWM	781,842	1,384,198	1,384,198	1,384,198	1,384,198	-	1,384,198	6,318,633
GMU	2,301,844	4,075,259	4,075,259	4,075,259	4,075,259	-	4,075,259	18,602,878
JMU	387,126	685,381	685,381	685,381	685,381	214,821	470,560	2,913,830
NSU	136,464	241,601	241,601	241,601	241,601	-	241,601	1,102,869
ODU	836,472	1,480,916	1,480,916	1,480,916	1,480,916	-	1,480,916	6,760,137
RU	501,080	887,128	887,128	887,128	887,128	887,128	-	3,162,464
UVA	463,889	821,285	821,285	821,285	821,285	-	821,285	3,749,028
VCU	759,772	1,345,125	1,345,125	1,345,125	1,345,125	-	1,345,125	6,140,274
VSU	172,740	305,824	305,824	305,824	305,824	-	305,824	1,396,036
VT	5,476,345	9,695,499	9,695,499	9,695,499	9,695,499	-	9,695,499	44,258,342
UMW	0	654,911	654,911	654,911	654,911	654,911	-	1,964,733
LU	0	263,415	263,415	263,415	271,250	-	271,250	1,061,494
UVAW	0	71,328	71,328	71,328	73,449	73,449	-	213,984
<b>MS-Granting Institution*</b>								
VT	1,842,378	3,261,805	3,261,805	3,261,805	3,261,805	1,070,037	2,191,767	13,819,559
GMU	972,914	1,722,478	1,722,478	1,722,478	1,722,478	-	1,722,478	7,862,827

\* CNU Christopher Newport University, CWM College of William & Mary, GMU George Mason University, JMU James Madison University, NSU Norfolk State University, ODU Old Dominion University, RU Radford University, UVA University of Virginia, VCU Virginia Commonwealth University, VSU Virginia State University, VT Virginia Tech, UMW University of Mary Washington, LU Longwood University, UVAW University of Virginia at Wise, VCCS Virginia Community College System

**Table C, Continued**Operating Expense Support through FY 2024

System-Level Participant	Support (\$) during Grace Period (No Reductions)				(\$ 2023-2024)			
	2019-2020	2020-2021	2021-2022	2022-2023	Full Support per MOU	Reduction	Support after Reduction	Total Support FY 2020-24
VCCS	719,220	1,272,643	1,272,643	1,272,643	1,272,643	-	1,272,643	5,809,792
<b>Total</b>	15,776,673	28,920,498	28,920,498	28,920,498	28,930,454	2,900,346	26,030,108	128,568,274

Table D includes the amount of equipment support institutions were awarded through FY 2024. Institutions request equipment support on an as-needed basis, and not all funds have been disbursed. Equipment support is not subject to reductions, regardless of performance.

**Table D**Equipment Support through FY 2024

BS-Granting Institution	Support (\$)					Total
	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	
Christopher Newport University	-	50,000	-	50,000	-	100,000
College of William & Mary	-	144,466	72,233	72,233	-	288,932
George Mason University	-	1,171,041	651,127	724,108	814,326	3,360,603
James Madison University	-	10,000	5,000	-	-	15,000
Norfolk State University	-	117,829	-	-	-	117,829
Old Dominion University	-	146,884	36,721	-	-	183,605
Radford University	-	4,865	4,865	-	-	9,730
University of Virginia	-	3,500,000	2,000,000	2,500,000	1,000,000	9,000,000
Virginia Commonwealth University	-	566,866	324,185	354,406	388,290	1,633,747
Virginia State University	-	13,137	-	13,137	-	26,274
Virginia Tech	-	5,162,000	5,080,800	6,664,200	7,081,800	23,988,800
University of Mary Washington	-	199,149	199,149	-	-	398,297

\* CNU Christopher Newport University, CWM College of William & Mary, GMU George Mason University, JMU James Madison University, NSU Norfolk State University, ODU Old Dominion University, RU Radford University, UVA University of Virginia, VCU Virginia Commonwealth University, VSU Virginia State University, VT Virginia Tech, UMW University of Mary Washington, LU Longwood University, UVAW University of Virginia at Wise, VCCS Virginia Community College System

**Table D, Continued**  
Equipment Support through FY 2024

<b>BS-Granting Institution</b>	<b>Support (\$)</b>					<b>Total</b>
	<b>2019–2020</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>	<b>2023–2024</b>	
Longwood University	-	-	-	-	-	-
University of Virginia at Wise	-	-	13,502	13,502	-	27,003
<b>MS-Granting Institution</b>						
Virginia Tech	-	3,075,000	2,460,000	2,460,000	2,460,000	10,455,000
George Mason University	-	1,200,000	1,100,000	1,100,000	1,100,000	4,500,000
<b>System-Level Participant</b>						
Virginia Community College System	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>15,361,236</b>	<b>11,947,581</b>	<b>13,951,586</b>	<b>12,844,416</b>	<b>54,104,820</b>

Table E includes the amount of capital support institutions were awarded through FY 2024. Institutions request capital support on an as-needed basis, and not all funds have been disbursed. Capital support is not subject to reductions, regardless of performance.

**Table E**  
Capital Support through FY 2024

<b>BS-Granting Institution</b>	<b>Support (\$)</b>					<b>Total</b>
	<b>2019–2020</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>	<b>2023–2024</b>	
Christopher Newport University	-	100,000	100,000	-	-	200,000
College of William & Mary	-	1,565,049	-	-	-	1,565,049
George Mason University	-	13,950,987	1,131,161	1,131,161	1,131,161	17,344,470
James Madison University	-	900,000	-	-	-	900,000
Norfolk State University	-	500,952	-	-	-	500,952
Old Dominion University	-	83,831	-	-	-	83,831
Radford University	-	-	-	-	-	-
University of Virginia	-	-	5,540,000	2,460,000	-	8,000,000



**Table E, Continued**Capital Support through FY 2024

<b>BS-Granting Institution</b>	<b>Support (\$)</b>					<b>Total</b>
	<b>2019–2020</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>	<b>2023–2024</b>	
Virginia Commonwealth University	-	-	-	-	-	-
Virginia State University	-	367,833	236,464	236,464	-	840,761
Virginia Tech	69,000,000	-	-	-	-	69,000,000
University of Mary Washington	-	298,723	298,723	-	-	597,446
Longwood University	-	-	-	-	-	-
University of Virginia at Wise	-	-	-	-	157,519	157,519

Table F includes the total amount of support institutions were awarded through FY 2024. Fiscal years 2020 through 2023 were a grace period during which institutions were awarded the full support outlined in their MOUs, regardless of performance. In FY 2024, institutions that did not produce their target number of cumulative new degrees through FY 2023 received reductions to their operating expense support, which in turn resulted in reductions to their total support. Not all equipment and capital funds have been disbursed, so total award disbursements are also lower than the listed amounts.

**Table F**Total Support through FY 2024

<b>BS-Granting Institution</b>	<b>Support (\$)</b>					<b>Total</b>
	<b>2019–2020</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>	<b>2023–2024</b>	
Christopher Newport University	424,587	901,702	851,702	801,702	751,702	3,731,394
College of William & Mary	781,842	3,093,712	1,456,431	1,456,431	1,384,198	8,172,613
George Mason University	2,301,844	19,197,286	5,857,547	5,930,528	6,020,746	39,307,951
James Madison University	387,126	1,595,381	690,381	685,381	470,560	3,828,830
Norfolk State University	136,464	860,382	241,601	241,601	241,601	1,721,649
Old Dominion University	836,472	1,711,632	1,517,638	1,480,916	1,480,916	7,027,574
Radford University	501,080	891,993	891,993	887,128	-	3,172,194
University of Virginia	463,889	4,321,285	8,361,285	5,781,285	1,821,285	20,749,028

**Table F, Continued**  
Total Support through FY 2024

<b>BS-Granting Institution</b>	<b>Support (\$)</b>					<b>Total</b>
	<b>2019–2020</b>	<b>2020–2021</b>	<b>2021–2022</b>	<b>2022–2023</b>	<b>2023–2024</b>	
Virginia Commonwealth University	759,772	1,911,992	1,669,311	1,699,531	1,733,415	7,774,021
Virginia State University	172,740	686,794	542,288	555,425	305,824	2,263,071
Virginia Tech	74,476,345	14,857,499	14,776,299	16,359,699	16,777,299	137,247,142
University of Mary Washington	-	1,152,783	1,152,783	654,911	-	2,960,476
Longwood University	-	263,415	263,415	263,415	271,250	1,061,494
University of Virginia at Wise	-	71,328	84,829	84,829	157,519	398,506
<b>MS-Granting Institution</b>						
Virginia Tech	169,575,711	6,336,805	5,721,805	5,721,805	4,651,767	192,007,892
George Mason University	972,914	86,922,478	2,822,478	2,822,478	2,822,478	96,362,827
<b>System-Level Participant</b>						
Virginia Community College System	919,220	1,972,643	1,972,643	1,972,643	1,472,643	8,309,792
<b>Total</b>	<b>252,710,006</b>	<b>146,749,109</b>	<b>48,874,427</b>	<b>47,399,709</b>	<b>40,363,204</b>	<b>536,096,455</b>