Includes addendum of updated pages from October 2023



Institution-specific Fact Pack

Institutional fact pack: table of contents

This deck includes updated pages in an addendum, including data from more recent years and several additional pages on completion outcomes, revenue, and cost effectiveness

	Pg. #
Overview	1 - 4
Enrollment	5 - 10
Program Alignment & Performance • Completion outcomes • Post-completion outcomes • Workforce alignment	11 - 31
 Financial Effectiveness & Sustainability Affordability Revenue Cost effectiveness 	32 - 52
Post-plan Submission Addendum	53 - 61
Appendix	62 - 70



Deep Dive | Virginia Polytechnic Institute and State University background information

Overview-

Founding year: 1872

Location: Blacksburg

Size and setting: Four-Year, Large, Primarily Residential

Mission: An inclusive community of knowledge, discovery, and creativity dedicated to improving the quality of life and the human condition within the Commonwealth of Virginia and throughout the world

Research Institution: Undergraduate and Graduate

Carnegie classification: Doctoral Universities: Very

High Research Activity

Program offering:

79 Certificates

133 Bachelor's degrees

75 Master's degrees

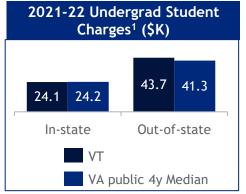
65 Doctorates degrees

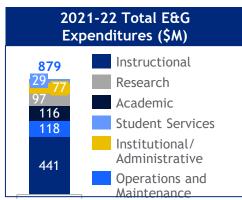
Local Context & Economy

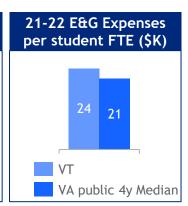
Geography: Small city

	Local	State-wide
Median HH income	\$43.8K	\$80.6K
Unemployment rate	2.8%	3.2%
Poverty rate	45.2 %	10.2%

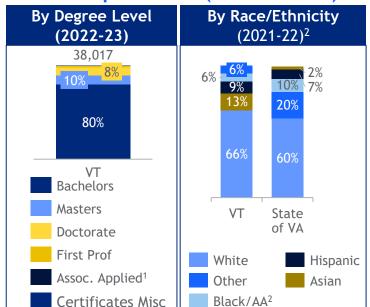
High-level Financials

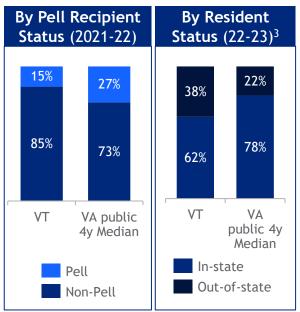






Student Population (Headcount)





^{1.} Full-time general UG student charges including tuition, mandatory fees, and average room & board 2. Undergraduate headcount, excludes international students and unknown / unreported. 3. Based on total UG headcount.

Virginia Tech: Key metrics at a glance

Enrollment volume & composition

Current enrollment: 38K students in Fall 2022

- 12% lower-income students in Fall 2021
 (-1 percentage point increase from Fall 2011)
- 57% acceptance rate in Fall 2022 (-2% CAGR since Fall 2012)
- 29% yield in Fall 2022 (-3% CAGR since Fall 2012)

+2.3%

Annual growth in enrollment over 10 years

Program alignment & performance

Current 6-year graduation rate: 86% for freshman cohort of Fall 2016

 4.19 year avg time-to-degree for first-time in college students who graduated in 2022 (0 change since 2013) +4pp
Decrease in 6yr grad rate
over 11 years

Current median wage of MA/BA graduates 3-years post-graduation: \$69K/\$62K (vs. \$35K for those with only a high school degree or equivalent)

• 11% difference in median wages for Pell graduates and non-Pell graduates

+6.1%

Growth in wages of BA graduates over 9 years

Financial effectiveness & sustainability

Current cost of attendance: \$28.6K in 2021-22

• \$5.3K annual borrowing per student FTE (1.2% annual growth since 2011)

+1.3%

Annual growth
in student
attendance cost
over 10 years

Current revenue mix: GF is 23% of E&G revenue (\$202M) in 2021-22; 4.4% annual growth since 2011-12

- \$686M of Non-GF E&G total in 2021-22 (77% of total revenue); 5.7% annual growth since 2011-12
- 16% discount rate in 2021-22 (3 percentage point increase since 2013-14)

Growth in share of rev. from Gen. Fund over 10 years

Current per student FTE expenditure (E&G and Auxiliary): \$30K in 2021-22

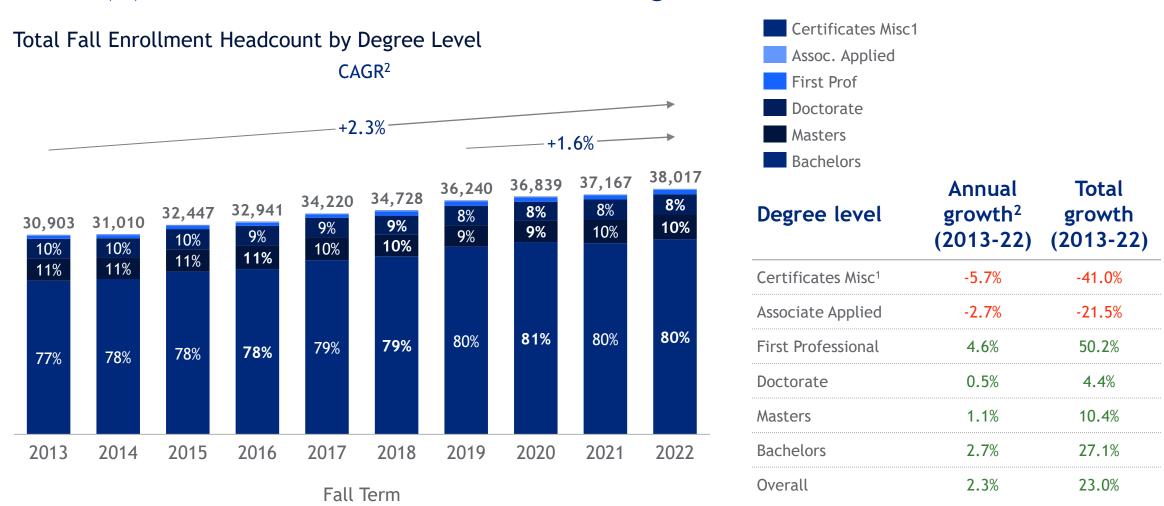
- \$1,145M total expenditure in 2021-22 (+5.0% annual growth since 2014-15; +4.4% since 2018-19)
- 3.2 composite financial index ratio in 2021-22 vs. 3.0 benchmark (decrease of 0.7 since 2015-16)

/+0.9%

Annual growth in per-student FTE expenditure over 10 years

Enrollment

Chart (A): How is overall enrollment trending over time?

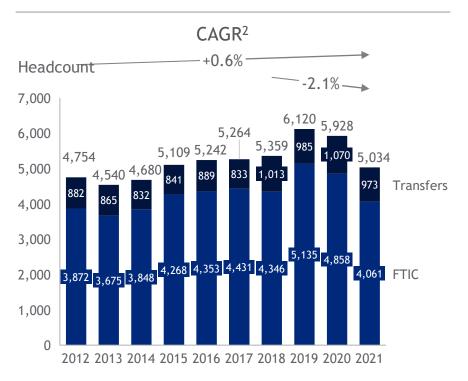


^{1.} Sum of less than one-year certificates, one plus year certificates, post bachelors certificates, and post masters certificates. Does not include "students not program placed," which is included in the Excel backup 2. "Annual growth" calculated as compound annual growth rate (CAGR)

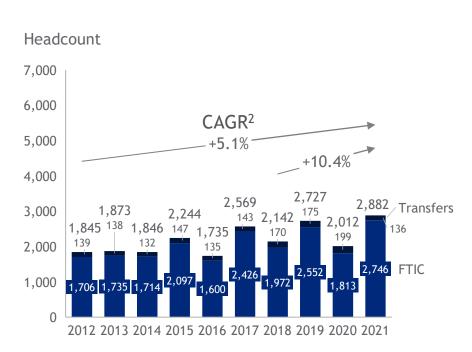
Note: Assoc. Applied and Certificates Misc. are not visible on some bars because they are less than 1% of yearly enrollment. Not program placed excluded. Source: Data from State Council of Higher Education for Virginia (SCHEV) Research Center Enrollment Report E33: Fall Enrollment by Degree Level

Chart (B): How are new in-state and out-of-state undergraduate enrollment headcount trending over time?

In-state new FTIC¹ (Freshmen) and transfers



Out of state new FTIC¹ (Freshmen) and transfers



Sub cohort	Annual growth ² (2013-21)
In-state FTIC	0.5%
Out-of-state FTIC	5.4%
In-state Transfers	1.1%
Out-of-state Transfers	-0.2%

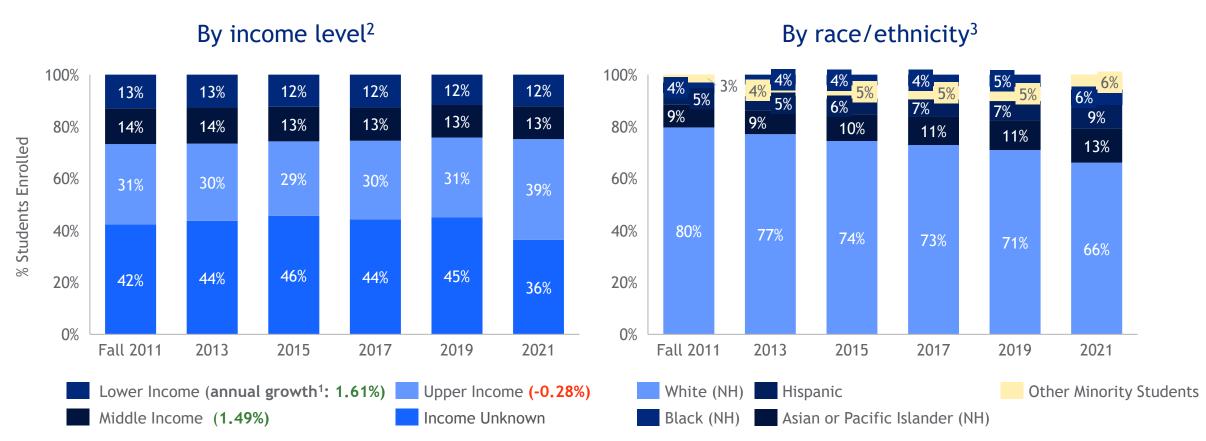
Note: Figures based on SCHEV Annual Admissions Report. Includes spring and fall headcounts.

Fall Term Fall Term

^{1.} First time in college students 2. "Annual growth" calculated as compound annual growth rate (CAGR)
Note: 2022 excluded due to limited data availability of transfer student headcount. Year marks start year of report.
Source: Data from State Council of Higher Education for Virginia Research Center Enrollment report B08: Annual Admission report

Chart (C): How is the student body mix changing over time?

Undergraduate Enrollment Headcount by income & race/ethnicity

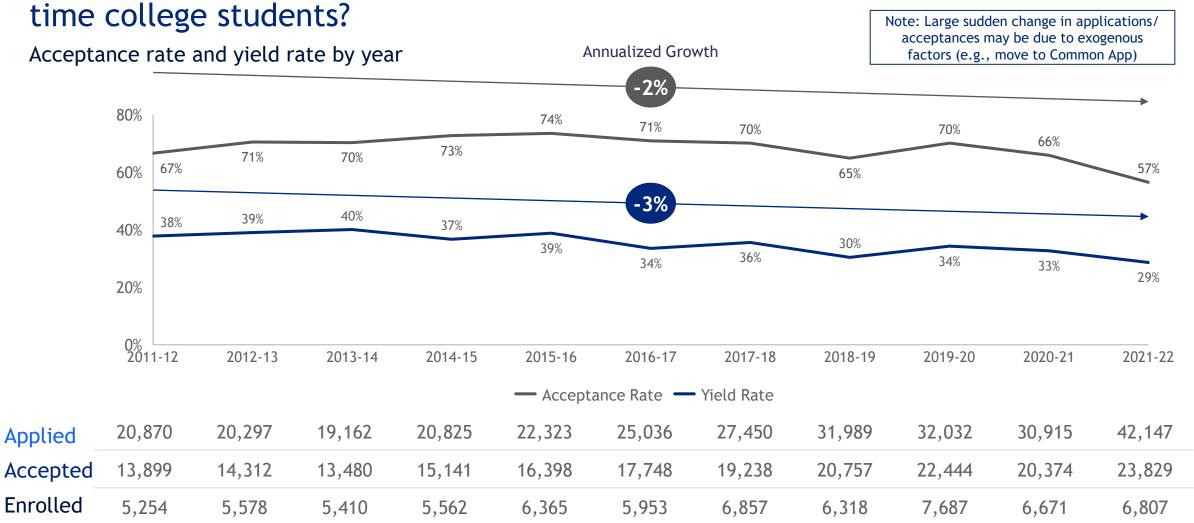


^{1. &}quot;Annual growth" calculated as 10-year compound annual growth rate (CAGR) on headcount numbers 2. Income range (i.e., lower, middle and upper) is defined by the federal poverty level (FPL) "Lower Income Range"; 0 to 200% of FPL "Middle Income Range"; 201 to 400% of FPL "Upper Income Range" - 401% of FPL and above. 3. Foreign Students & Unknown/Unreported figures omitted from the data.

Source: SCHEV Undergraduate enrollment report E58: Enrollment by income range category and Report E22: Fall Headcount Trends in Race Ethnicity;

Financial data from FAFSA, typically representing prior year, as reported on in SCHEV's annual financial file

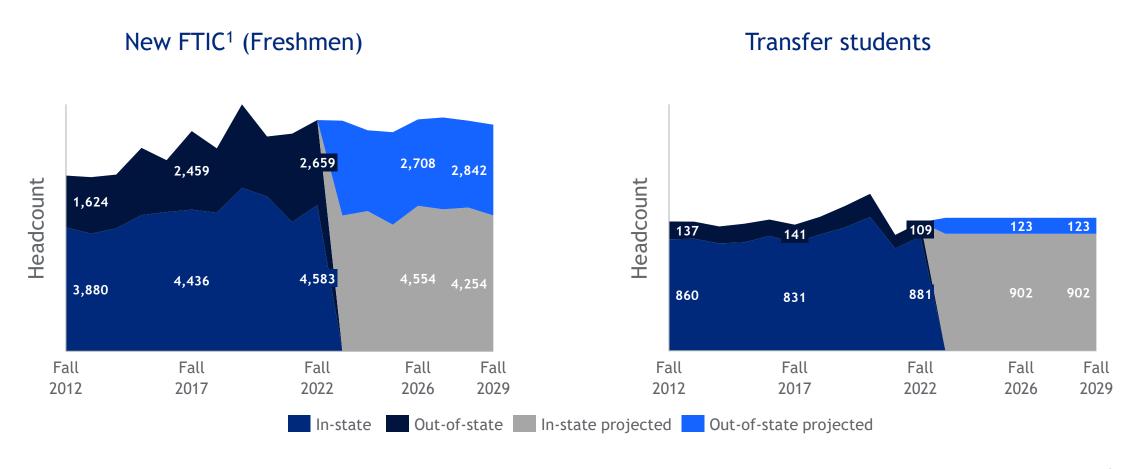
Chart (D): What changes are happening across the recruitment funnel for first



^{1.} First time in college students
Source: Data from State Council of Higher Education for Virginia Research Center Admissions Report B08

Chart (E): How do enrollment projections compare to historical trends?

New Enrollment Headcount, New FTIC and Transfer students by origin (projections as of 2023)



Program alignment & performance

Program alignment & performance: key considerations



Objective for this section:

- Provide directional insight into how institutions are improving in how they support their unique student population to graduate ready to enter the workforce
- Provide a starting point for institutions to highlight their own proven successes within their unique context



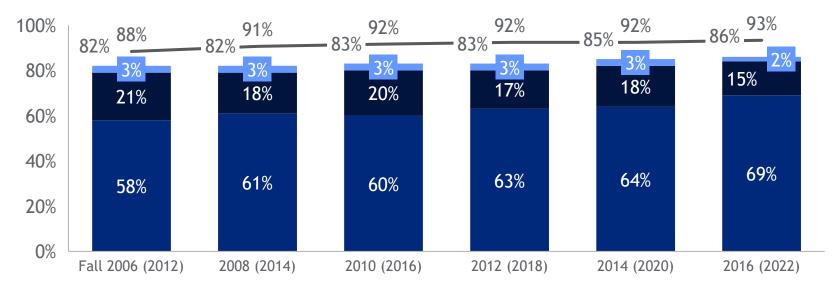
Considerations:

- Outcomes should be viewed in context of an institution's unique mission, student mix, and local conditions; as such, institutions may have different definitions of success
- Workforce outcomes are influenced by a variety of factors beyond the remit of post-secondary institutions (e.g., local labor market trends, macro-economic environment, individual circumstances, etc.)
- Longitudinal data on post-completion outcomes and workforce alignment may have gaps and limitations
- Institutions have varying programmatic strengths and should be encouraged to build on areas of distinctiveness vs. aiming to be "everything for everybody"

Completion outcomes

Chart (A): How are retention and graduation rates trending over time?





Rate	Annual growth ³ (2006-16)
Grad within 6 years	0.48%
Grad within 5 years	0.62%
Grad within 4 years	1.75%
Retention	0.54%
Graduated wi Graduated wi Graduated wi Retention Rai	ithin 5 years ithin 6 years

Freshman Cohort Year (6-Year grad year)

Time to degree for 6-Year grad year:

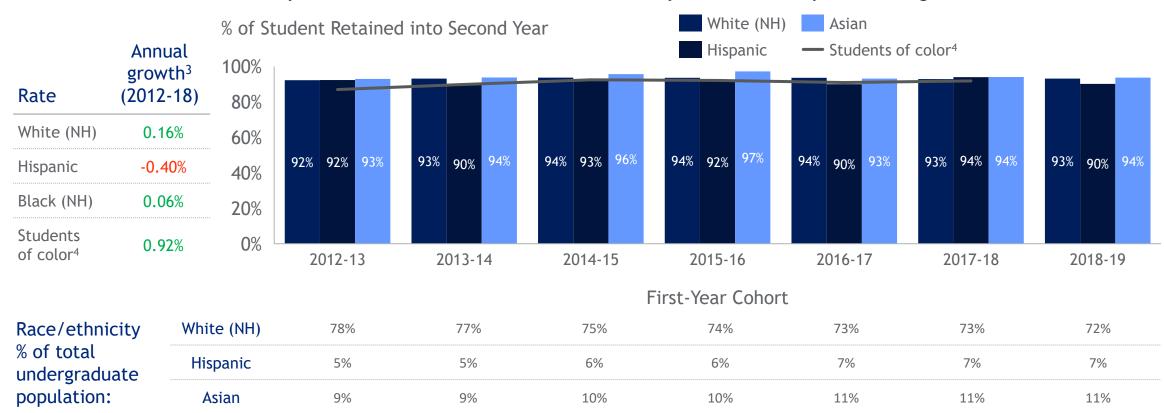
FTIC: Median	4.00	4.00	4.00	4.00	4.00
FTIC: Mean	4.27	4.25	4.23	4.22	4.19
Transfer: Median	4.00	4.50	4.50	4.50	4.50
Transfer: Mean	4.81	4.78	5.21	5.02	4.95

^{1.} First time in college and full-time freshmen cohorts 2. Percent of first-year students retained for following second-year fall term 3. "Annual growth" calculated as compound annual growth rate (CAGR).

Source: SCHEV Retention and Graduation report GRS04B: Cohort Graduation Rates, Four-Year Institutions (First-time, Full-time Freshmen Cohorts) by Year; SCHEV time to degree data

Chart (B): How are retention rates of students of color trending vs. white students?

First-year retention rate¹ of FTIC² students by race/ethnicity for undergraduate students

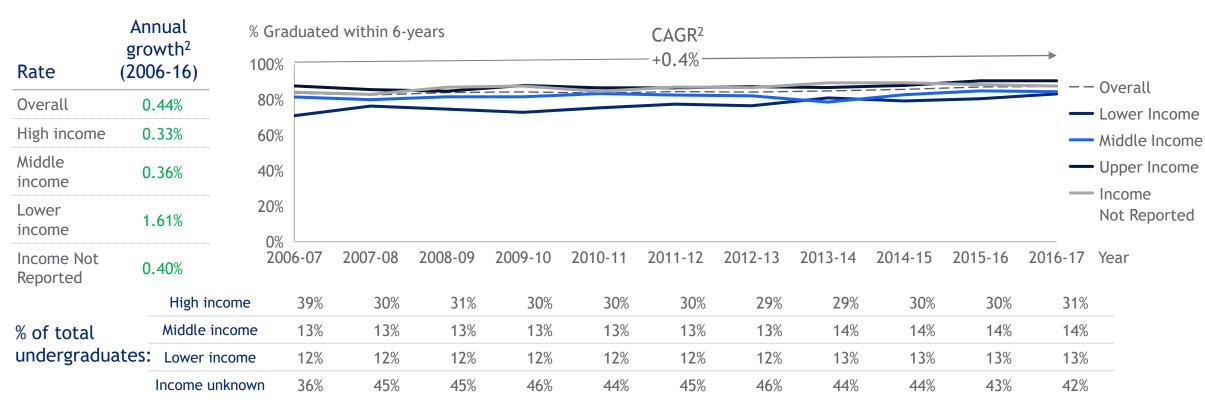


^{1.} Rate of first-year students retained into second year 2. First time in college full time students 3. Excludes Native American, Black, International, and Asian/Pacific Islander due to comprising less than 5% of student population each year 4. Retention rate for students of color at Virginia Tech Note: Graph excludes race/ethnicity unknown

Source: SCHEV Retention and Graduation report Sub-Cohort Retention and Completion Rate Trends; RT01: Retention Report (First-time, Full-time Students; E22 Fall Term Enrollment by Race/ethnicity

Chart (C): How do graduation rates differ by income level?

6-Year Graduation Rate of FTIC¹ Undergraduate Students by Income Level



^{1.} First time in college, full-time students 2. "Annual growth" calculated as compound annual growth rate (CAGR)

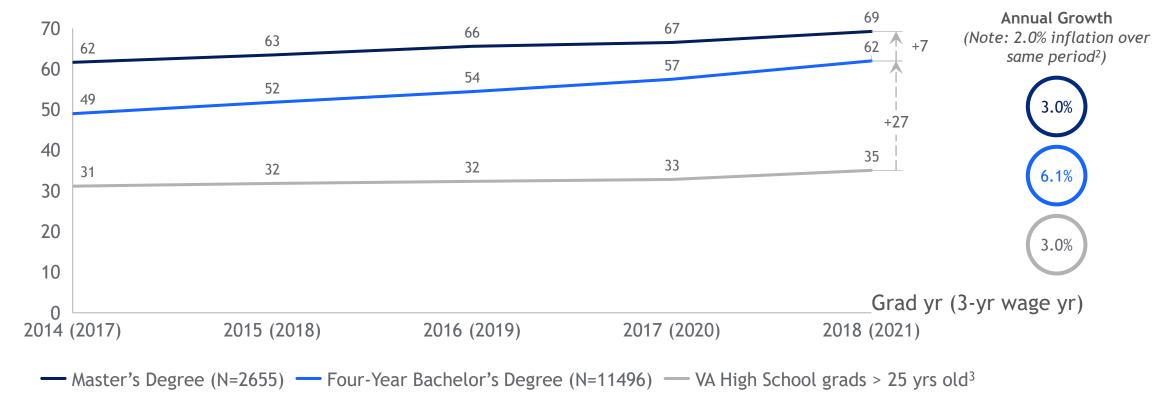
Note: Income unreported line is excluded in this chart; Income categories do not exclude Pell recipients. Income represents family/student income at entry. Includes full-time students, enrolling for the first time in fall, spring, or summer. Income levels based on reported family income on FAFSA and family size (lower income = 200% poverty level and below; middle income = 201-400% of poverty level; high income = 401% poverty level and above)

Source: SCHEV Retention and Graduation report Sub-Cohort Retention and Completion Rate Trends; GR-SC01: Six-Year Graduation Rate Trends, by Economic Sub cohorts (Low, Middle, High)

Post-completion outcomes

Graph (A): How much excess wages are generated by higher-ed degrees¹ vs. high school degrees?

Median income 3-yrs post-grad (\$K)



^{1.} Only included degrees with >10% of enrollment to ensure large enough N 2. CPI 2017-2021 for Washington-Arlington-

Graph (B): How do wages for the largest programs¹ compare to other schools?

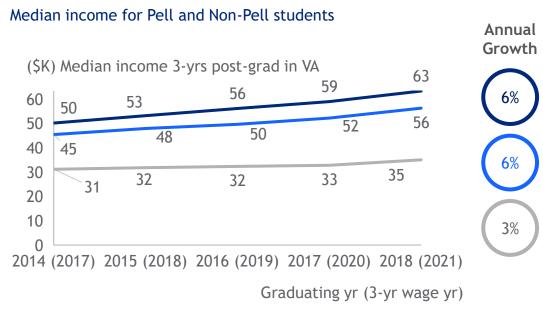
	median wage grad vs. ic & private reporting inst. ²	Diff. in wage growth vs. all 4-yr public inst.	Median inc. VT grads	% of VT grads ³	Sample size (N)	Capture rate (N /grads)
4-year Bachelor's	11150	r yr pabtic mae.	v i gi uus	V 1 51 443	3411pte 312e (11)	(11751443)
Mechanical Engineering	- 3	1 pp	\$77K	4%	515	28%
Biology/Biological Sciences, General	- 0	-3 pp	\$39K	3%	479	32%
Finance, General	8	0 pp	\$78K	3%	671	48%
Management Science	F 2	-1 pp	\$88K	3%	734	56%
Foods, Nutrition, and Wellness Studies, General	ŀ1	4 pp	\$41K	3%	478	37%
Psychology, General	- 5	6 pp	\$41K	3%	496	41%
Computer and Information Sciences, General	[14]	5 pp	\$105K	2%	422	42%
Speech Communication and Rhetoric	[11]	2 pp	\$52K	2%	427	43%
Human Development and Family Studies, General	- 5	0 pp	\$47K	2%	511	52%
Marketing/Marketing Management, General	12	-2 pp	\$64K	2%	375	41%
Civil Engineering, General	- 0	-2 pp	\$73K	2%	390	43%
Accounting	[13]	0 pp	\$75K	2%	532	59%
Industrial Engineering	F1	1 pp	\$86K	2%	332	38%
Political Science and Government, General	[9]	6 pp	\$51K	2%	258	33%
Business Administration and Management, General	1 9	12 pp	\$68K	2%	333	46%
Electrical and Electronics Engineering	₽ 3	-2 pp	\$86K	2%	200	29%
Biochemistry	F1	-2 pp	\$36K	2%	202	29%
Aerospace, Aeronautical, and Astronautical/Space Engineering, General.	- 0	0 pp	\$85K	2%	153	23%
Animal Sciences, General	- 0	0 рр	\$35K	1%	222	38%
Master's						
Curriculum and Instruction	<mark>-9</mark>	-2 pp	\$55K	2%	451	68%
Business Administration and Management, General	47	15 pp	\$141K	1%	292	48%

^{1.} Largest programs based on number of 2018 graduates with sample size (N) at least 100 up to 20 programs; excludes "Multi-Interdisciplinary studies, other"

Wage growth and absolute wages below peers

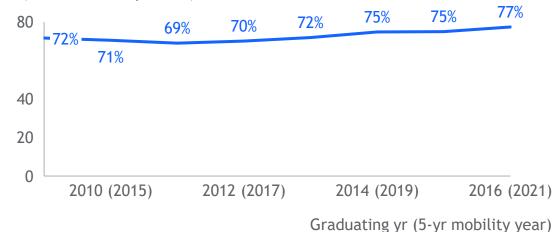
^{2.} Median wage of class of '18 and 5 preceding classes 3 yrs post-grad 3. 2017-2018 Graduating Year Source: SCHEV data extract, 4/'23

Graph (C): How are median wages and upward mobility trending for lower-income students?



Upward mobility for lower-income undergrads²

% of lower-income graduates who achieve upward mobility in VA (measured at 5-yr mark)



Virginia Tech (N=513)

- Virginia Tech Non-Pell grads (N=8751)
- Virginia Tech Pell grads (N=2744)
- VA High School grads > 25 yrs old

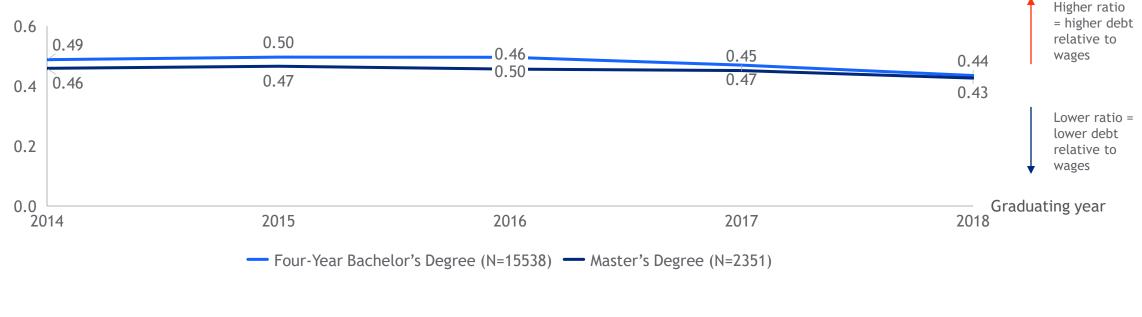
1. Wages for Virginians ages 25+ with no more than a high school diploma or equivalent, wages defined as wages, salary, Armed Forces pay, commissions, tips, piece-rate payments, and cash bonuses earned before deductions were made for taxes, bonds, pensions, union dues, etc....and net income from self-employment."; 2020 includes 5-year estimates due to COVID-data disruption 2. Upward mobility defined as earnings greater than 200% of the federal poverty level (5-yrs post-grad) for the average family size for a 25-29 yr old + estimated annual student loan payment; lower-income undergraduates defined as those coming from households at 0-200% of the federal poverty level (income data drawn from FAFSA)

Note: Years represent median wage 3 years post grad in VA of students who graduated in the year combined and students who graduated in the 4 previous years with wages adjusted for inflation to the most recent year of wages, in order to allow for reporting at the program-level; only includes wage data from VA from employers covered under state unemployment insurance

Source: SCHEV data calculation and extract, April 2023; US Census Bureau

Graph (D): How much debt do students take on relative to their future earnings?

Debt to wage ratio (median debt at grad./median. wage 3-yr post-grad)



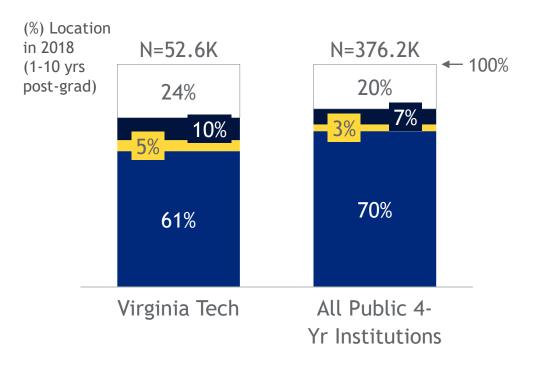
	2014	2015	2016	2017	2018
Four-Year Bachelor's Degree median debt	\$23.9K	\$25.7K	\$27.0K	\$27.0K	\$27.0K
Master's Degree median debt	\$28.3K	\$29.6K	\$29.9K	\$30.1K	\$29.6K

Note: Years represent median wage 3 years post grad in VA of students who graduated in the year combined and students who graduated in the 4 previous years with wages adjusted for inflation to the most recent year of wages, in order to allow for reporting at the program-level; only includes wage data from VA from employers covered under state unemployment insurance; Debt represents median cumulative debt at graduation Source: SCHEV data extraction, April 2023

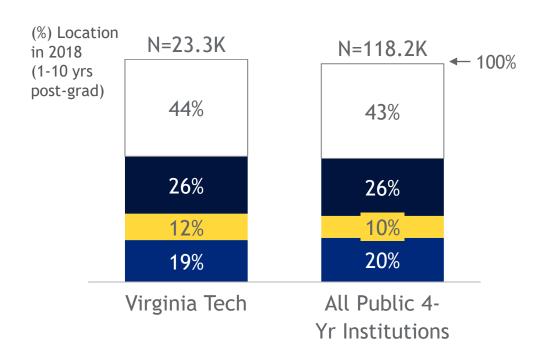
Workforce alignment

Chart (A): Are graduates remaining in Virginia after school?

In-State Graduates (all levels)



Out-of-State Graduates (all levels)

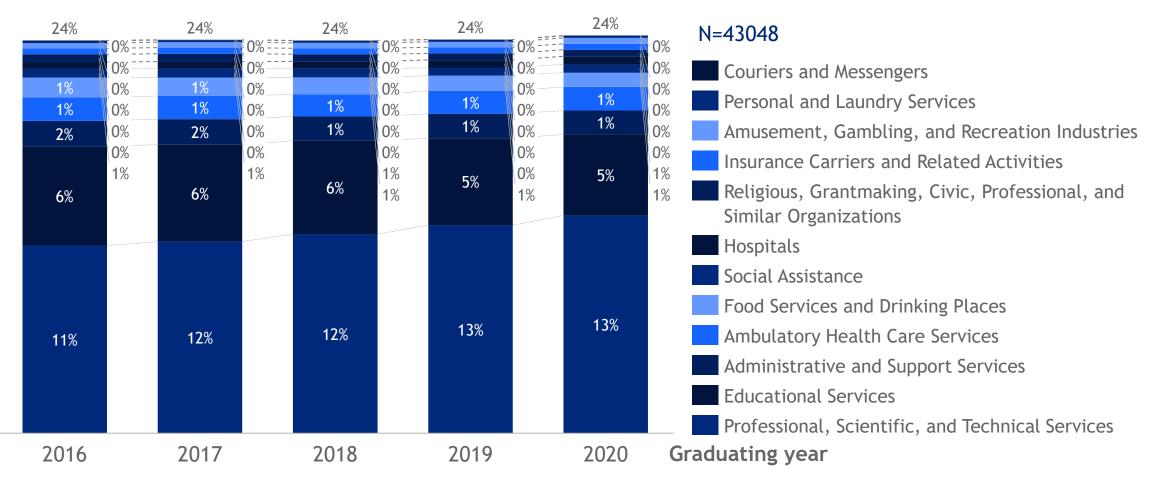


Unknown Rest of US Border States¹ In Virginia

Note: Graduates include students from all degree programs and levels from graduating classes of 2007-08-2017-18 1. Border States Include North Carolina, Tennessee, Kentucky, West Virginia, Maryland and Washington, D.C. Source: SCHEV Graduate Mobility Website

Chart (B): Are graduates entering industries with the highest job growth in VA?

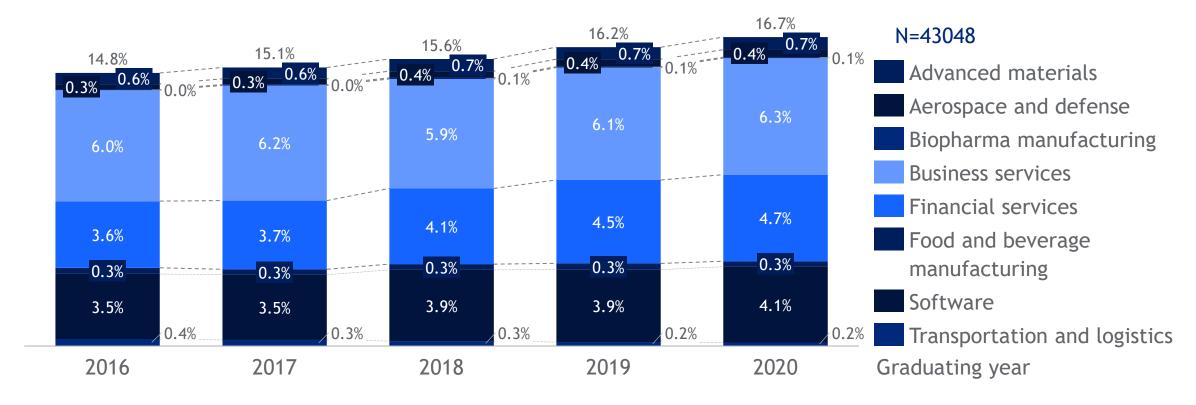
% of graduates working in top 12 high growth industries 1 year post graduation (inclusive of all degree levels)



Note: Excludes State, Local, and Federal Government Source: SCHEV graduate data; VOEE data on highest growth industries

Chart (C): Are graduates entering VEDP-designated high-priority tradable industries?

% of graduates working in VEDP priority industries¹ 1 year post graduation (inclusive of all degree levels)



^{1.} Priority industries defined as industries with high potential job growth and alignment to Virginia's strengths that will position Virginia as an unparalleled business location Source: SCHEV and VEDP

Occupational alignment: key considerations



Objective for this section:

 Provide directional insight into how institutional degree conferrals align to high-growth occupations in the Commonwealth of Virginia



Approach:

 A tailored set of degree programs at 2 & 4-yr levels matching each occupation was chosen based on CIP codes and the most common degree programs across the state (full list in backup)



Considerations:

- Occupational alignment data is still nascent; VOEE's "Education and Workforce Alignment" dashboard is pending public release for institutional use.
- The mapping of programs of study to high-growth occupations may have gaps and limitations, as there is no clear 1:1 mapping between degree programs and occupational requirements.
- Some occupations (e.g., business operations specialists) may not capture all projected workforce supply-demand gaps.

Chart (D): Are students graduating from programs that are aligned to occupations that are expected to see high growth in the next 5 years?

Occupations

Computer Occupations

Business Operations Specialists

Healthcare Diagnosing or Treating Practitioners

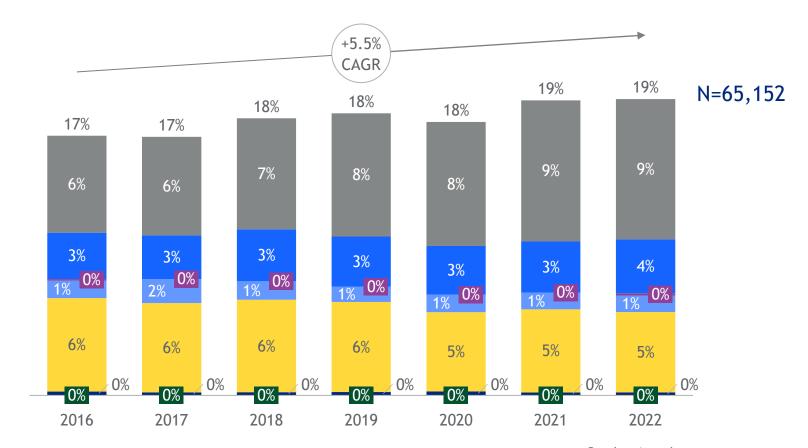
Preschool, Elementary, Middle, Secondary, and Special Education Teachers

Financial Specialists

Counselors, Social Workers, and Other Community and Social Service Specialists

Skilled Trades

Share of students graduating from programs aligned to high-growth occupations



Note: Excludes high growth occupations that typically do not require any college education for entry level positions; excludes "Other Management Occupations" due to lack of consistent "core" associated programs

Source: VOEE occupation growth estimates, SCHEV degree conferral estimates

Graduating class

Backup | High-growth occupation - degree program mapping (1/4)

Computer Occupations	CIP Code
Computer and Information Sciences, General	110101
Information Technology	110103
Computer Science	110701
Mathematics and Computer Science	300801
Computer and Information Systems Security/Auditing/Information Assurance.	111003
Computer and Information Sciences and Support Services, Other	119999
Computer Engineering, General	140901

Business Operations Specialists	CIP Code
Business Administration, Management and Operations, Other	520299
Business Operations Support and Secretarial Services, Other	520499
Business Administration and Management, General	520201
Business/Commerce, General	520101
Business Analytics.	307102
International Business/Trade/Commerce	521101
Small Business Administration/Management	520703

Healthcare Diagnosing or Treating Practitioners	CIP Code
Allied Health Diagnostic, Intervention, and Treatment Professions, Other	510999
Health Information/Medical Records Technology/Technician	510707
Registered Nursing/Registered Nurse	513801

Healthcare Diagnosing or Treating Practitioners	CIP Code
Emergency Medical Technology/Technician (EMT Paramedic)	510904
Licensed Practical/Vocational Nurse Training	513901
Respiratory Care Therapy/Therapist	510908
Health Services/Allied Health/Health Sciences, General	510000
Medical/Clinical Assistant	510801
Nursing Practice	513818
Nursing Science	513808
Psychiatric/Mental Health Nurse/Nursing	513810
Adult Health Nurse/Nursing	513803
Family Practice Nurse/Nursing	513805
Medicine	511201
Nurse Anesthetist	513804
Registered Nursing, Nursing Administration, Nursing Research and Clinical Nursing, Other	513899
Geriatric Nurse/Nursing	513821
Maternal/Child Health and Neonatal Nurse/Nursing	513806
Pre-Medicine/Pre-Medical Studies	511102
Clinical/Medical Laboratory Technician	511004
Dental Hygiene/Hygienist	510602
Dental Laboratory Technology/Technician	510603
Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	510910

Backup | High-growth occupation - degree program mapping (2/4)

Healthcare Diagnosing or Treating Practitioners	CIP Code
Medical Office Assistant/Specialist	510710
Medical Radiologic Technology/Science - Radiation Therapist	510907
Occupational Therapist Assistant	510803
Opticianry/Ophthalmic Dispensing Optician	511801
Physical Therapy Assistant.	510806
Radiologic Technology/Science - Radiographer	510911
Surgical Technology/Technologist	510909
Physician Assistant	510912

Preschool, Elementary, Middle, Secondary, and Special Education Teachers	CIP Code
Elementary Education and Teaching	131202
Secondary Education and Teaching	131205
Teacher Education and Professional Development, Specific Levels and Methods, Other	131299
Administration of Special Education	130402
Art Teacher Education	131302
Education, General	130101
Education/Teaching of Individuals with Autism	131013
Education/Teaching of Individuals with Vision Impairments Including Blindness	131009
Educational Leadership and Administration, General	130401
Foreign Language Teacher Education	131306

Preschool, Elementary, Middle, Secondary, and Special Education Teachers	CIP Code
Health Teacher Education	131307
Physical Education Teaching and Coaching	131314
Reading Teacher Education	131315
Special Education and Teaching, General.	131001
Early Childhood Education and Teaching	131210
Education/Teaching of Individuals in Early Childhood Special Education Programs	131015
Education/Teaching of the Gifted and Talented	131004
Educational Assessment, Testing, and Measurement	130604
Education, Other	139999
Education/Teaching of Individuals in Secondary Special Education Programs	131019
Education/Teaching of Individuals with Multiple Disabilities	131007
Educational Administration and Supervision, Other	130499
English/Language Arts Teacher Education	131305
French Language Teacher Education	131325
History Teacher Education	131328
Junior High/Intermediate/Middle School Education and Teaching	131203
Kindergarten/Preschool Education and Teaching	131209
Mathematics Teacher Education	131311
Science Teacher Education/General Science Teacher Education	131316
Social Studies Teacher Education	131318
Special Education and Teaching, Other	131099

Backup | High-growth occupation - degree program mapping (3/4)

Preschool, Elementary, Middle, Secondary, and Special Education Teachers	CIP Code
Teacher Assistant/Aide	131501
Teacher Education, Multiple Levels	131206
Biology Teacher Education	131322
Online Teaching for K-12 Teachers	139998
Geography Teacher Education	131332
Physics Teacher Education	131329
Technology Teacher Education/Industrial Arts Teacher Education	131309
Financial Specialists	CIP Code
Accounting and Related Services, Other	520399
Finance, General	520801
Accounting	520301
Accounting and Finance	520304
Accounting and Business/Management	520305
Finance and Financial Management Services, Other	520899
Actuarial Science	521304

Counselors, Social Workers, and Other Community and Social Service Specialists	CIP Code
Mental and Social Health Services and Allied Professions, Other	511599
Social Work	440701

Counselors, Social Workers, and Other Community and	
Social Service Specialists	CIP Code
Counselor Education/School Counseling and Guidance Services	131101
Clinical Pastoral Counseling/Patient Counseling	511506
Community Health Services/Liaison/Counseling	511504
Counseling Psychology	422803
Mental Health Counseling/Counselor	511508
Substance Abuse/Addiction Counseling	511501
Vocational Rehabilitation Counseling/Counselor	512310
Clinical, Counseling and Applied Psychology, Other	422899
Genetic Counseling/Counselor	511509
Psychiatric/Mental Health Services Technician	511502

Skilled Trades	CIP Code
Aircraft Powerplant Technology/Technician	470608
Airframe Mechanics and Aircraft Maintenance Technology/Technician	470607
Automobile/Automotive Mechanics Technology/Technician	470604
Construction Trades, General	460000
Diesel Mechanics Technology/Technician	470605
Electrician	460302
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician	470201

Backup | High-growth occupation - degree program mapping (4/4)

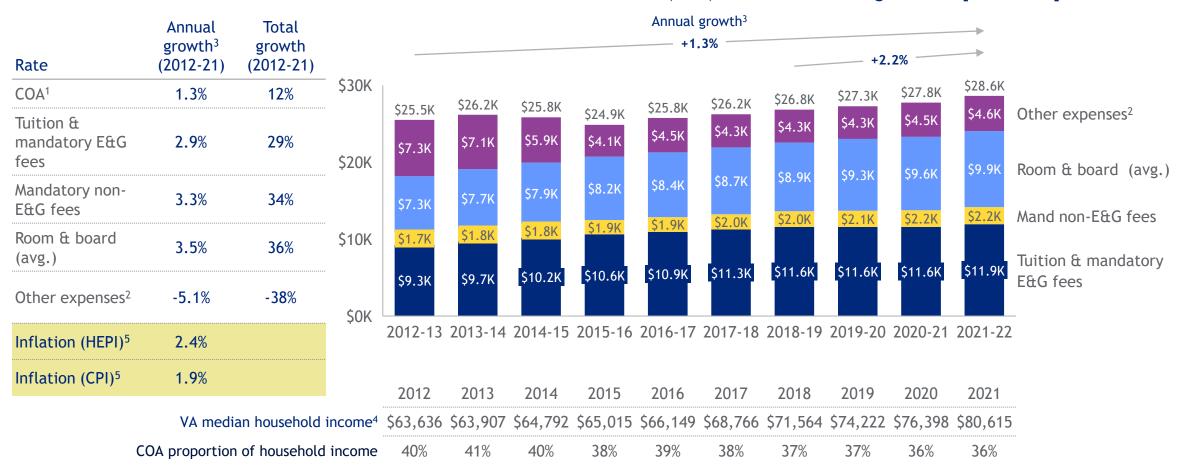
Skilled Trades	CIP Code
Industrial Electronics Technology/Technician	470105
Mechanics and Repairers, General	470000
Precision Metal Working, Other	480599
Welding Technology/Welder	480508
Electrical, Electronic, and Communications Engineering Technology/Technician.	150303

Financial effectiveness & sustainability

Affordability

Chart (A): How has the total cost of attendance been changing over time?

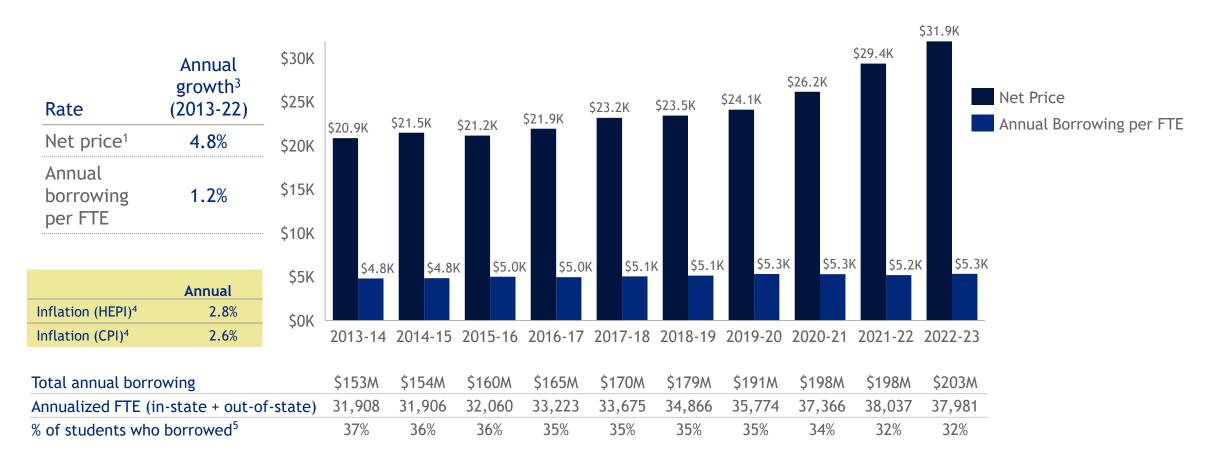
Breakdown of total cost of attendance (COA)¹ for in-state undergraduates [2012-2021]



^{1.} COA = calculated cost of attending the institution; includes transportation, room/board, tuition/fees, supplies, books and other expenses 2. Other expenses include transportation, supplies, books, and other expenses 3. "Annual growth" calculated as compound annual growth rate 4. Inflation-adjusted 5. Determined as growth in HEPI/CPI Source: Data from SCHEV Research Center Tuition & Fees Report TF01: Student Charges by Student Level and Residency Status: IPEDS: U.S. Census Bureau, American Community Survey 5-yr estimates

Chart (B): How much debt do students need to take on to cover net price?

Net price¹ vs. annual borrowing per total full time equivalents (FTE)² [2013-2022]



^{1.} Net price = total cost of attendance - financial aid (average) 2. Determined as total annual borrowing (e.g., private Perkins, Stafford, Plus loans) divided by annualized FTE 3. "Annual growth" calculated as compound annual growth rate (CAGR) 4. Determined as annual growth in Higher Education Price Index over period 5. Determined as the number of students with loans divided by total reported enrollment; excludes non-degree, unclassified, and certificate programs; only includes associate, bachelor's, master's, first professional, and doctor's degree programs

Source: Data from SCHEV Research Center Financial Aid Report FA19C: Trends in Annual Borrowing Per Annualized Student FTE: IPEDS

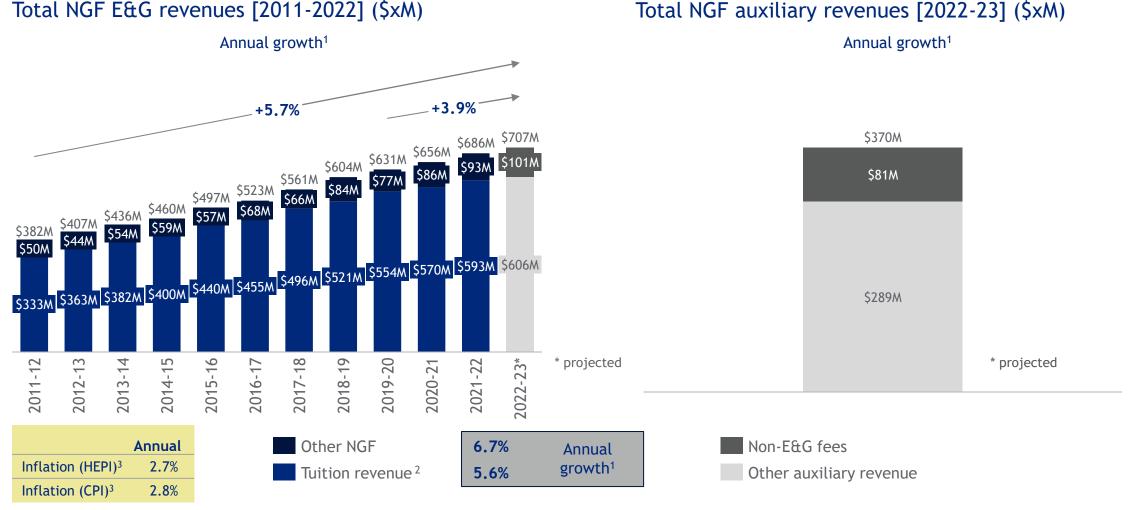
Revenue

Chart (A): How much do E&G revenues rely on state general funds?



^{1. &}quot;Annual growth" calculated as compound annual growth rate (CAGR) 2. Determined as growth in HEPI/CPI Notes: GF=general funds; NGF=non-general funds; total E&G revenues = E&G GF appropriations + total E&G NGF revenue (as reported by institutions) Source: SCHEV

Chart (B): How quickly have NGF sources of revenue been changing?



^{1. &}quot;Annual growth" calculated as compound annual growth rate (CAGR) 2. Total NGF tuition revenue included tuition revenue used for financial aid 3. Determined as growth in HEPI/CPI Notes: NGF=non-general funds; projected revenues for FY2023 year included; total auxiliary revenue available from FY21 Source: SCHEV

Chart (C): How is institutional financial aid (e.g., discounts/waivers) offsetting institutional tuition revenue over time?

Institutional financial aid (e.g., tuition discounts/waivers)¹ vs. net tuition revenue² [2013-2021]

Category	Annual growth ⁴ (2013-21)
Gross tuition revenue	5.6%
Institutional financial aid¹	6.9%
Net tuition revenue ²	5.4%
Inflation (HEPI) ⁵	2.8%
Inflation (CPI) ⁵	2.7%

Institutional financial aid

Net tuition revenue (NGF)

State-funded financial aid (GF)



^{1.} Institution financial aid = SCHEV S1/S2 collections; includes tuition discounts/waivers (foregone revenue) and non-general fund tuition revenues applied toward financial aid (redirected revenue) 2. Net tuition revenue = gross tuition revenue - total institutional financial aid 3. Tuition discount rate = total institutional aid (tuition discounts/waivers) / gross tuition revenue 4. "Annual growth" calculated as compound annual growth rate (CAGR) 5. Determined as annual growth in HEPI/CPI over period Source: SCHEV

Cost effectiveness

Expenditures by category

Chart (A): How are E&G and Auxiliary expenditures (overall and per student)

changing over time?

E&G and Auxiliary expenditures and expenditures by student FTE over time

	Annual	Total
Inflation (HEPI) ¹	2.7%	30%
Inflation (CPI) ¹	2.5%	28%

E&G and Auxiliary expenditure [2011-2021] (\$xM)



Expenditure per student FTE [2011-2021] (\$xK)



Auxiliary E&C

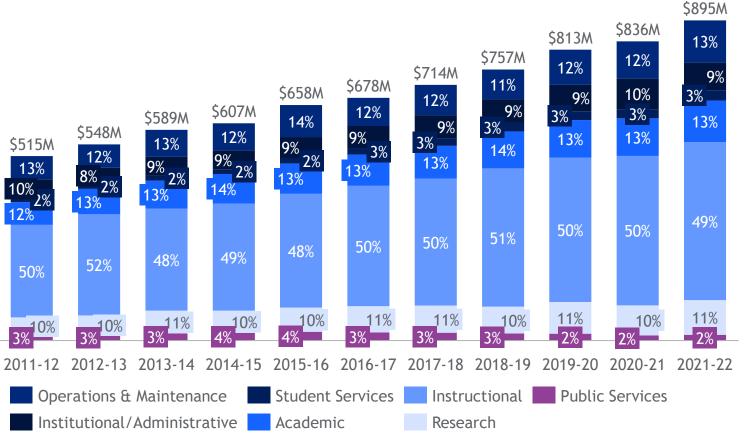
Note: Excludes student financial assistance and financial assistance for E&G services (program codes 108 and 110) and program code 199 ("admin/support services"). During the COVID-19 pandemic, institutions incurred one-time expenses such as testing, quarantine housing, and upgrades for distance learning, as well as suppressed personnel expenditures like travel, professional development, and hiring. Including these COVID-related expenses may skew comparisons across those years.

Source: Cardinal Expendwise expenditure data; SCHEV report E5 FTE data

^{1.} Determined as growth in HEPI/CPI over period

Chart (B): How are E&G expenditures changing over time?

Proportional breakdown of E&G expenditures by category [2011-2021]



	Annual	Total
Inflation (HEPI) ²	2.7%	30%
Inflation (CPI) ²	2.5%	28%

Growth rates (2011-2021)

	Annual	Total
Instructional	5.5%	71%
Research	6.8%	94%
Academic	6.2%	83%
Student Services	8.8%	132%
Institutional/Administrative	4.1%	49%
Operations & Maintenance	6.2%	83%
Public Services	0.8%	9 %

43

^{1. &}quot;Annual growth" calculated as compound annual growth rate (CAGR). 2. Determined as growth in HEPI/CPI over period

Note: Excludes student financial assistance and financial assistance for E&G services (program codes 108 and 110); excludes program code 113 ("unique military activities") and program code 809 ("auxiliary enterprises")

Source: Cardinal Expendwise data

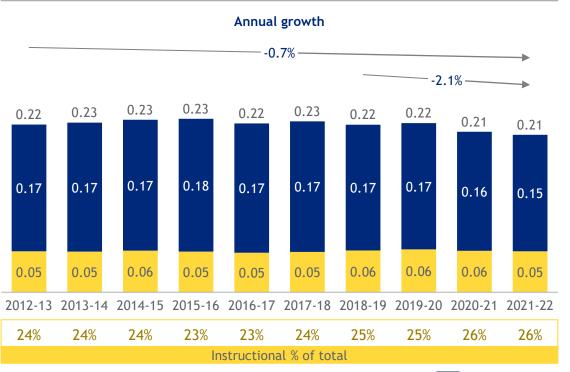
Personnel numbers & costs

Chart (C): How has personnel increased on a per-student basis?

Breakdown of personnel by # and \$ on a per-student basis [2013-2022]

	Annual	Total
Inflation (HEPI) ¹	2.8%	28%
Inflation (CPI) ¹	2.6%	26%





By salary outlay \$\$ per student FTE



Note: full-time personnel only; includes personnel from all sources of funding; William & Mary includes VIMS and VT/VSU include extension campuses Source: IPEDS

45

^{1.} Determined as growth in HEPI/CPI over period

Fastest-growing expenditures (E&G + Auxiliary)

Chart (D): Which of the biggest expenditure categories are growing fastest?

Growth in E&G program expenditures (by service areas) [2011-2021]

	Annual	Total
Inflation (HEPI) ²	2.7%	30%
Inflation (CPI) ²	2.5%	28%

Top 5 E&G service areas over time



Top 10 service areas ¹	\$ of spend (2021-22)	% of spend (2021-22)	Annual growth rate ³
General Academic Instruction	\$411M	46%	5.4%
Individual Or Project Research	\$54M	6%	8.3%
Academic Administration	\$51M	6%	7.5%
General Administrative Services	\$35M	4%	5.7%
Property Rentals	\$32M	4%	7.0%
Libraries	\$28M	3%	4.7%
Other Operation And Maintenance Expense	\$25M	3%	8.6%
Institutes And Research Centers	\$25M	3%	5.0%
Executive Management	\$21M	2%	2.9%
Fiscal Operations	\$20M	2%	4%

^{1.} May be less than 10 depending on institutional use of Cardinal accounting service areas 2. Determined as growth in HEPI/CPI over period. 3. "Annual growth" calculated as compound annual growth rate (CAGR).

Note: Excludes student financial assistance and financial assistance for E&G services (program codes 108 and 110); includes program code 199 ("admin/support services") and program code 809 ("auxiliary enterprises"); personnel spending determined by personal services, non-personnel spending all other major objects

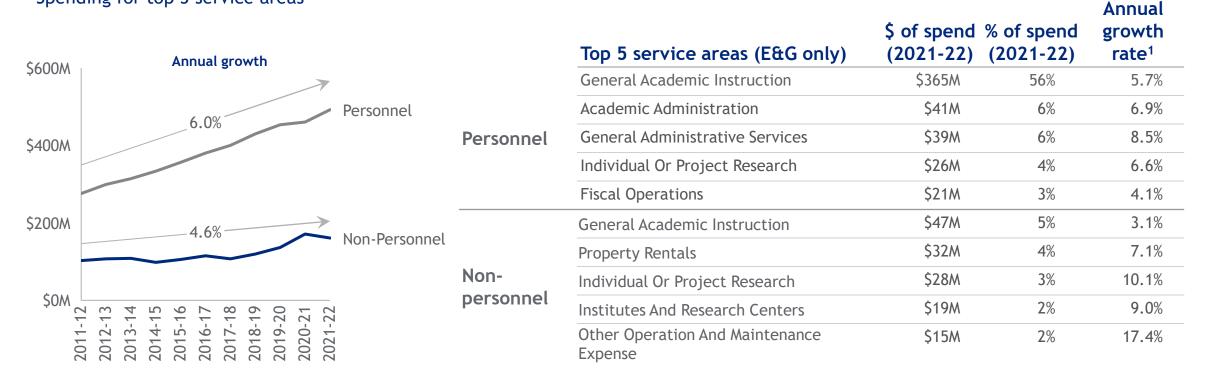
Source: Cardinal Expendwise

Chart (E): Is expenditure growth driven by personnel or non-personnel costs?

Growth in expenditures, personnel vs. non-personnel [2011-2021]

	Annual	Total
Inflation (HEPI) ²	2.7%	30%
Inflation (CPI) ²	2.5%	28%

Spending for top 5 service areas



^{1. &}quot;Annual growth" calculated as compound annual growth rate (CAGR). 2. Determined as growth in HEPI/CPI over period

Note: Excludes student financial assistance and financial assistance for E&G services (program codes 108 and 110); includes program code 199 ("admin/support services") and program code
809 ("auxiliary enterprises"); personnel spending determined by personal services, non-personnel spending all other major objects

Source: Cardinal

Chart (F): Which types of administrative spend are growing fastest?

Growth in institutional support spend objects [2011-2021]

	Annual	Total
Inflation (HEPI) ²	2.7%	30%
Inflation (CPI) ²	2.5%	28%

Annual

Total institutional support spend over time



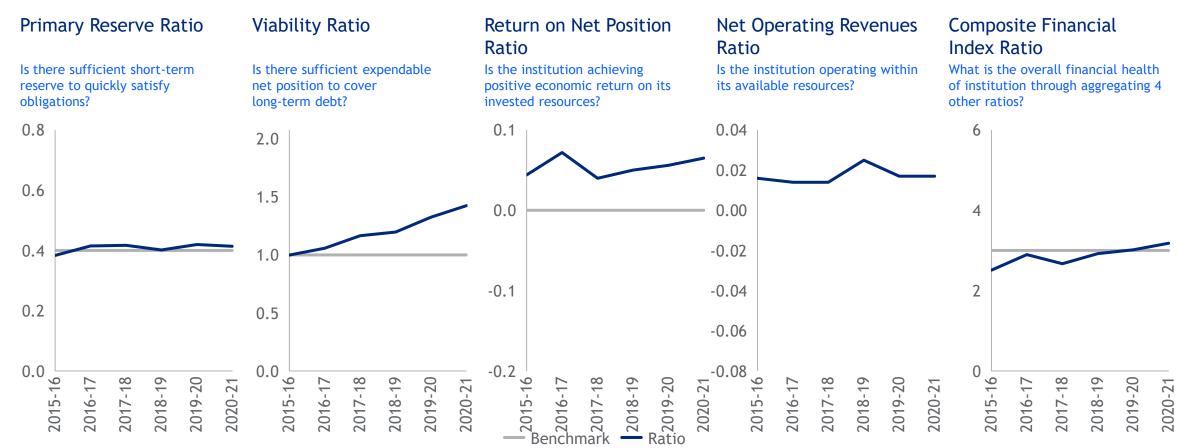
Top 5 spend objects	\$ of spend (2021-22)	% of spend (2022)	growth rate ¹	
Salaries	\$76M	99%	5.0%	
Employee Benefits	\$29M	37%	7.0%	
Technical Services	\$9M	12%	8.2%	
Management and Informational Services	\$8M	11%	5.9%	
Communication Services	\$3M	4%	-4.8%	

^{1. &}quot;Annual growth" calculated as compound annual growth rate (CAGR). 2. Determined as growth in HEPI/CPI over period Note: Only program code 106 (institutional support)
Source: Cardinal

Financial health

Chart (G): Is institutional financial health a concern? (exclude components¹)

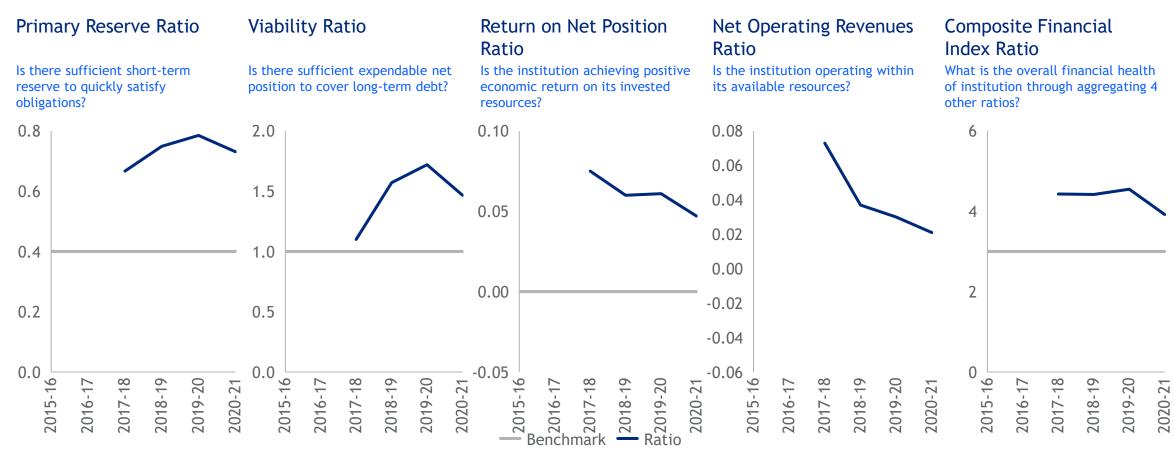
Fiscal Health Ratios per Auditor of Public Accounts Higher Education Comparative Report, excluding component units¹ [2015-2020]



^{1.} Component units are legally separate organizations for which the institutional leaders are financially accountable and are significant to institution finances
Note: Net operating revenues ratio has no fixed benchmark; however, institutions should attempt to achieve positive income before consideration of capital and other revenues
Source: SCHEV; Auditor of Public Accounts Higher Education Comparative Report for FY 2020 (link)

Chart (H): Is institutional financial health a concern? (include components¹)

Fiscal Health Ratios per Auditor of Public Accounts Higher Education Comparative Report, including component units¹ [2015-2020]



^{1.} Component units are legally separate organizations for which the institutional leaders are financially accountable

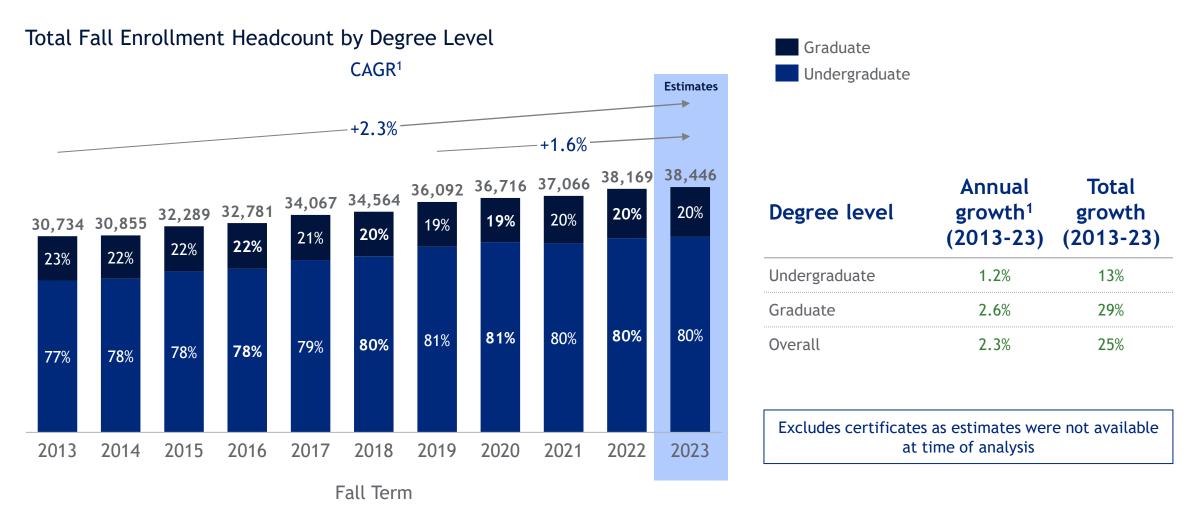
Note: Ratios for 2015 and 2016 w/ component units not available; net operating revenues ratio has no fixed benchmark - however, institutions should attempt to achieve positive income before consideration of capital and other revenues

Source: SCHEV; Auditor of Public Accounts Higher Education Comparative Report for FY 2020 (link)

52

Post-Plan Submission Addendum

Chart (A): How is overall enrollment headcount trending over time?

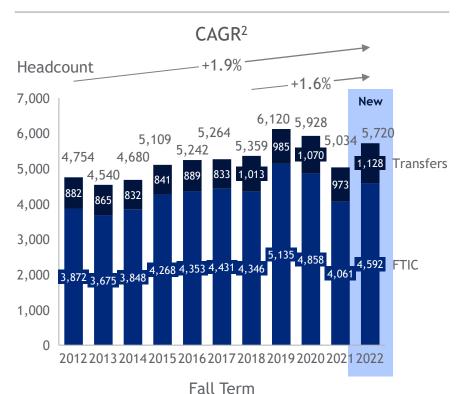


^{1. &}quot;Annual growth" calculated as compound annual growth rate (CAGR) Note: Not program placed excluded.

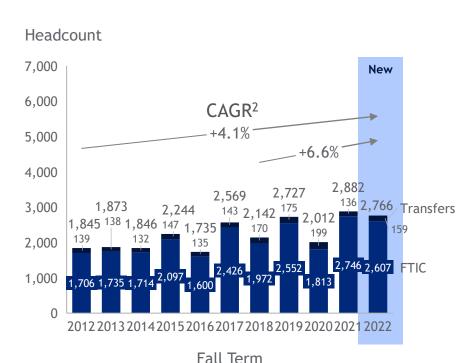
Source: Data from State Council of Higher Education for Virginia (SCHEV) Research Center Enrollment Report E33: Fall Enrollment by Degree Level Level for Virginia Tech 2023 enrollment numbers are estimates from SCHEV Early Enrollment Estimates report as of September, 2023

Chart (B): How are new in-state and out-of-state undergraduate enrollment headcount trending over time?

In-state new FTIC¹ (Freshmen) and transfers



Out of state new FTIC¹ (Freshmen) and transfers



Sub	Annual growth ²
cohort	(2012-22)
In-state FTIC	1.7%
Out-of-state FTIC	4.3%
In-state Transfers	2.5%
Out-of-state Transfers	1.4%

Note: Figures based on SCHEV Annual Admissions Report. Includes spring and fall headcounts.

^{1.} First time in college students 2. "Annual growth" calculated as compound annual growth rate (CAGR) Source: Data from State Council of Higher Education for Virginia Research Center Enrollment report B08: Annual Admission report

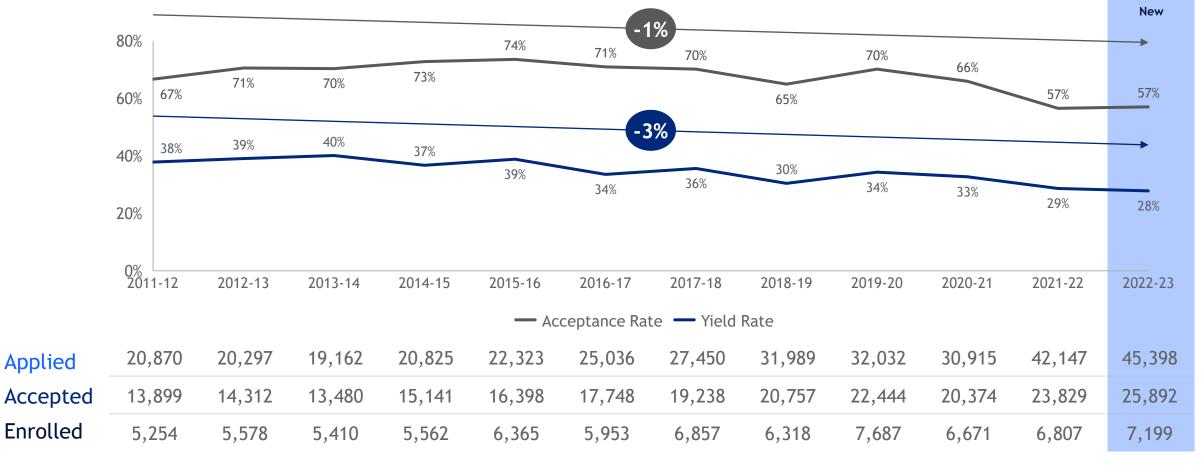
Chart (D): What changes are happening across the recruitment funnel for first







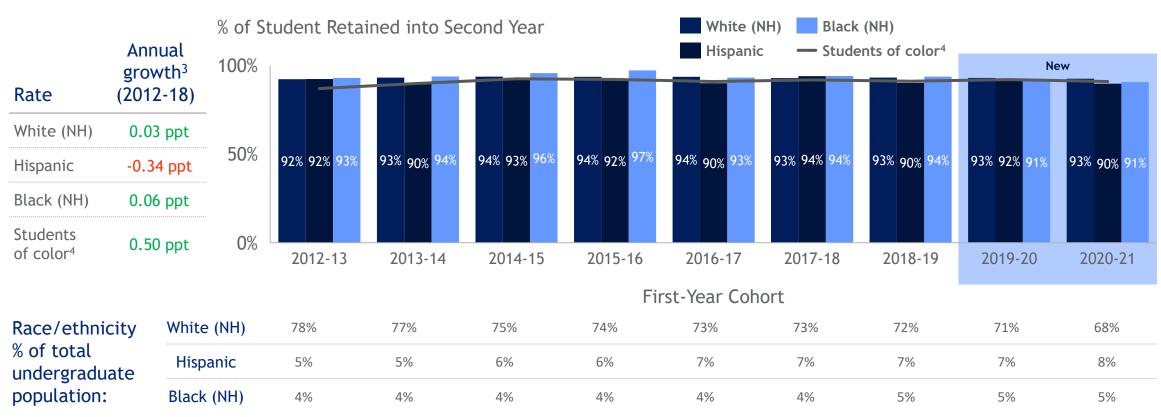
Note: Large sudden change in applications/ acceptances may be due to exogenous factors (e.g., move to Common App)



^{1.} First time in college students
Source: Data from State Council of Higher Education for Virginia Research Center Admissions Report B08

Chart (B): How are retention rates of students of color trending vs. white students?

First-year retention rate¹ of FTIC² students by race/ethnicity for undergraduate students

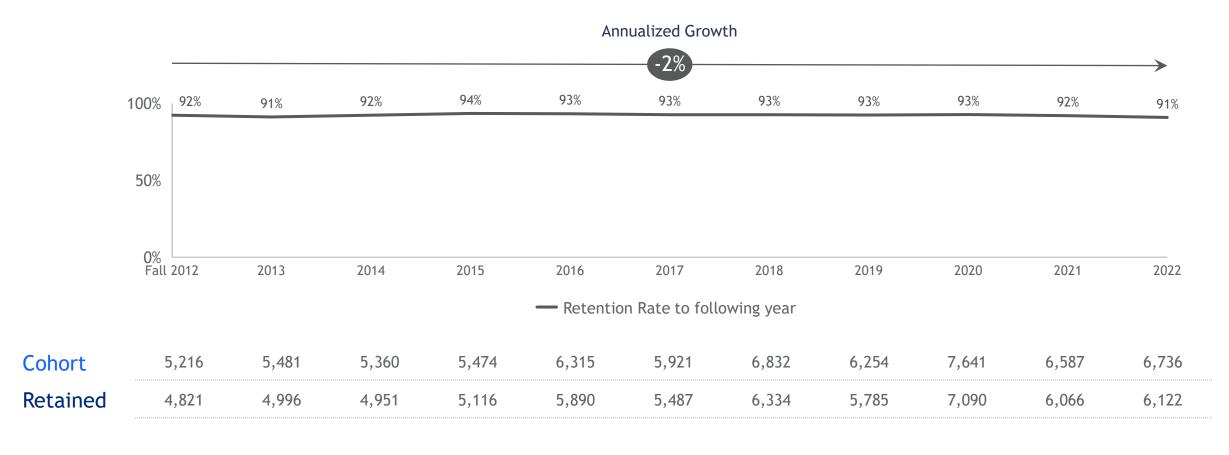


^{1.} Rate of first-year students retained into second year 2. First time in college full time students 3. Excludes Native American, Black, International, and Asian/Pacific Islander due to comprising less than 5% of student population each year 4. Retention rate for students of color at Virginia Tech Note: Graph excludes race/ethnicity unknown

Source: SCHEV Retention and Graduation report Sub-Cohort Retention and Completion Rate Trends; RT01: Retention Report (First-time, Full-time Students; E22 Fall Term Enrollment by Race/ethnicity

Chart (D): How is retention of FTIC freshman changing over time?

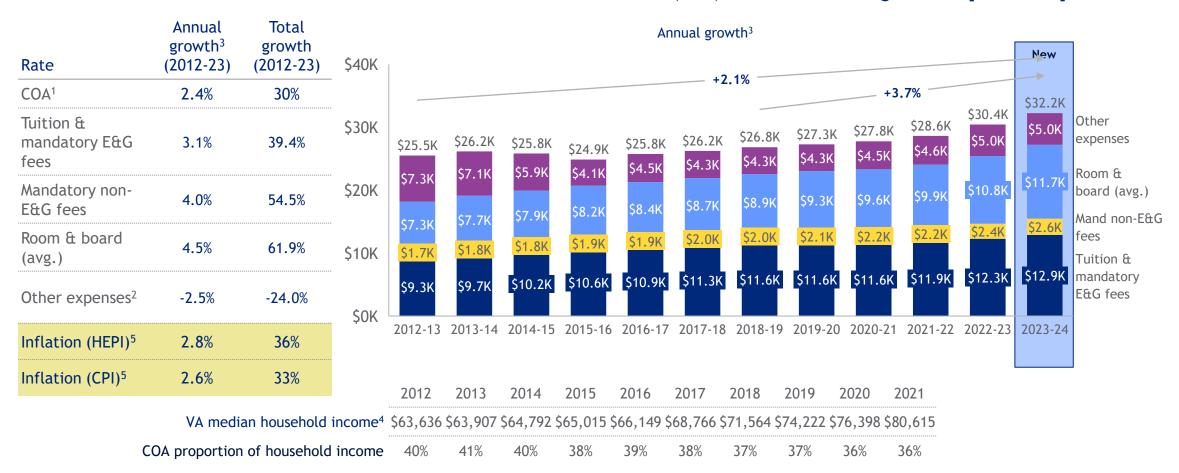
Undergraduate Freshman FTIC Cohort¹ Retention Rate²



^{1.} First time in college and full-time freshmen cohorts 2. Percent of first-year students retained for following second-year fall term Source: SCHEV Retention report RT01

Chart (A): How has the total cost of attendance been changing over time?

Breakdown of total cost of attendance (COA)¹ for in-state undergraduates [2012-2023]



^{1.} COA = calculated cost of attending the institution; includes transportation, room/board, tuition/fees, supplies, books and other expenses 2. Other expenses include transportation, supplies, books, and other expenses 3. "Annual growth" calculated as compound annual growth rate 4. Inflation-adjusted 5. Determined as growth in HEPI/CPI Source: Data from SCHEV Research Center Tuition & Fees Report TF01: Student Charges by Student Level and Residency Status; IPEDS; U.S. Census Bureau, American Community Survey 5-yr estimates

Chart (C): How are unfunded discounts & waivers and tuition used for financial aid offsetting tuition revenue over time?

Discount rate: Institution discounting as % of gross tuition revenue



Redistribution rate: Tuition used for Financial Aid as % of paid/collected tuition

Redistribution rate. ration asea i						t Ald us /o	or pararec	meeted to	
Tuition used for Financial aid / tuition revenue for					0.9%	1.2%	1.4%	1.8%	1.9%
operations	0.0%	0.0%	0.3%	0.3%					
operations	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(\$M)	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Gross Tuition Rev	\$447.3	\$468.8	\$513.7	\$532.3	\$574.7	\$602.2	\$642.5	\$659.9	\$693.8
Unfunded Discounts & Waivers	\$65.2	\$68.5	\$73.5	\$77.6	\$79.2	\$81.6	\$88.7	\$89.9	\$100.3
Tuition Rev for Financial Aid	\$0.0	\$0.0	\$1.5	\$1.4	\$4.5	\$6.3	\$7.9	\$10.0	\$11.1
Tuition Rev for Operations	\$382.1	\$400.3	\$438.7	\$453.3	\$491.1	\$514.2	\$545.9	\$560.0	\$582.4
% of Gross Tuition for Operations	85.4%	85.4%	85.4%	85.2%	85.4%	85.4%	85.0%	84.9%	83.9%

Chart (C): How are institutional/admin expenditures (total and per student) changing over time?

Total institutional/admin (106) expenditures and expenditures by student FTE over time

	Annual	Total
Inflation (HEPI) ¹	2.7%	30%
Inflation (CPI) ¹	2.5%	28%

Total expenditure [2011-2021] (\$xM)

Annual growth +4.1% \$90M \$80M \$77M \$74M \$63M \$66M \$67M \$70M \$58M \$60M **Total** \$52M \$53M \$51M \$50M growth: 49% \$40M \$30M \$20M \$10M SOM 2014-15 2020-21 2021-22

Expenditure per student FTE [2011-2021] (\$xK)



^{1.} Determined as growth in HEPI/CPI over period Source: Cardinal Expendwise expenditure data; SCHEV report E5 FTE data

Appendix

Backup | Cardinal programs & service areas (I/III)

Instruction
General Academic Instruction
Remedial Instruction
Vocational Education
Community Education
Dentistry Instruction
Medicine Instruction
Family Practice Residency Instruction
Veterinary Instruction
Unique Academic Program Activities

Research
Institutes And Research Centers
Individual Or Project Research
Agriculture And Forestry Research
Coal And Energy Research
Environmental And Water Resources Research
Marine Science, Resources, And Environmental Research
Industrial And Economic Development Research
Supporting Research
Veterinary Medical Research

Backup | Cardinal programs & service areas (II/III)

Academic Support
Libraries
Museums And Galleries
Audio/Visual Services
Computing Support
Ancillary Support
Academic Administration, Personnel Development, and Course and Curriculum Development
All Other Subprograms

Student Service Administration
Social And Cultural Development
Counseling And Career Guidance
Student Admissions And Records
Financial Aid Administration
Student Health Services

Student Services

Institutional/Administrative ¹
Executive Management
Fiscal Operations
General Administrative Services
Logistical Services
Public Relations And Development

Backup | Cardinal programs & service areas (III/III)

	Non-E&G
Operations & Maintenance	Auxiliary
Administration And Supervision	Food Services
Alumni Hall	Bookstores And Other Stores
Custodial Service	Residential Services
	Parking And Transportation Systems And Services
Building Repairs And Maintenance, Care And Maintenance Of	Telecommunications Systems And Services
Grounds, And Utility Lines And Maintenance Repairs	Student Health Services
Utilities	Student Unions And Recreational Facilities
Property And General Liability Insurance	Recreational And Intramural Programs
Property Rentals	Other Enterprise Functions
	Intercollegiate Athletics

Backup | Cardinal objects (I/II)

Contractual Services [Objects]	Contractual Services [SubObjects]
Communication services	 Shipping & postal services Messenger services Printing services Telecom services
Employee development services	 Memberships Publication subscriptions Employee training courses, workshops, and conferences Employee tuition reimbursement
Health services	 Clinic services Dental services Hospital/medical services Nursing home services X-ray and laboratory services Insurance premiums
Management & informational services	 Auditing Fiscal services (banking, accounting) Attorney services / legal services Management services Public information & public relations Media & advertising services

Contractual Services [Objects]	Contractual Services [SubObjects]
Repair & maintenance services	 Custodial services Electrical repair & maintenance Equipment repair & maintenance Extermination Highway repair Mechanical repair Plant repair Vehicle repair
Support services	 Architectural & engineering Clerical services Food & dietary services Laundry & linen services Manual labor services Production services
Technical services	 Information hardware services Computer software development services Computer operating services
Transportation services	Moving & relocation servicesTravelMeal reimbursements

Backup | Cardinal objects (II/II)

Supplies & Materials	
Administrative supplies	
Energy supplies	
Manufacturing & merchandis supplies	sing
Medial & laboratory suppli	es
Repair & maintenance supp	lies
Residential supplies	
Specific use supplies	

Equipment
Computer hardware & software
Educational and cultural equipment
Medial & laboratory equipment
Motorized equipment
Office equipment
Specific use equipment
Stationary equipment

Personnel ¹
Salaries
Employee benefits
Special payments
Wages
Disability benefits
Continuous Charges
Insurance
Capital lease payments
Operating lease payments
Service charges
Installment purchases
Payments for state employee health insurance programs

Backup | Fiscal health ratio definitions

Fiscal Health Ratios per Auditor of Public Accounts Higher Education Comparative Report

	Formula	Key Question
Primary Reserve Ratio	Expendable net position Total expenses	Is there sufficient short-term reserve to quickly satisfy obligations?
Viability Ratio	Expendable net position Long-term debt obligations	Is there sufficient expendable net position to cover long-term debt?
Return on Net Position Ratio	Change in net position Net position at beginning of fiscal year	Is the institution achieving positive economic return on its invested resources?
Net Operating Revenues Ratio	Net income (excl. capital revenues) Total non–capital revenues	Is the institution operating within its available resources?
Composite Financial Index Ratio	Weighted avg. of 4 other ratios	What is the overall financial health of institution through aggregating 4 other ratios?

Backup | Component units for each VA IHE (I/II)

University	Non-University Component Units
Christopher Newport University (CNU)	CNU Educational FoundationCNU Real Estate Foundation
The College of William and Mary in Virginia (W&M) (includes Virginia Institute of Marine Science (VIMS) and Richard Bland College)	 W&M Foundation Marshall-Wythe School of Law Foundation W&M Alumni Association W&M Athletic Educational Foundation W&M School of Business Foundation VIMS Foundation Richard Bland College Foundation W&M Real Estate Foundation Intellectual Property Foundation
George Mason University (GMU)	 GMU Foundation Mason Housing GMU Instructional Foundation Mason Korea, LLC Mercatus Center
James Madison University (JMU)	JMU Foundation
Longwood University (LU)	LU FoundationLU Real Estate FoundationLU Trust
Norfolk State University (NSU)	 NSU Foundation Athletics Foundation of NSU NSU Research & Innovation Foundation & Affiliates
Radford University (RU)	RU Foundation
University of Mary Washington (UMW)	UMW Foundation

Note: Excludes Virginia Community College System (VCCS), as not compared to 4-yr colleges in comparative report Source: Auditor of Public Accounts Higher Education Comparative Report for FY 2020 (link); 2020 financial statements for each institution

Backup | Component units for each VA IHE (II/II)

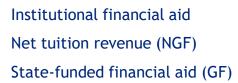
University	Non-University Component Units
Old Dominion University (ODU)	 ODU Educational Foundation ODU Real Estate Foundation ODU Athletic Foundation ODU Research Foundation
University of Virginia (UVA) (includes UVA-Wise)	 UVA Global, LLC UVA Law School Foundation College Foundation of UVA UVA Darden School Foundation Alumni Association of UVA Jefferson Scholars Foundation Virginia Athletics Foundation UVA Foundation UVA Physicians Group UVA Investment Management Company
Virginia Commonwealth University (VCU)	 Medical College of Virginia Foundation VCU Foundation VCU Real Estate Foundation VCU School of Business Foundation VCU School of Engineering Foundation Dentistry@VCU VCU Health System Authority
Virginia Military Institute (VMI)	VMI Alumni Agencies VMI Research Laboratories
Virginia Polytechnic Institute & State University (VT)	VT Foundation
Virginia State University (VSU)	VSU Foundation VSU Real Estate Foundation

Note: Excludes Virginia Community College System (VCCS), as not compared to 4-yr colleges in comparative report Source: Auditor of Public Accounts Higher Education Comparative Report for FY 2020 (link); 2020 financial statements for each institution

Backup | How is institutional financial aid (e.g., discounts/waivers) offsetting institutional tuition revenue over time?

Institutional financial aid (e.g., tuition discounts/waivers)¹ vs. net tuition revenue² [2014-2022]

Category	Annual growth ⁴ (2014-22)
Gross tuition revenue	5.6%
Institutional financial aid¹	6.9%
Net tuition revenue ²	5.4%
Inflation (HEPI) ⁵	2.8%
Inflation (CPI) ⁵	2.7%





^{1.} Institution financial aid = SCHEV S1/S2 collections; includes tuition discounts/waivers (foregone revenue) and non-general fund tuition revenues applied toward financial aid (redirected revenue) 2. Net tuition revenue = gross tuition revenue - total institutional financial aid 3. Tuition discount rate = total institutional aid (tuition discounts/waivers) / gross tuition revenue 4. "Annual growth" calculated as compound annual growth rate (CAGR) 5. Determined as annual growth in HEPI/CPI over period Source: SCHEV