

**VIRGINIA TECH**

## BUILDING A STUDENT COHORT DATABASE FOR SUCCESS

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**ASSOCIATION OF PUBLIC LAND-GRANT UNIVERSITIES** 2023 APS Staff Development Workshop  
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### Student Retention: a Metric Success

Retention is measured by comparing student return rates from one term to the next. This measurement is a metric of success for both students and educational institutions.

**Identifying at-risk students:** collecting data about why students leave your college, helps to identify strategies for making improvements.

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Term	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Headcount Enrollment	10,200	9,800	9,400	9,000	8,600	8,200	7,800	7,400

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Exploring questions beyond interactive dashboards

Indicators of Enrollment Retention

- Graduation
- Resignations/Withdrawals
- Change of Major (within and outside of the College)

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Graduations

Level	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Bachelor's	4.75	4.7	4.65	4.6	4.55	4.5	4.45	4.4	4.35	4.3	4.25
Master's	2.05	2.0	1.95	1.9	1.85	1.8	1.75	1.7	1.65	1.6	1.55
Doctoral	3.95	3.9	3.85	3.8	3.75	3.7	3.65	3.6	3.55	3.5	3.45

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Building Student Cohort Database

Breaking free of data dashboards with disaggregated data

**FREIS** Food and Agricultural Education Information System

The Food and Agricultural Education Information System (FAEIS) is a national repository and online data base of comprehensive information collected from institutes of higher education focused on agriculture and related life sciences.

- Data include student enrollment, degrees awarded, graduate placements, and faculty count and salaries.
- Disaggregated by CIP codes, gender, ethnicity, and major.

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### Withdrawals/Resignations

Understanding some of the common reasons students drop out or transfer can help you determine where to begin focusing your efforts to address some of the problems. Students decide to leave their institution for many reasons, including:

- Time restraints
- Responsibilities
- Financial strains
- Challenging expectations

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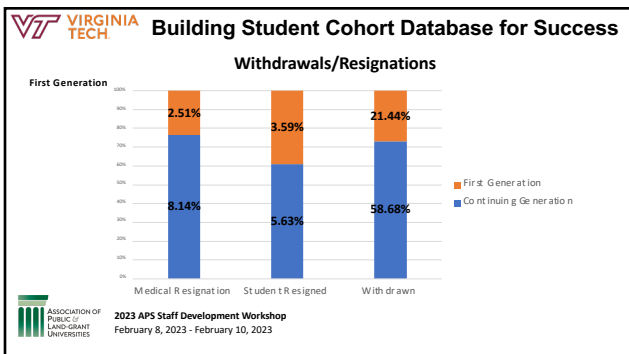
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### Withdrawals/Resignations

**Two by Two table**

Exposure	Outcome	
	Cases	Controls Total
Yes	a	b
No	c	d
Total	a+c	b+d

Calculate Row percentages:  
Risk of outcome in exposed = a/b  
Risk of outcome in nonexposed = c/d

**Case Control Study: 2 x 2 table**

Exposure	Outcome	
	Cases	Controls
Yes	a	b
No	c	d

Odds of cases in exposed = a/b  
Odds of cases in non-exposed = c/d  
**Outcome odds ratio = (a/b) / (c/d) = ad/bc**

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**Change of Major (within and outside of the College)**

About 80% of students in the United States end up changing their major at least once, according to the National Center for Education Statistics. On average, college students change their major at least three times over the course of their college career.

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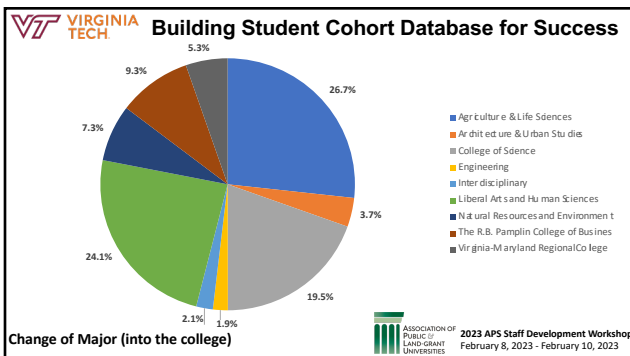
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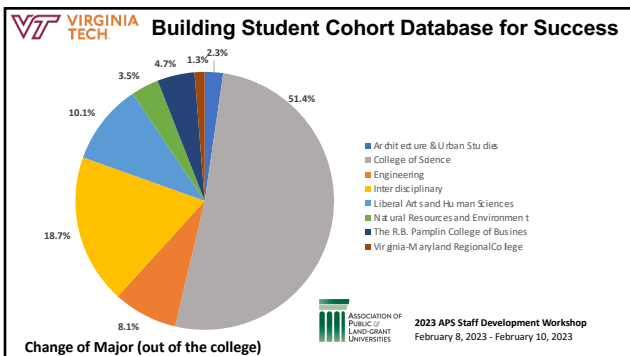
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 **Building Student Cohort Database for Success**

- To understand how to increase student retention, you must begin by conducting research and analyzing your disaggregated data.
- Students don't return to school for many reasons, but retention statistics don't reflect their reasons for leaving.
- The Quantitative data can help start conversations around areas to best to collect student and faculty feedback to identify specific challenges.

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