

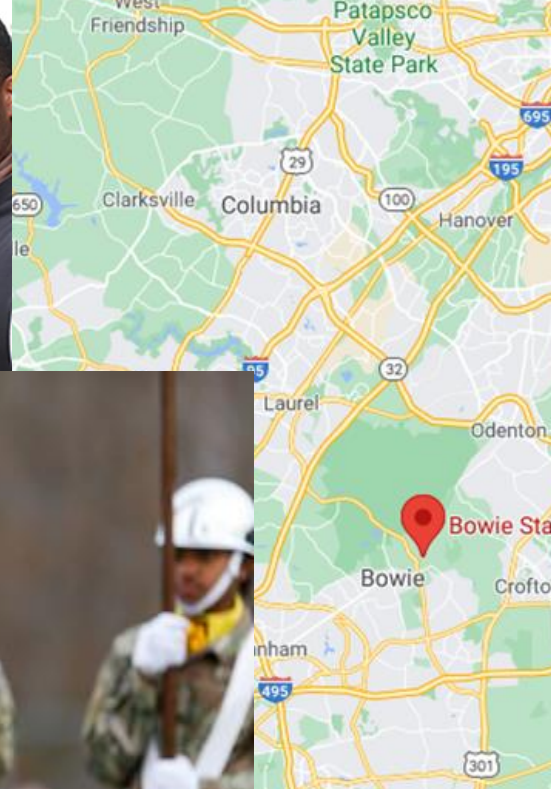


CLEVELAND, OH
May 30 – June 2, 2023

Dreams Do Become Reality: An Institution's Decision- Support Journey

Gayle Fink, Assistant Vice President for Institutional Effectiveness,
Bowie State University

Tim Vlamis, Vice President and Analytics Strategist,
Vlamis Software Solutions, Inc.



Office of Planning, Analysis, & Accountability (OPAA)



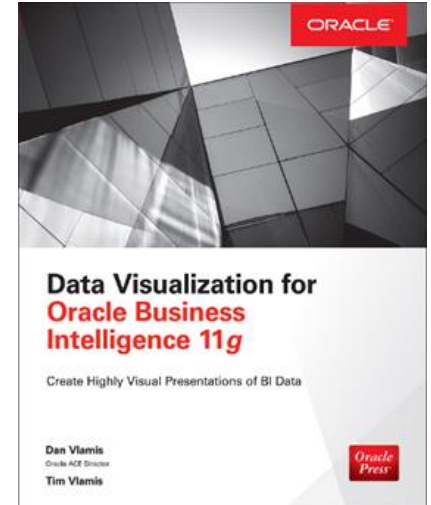
IR Responsibilities:

- Data Reporting (federal, state, system)
- Enrollment analysis
 - Student retention, progression, graduation, student profiles, fact book
- Grade analysis
 - Midterm analysis, success rates, etc
- Surveys
 - **Internal** - entering student, current student, graduating student satisfaction, course evaluations, ad hoc
 - **External** –US News, CUPA, AAUP, VSE, etc
- Enrollment Projections

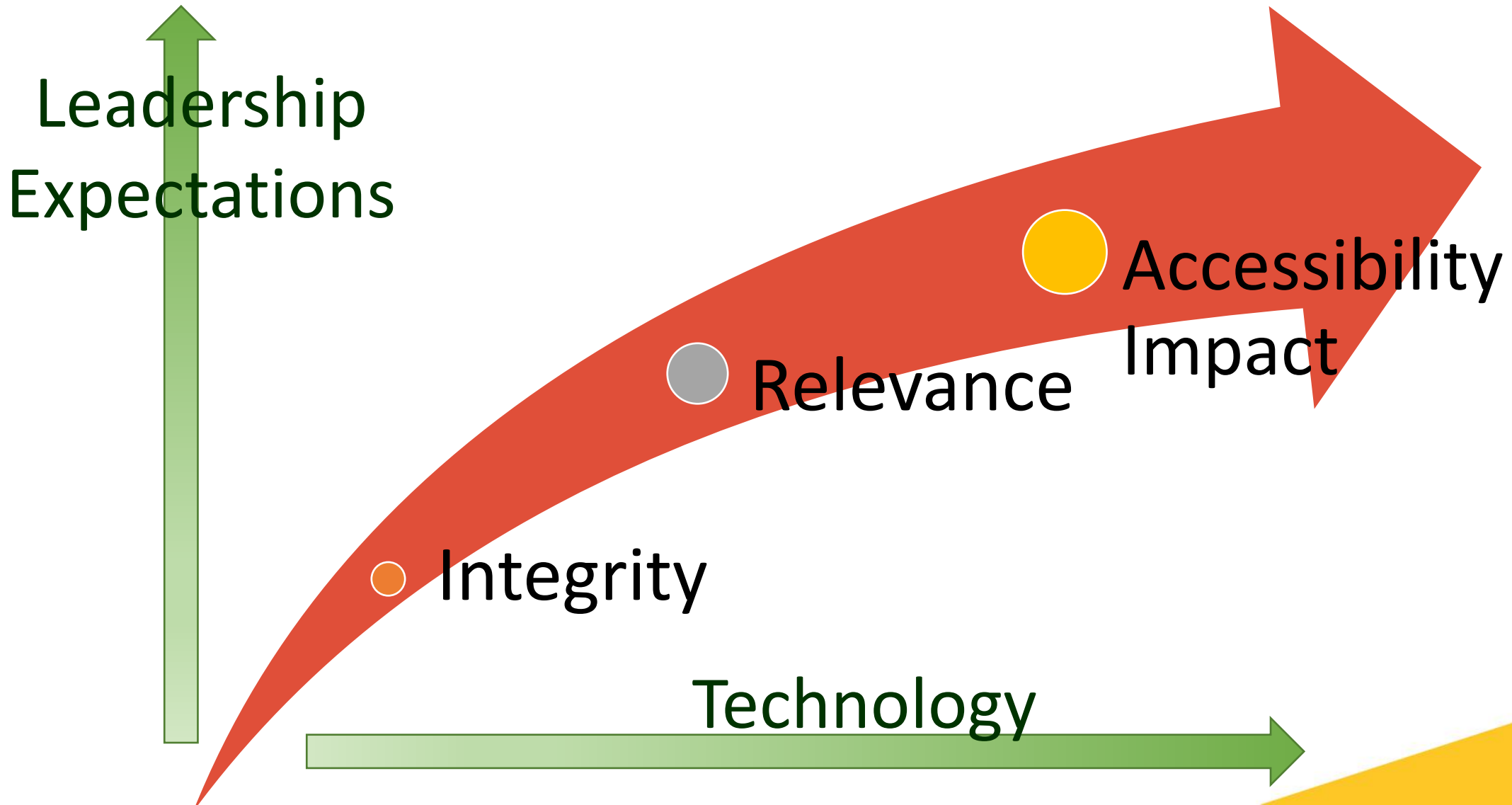
IE Responsibilities:

- Strategic and annual planning
- Accreditation – regional / specialized
- SLO and other assessment activities
- Curriculum management
- ROI / resource allocation analyses
- President / Provost / Cabinet projects
- ***Data warehouse and Post-Graduation outcomes***

- Boutique consultancy founded in 1992 in Kansas City, Missouri
- Developed 400+ Oracle BI and analytics systems
- Specializes in Oracle-based:
 - Enterprise Business Intelligence & Analytics
 - Analytic Warehousing
 - Machine Learning and Predictive Analytics
 - Data Visualization
 - ETL and data integration
- Tim Vlamis – VP & Analytics Strategist
 - 16 years with Vlamis
 - MBA Northwestern University's Kellogg School of Management
 - BA Economics from Yale University
 - 6 years Adjunct Professor in Benedictine's Full-time and Exec MBA programs



10+ Year Decision-Support Journey



Integrity



Re-establish AIR
Ethical Principles

Accurate &
Verified



Microsoft®
Office

Limited Tools

Relevance



Game Change

New

- President
- Cabinet Members
- BSU Strategic Plan

3.4 Construct an analytics capacity –
Develop a data warehouse that
incorporates a reporting tool to
provide actionable information to
support student retention,
progression, and graduation.



Racing to Excellence

FY19–FY24 Strategic Plan

bowlingstate.edu/strategicplan



Multi-Year Grant Funding



- Title III HBGI Activity - Enhancing Institutional Effectiveness, Academic, and Student Success Through Data Analytics
 - ✓ Phase I – Identifying data warehouse and analytics tools (2021)
 - ✓ Phase II – Build initial data structures to support academic decision making and student success (2022-2023)
 - Phase III – Expand “Bulldog Data House” student success data to support and create a data governance process (2023-)



DoIT Partnership

- Identify tools
- Gap analysis
- Engage Vlamis Software Solutions
 - Support DoIT staff to activate ADW Architecture
 - Collaborate with OPAA on Star Schemas
 - Develop initial dashboards
 - Training



Scale is Important



Delivering Analytics to Large Orgs is like Feeding Hundreds of People



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Main Oracle Products for Analytics

- **Oracle Analytics Cloud**

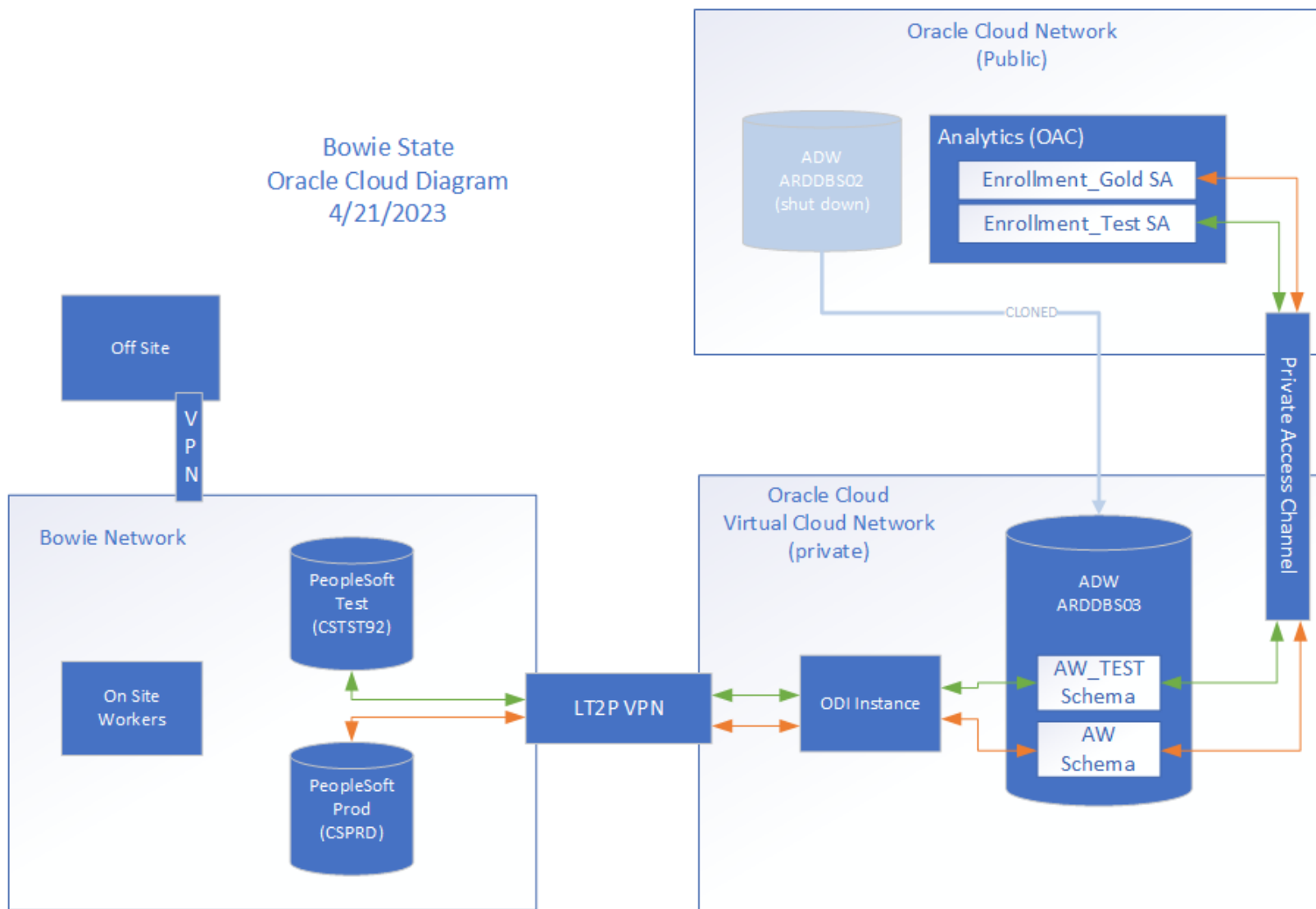
- Extremely comprehensive business intelligence/analytics software suite

- **Oracle Autonomous Data Warehouse**

- Cloud-based version of Oracle Database specifically designed for enterprise data warehousing and data management tools



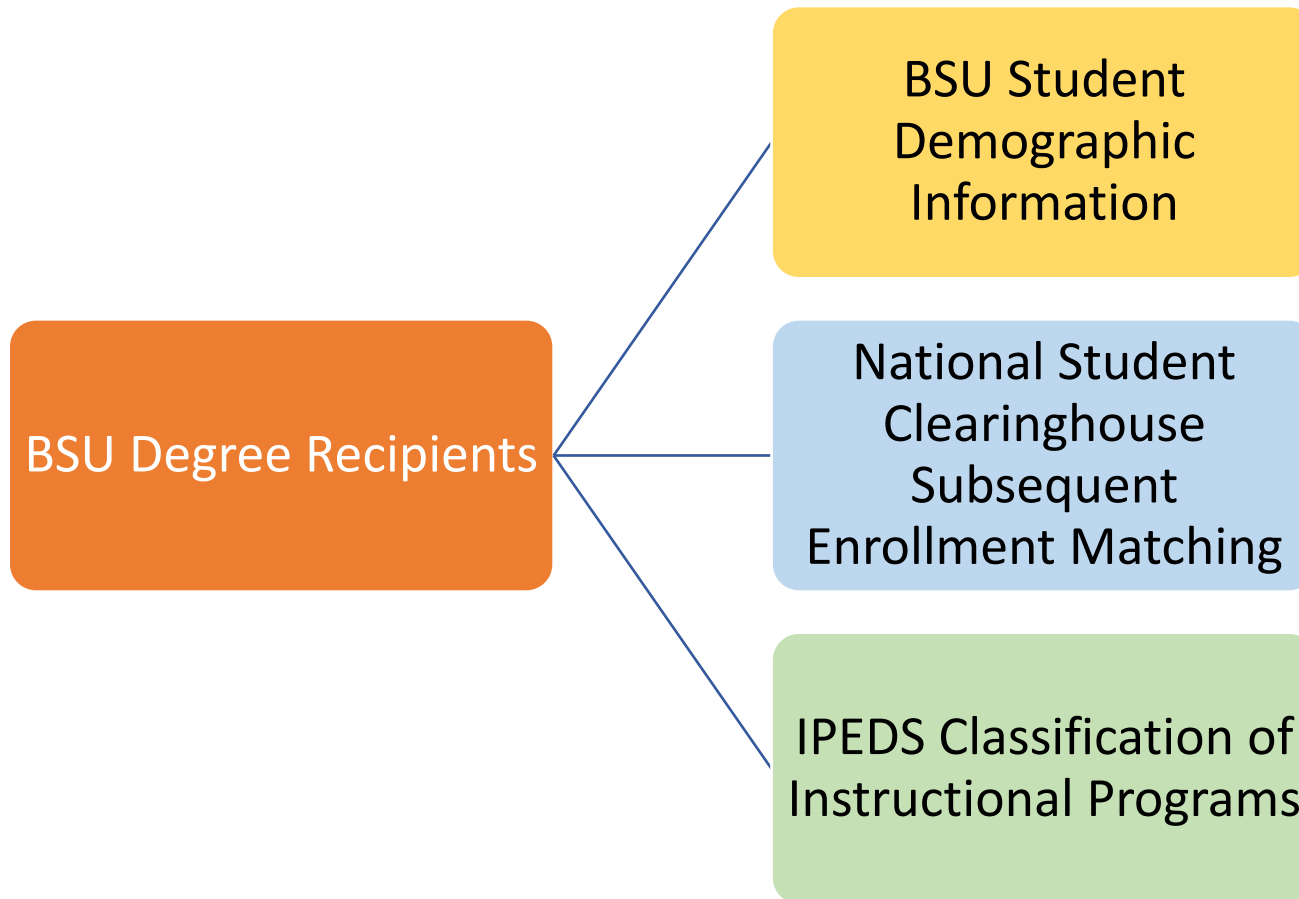
Cloud Architecture as of 4/21/2023



“Use Case” - Tracking Reenrollment of Bachelor’s Degree Recipients

- Why
 - *Previewed* Oracle Analytics data integration and visualization process
 - *Demonstrated* effectiveness of BSU’s academic programs
 - Post Graduation Reenrollment
 - Post Graduation Earnings (future)
 - *Met* specialized accreditation requirements
 - *Provided* Title III eligibility data

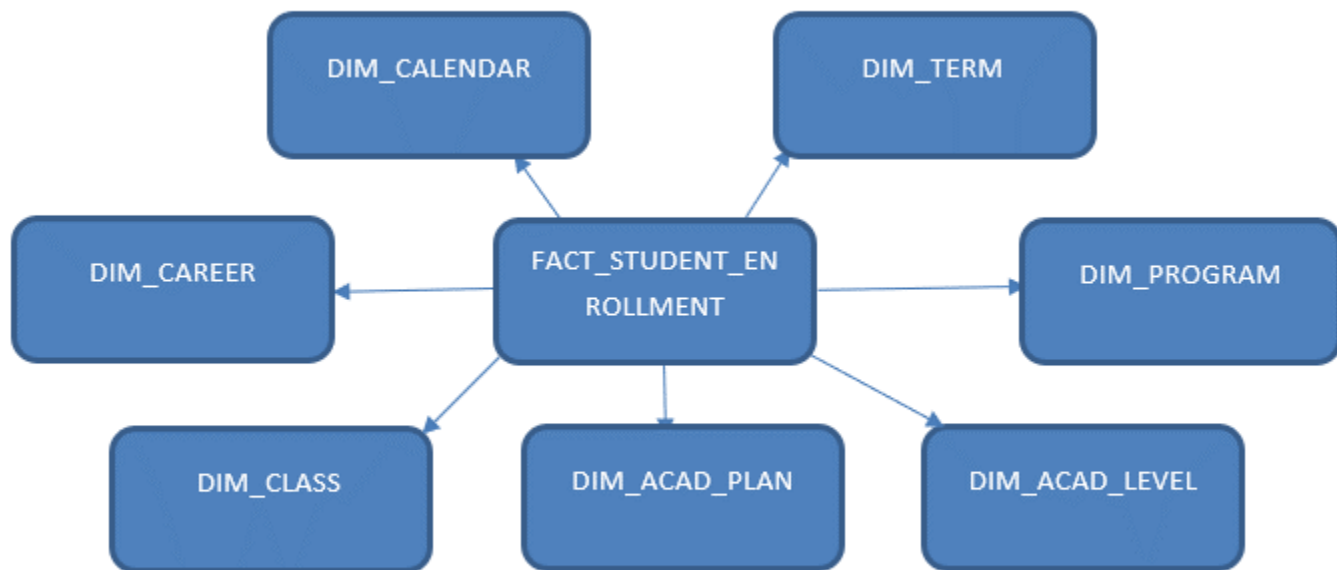
Tracking Reenrollment of Bachelor's Degree Recipients – Data Sources



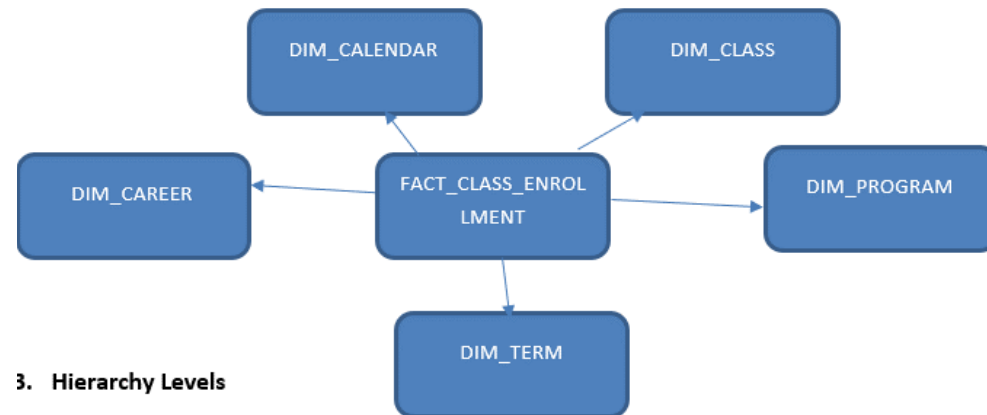


BSU Data Warehouse Star Schemas

Business Model1:



Business Model2:

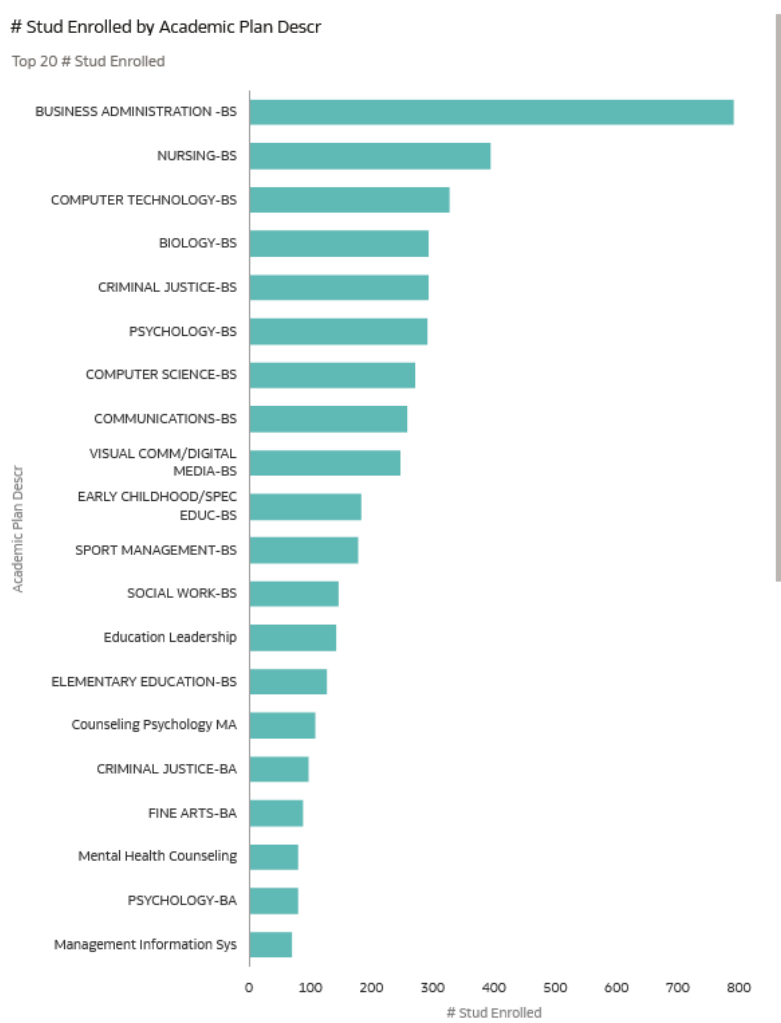
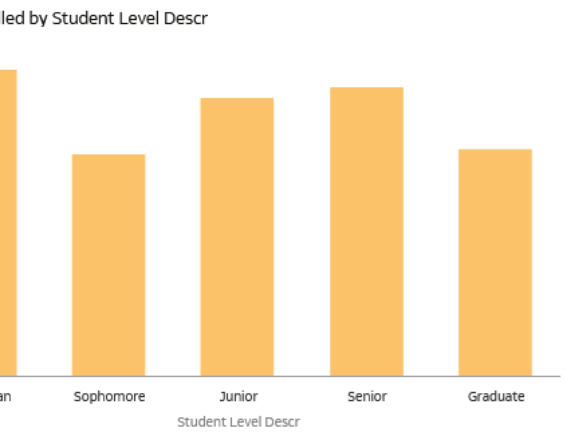
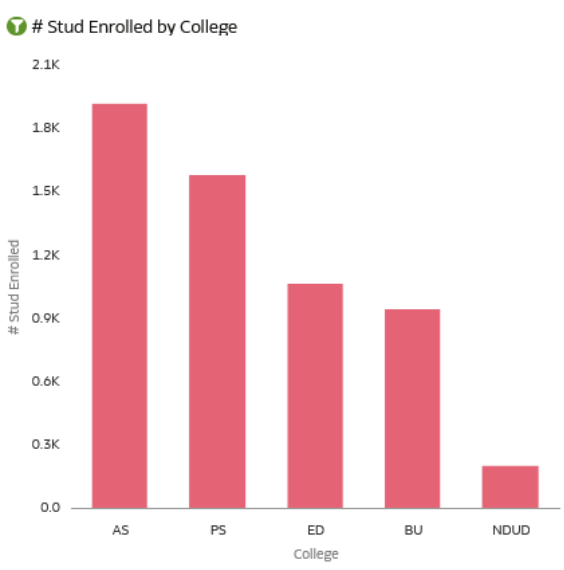
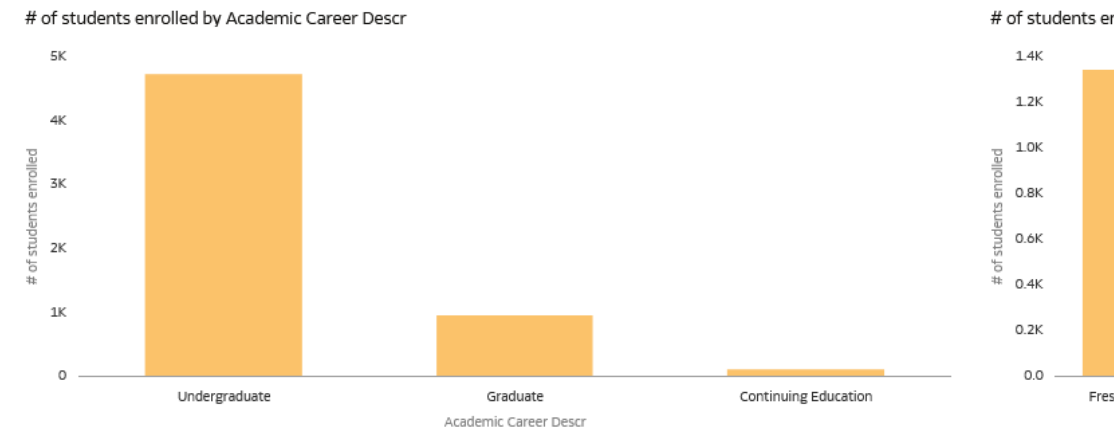
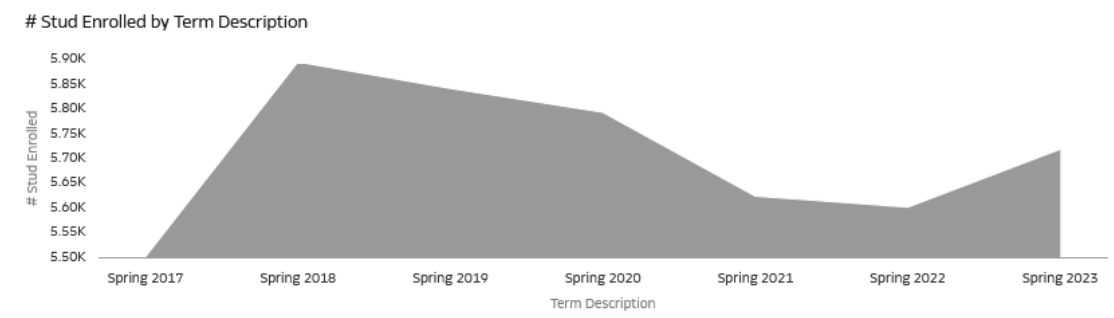


3. Hierarchy Levels

- DIM_CLASS
 - Acad_Org
 - Subject
 - Catalog
 - Course
 - Class(CLASS_NBR~CLASS_SECTION)
- DIM_TERM
 - Acad_Year
 - Acad_Term – Session (ACAD_TERM)
- DIM_ACAD_PLAN
 - Acad_Institution
 - Acad_Career
 - Acad_Program
 - Acad_Plan
- DIM_CALENDAR
 - Year
 - Quarter
 - Month
 - Week
 - Day

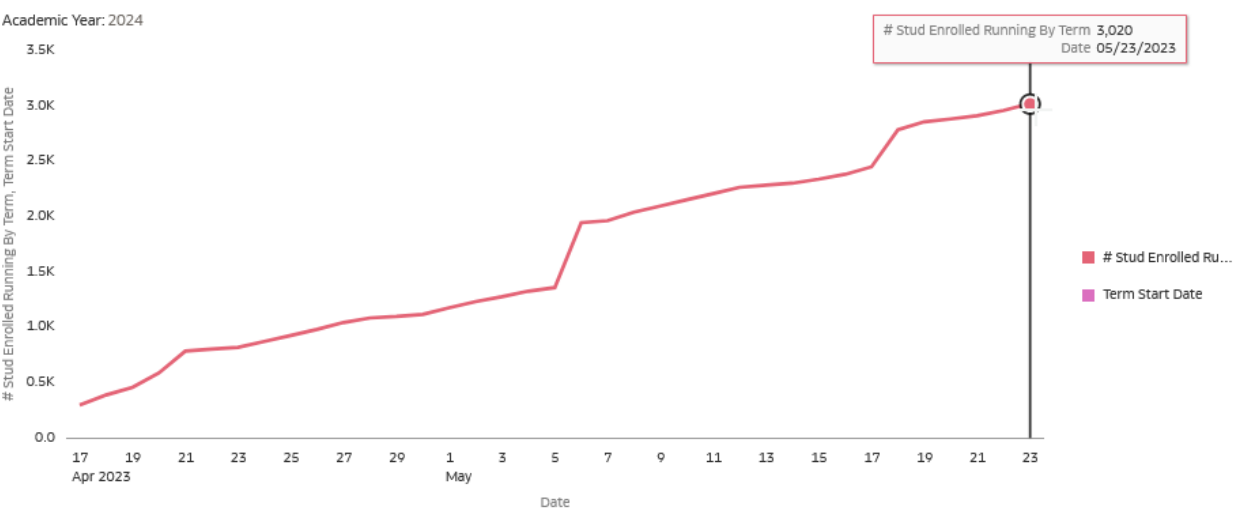
Total # BSU Students Enrolled
5,719

Enrolled Undergrads **4,683** # Enrolled Grads **935** # Enrolled Cont' Ed **101**

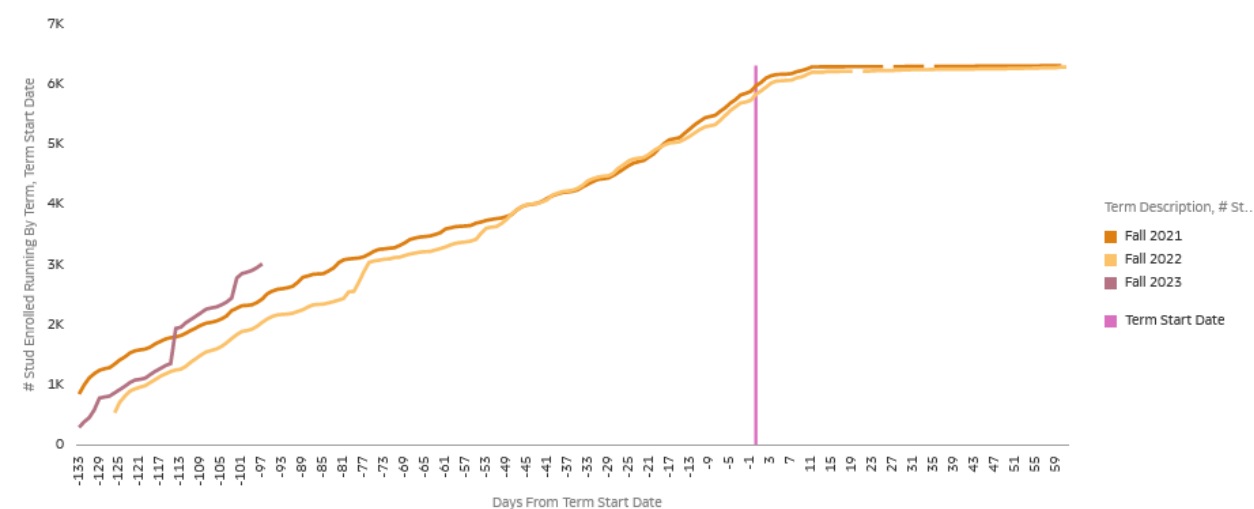


Academic Year (3) Remove Selection Term Season / 7 - Fall College

Stud Enrolled Running By Term by Date, Term Start Date by Date



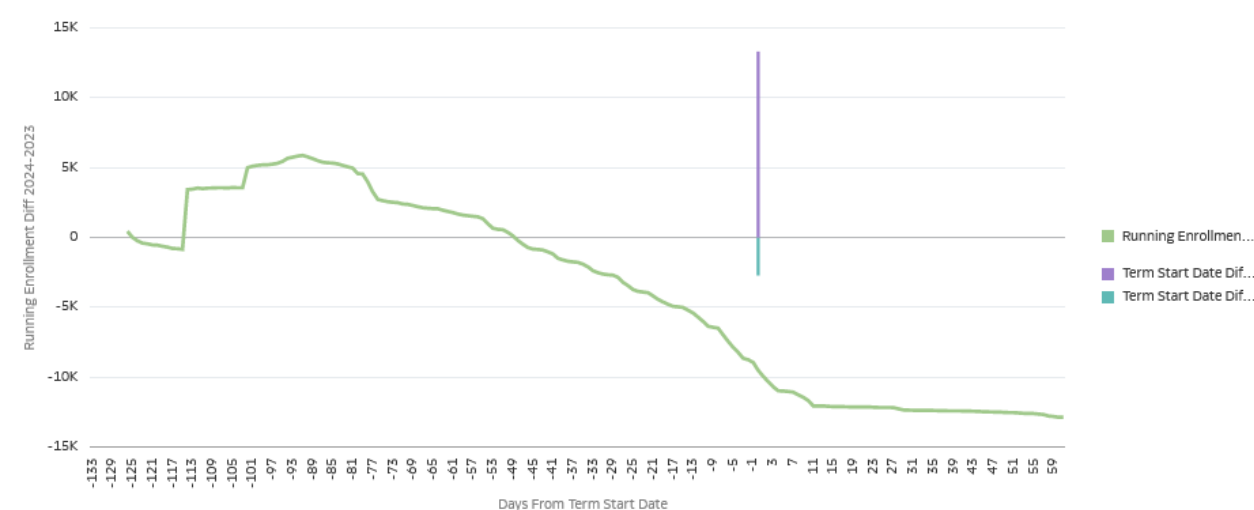
Stud Enrolled Running By Term by Days From Term Start Date, Term Description, Term Start Date by Days From Term Start Date



Stud Enrolled Running By Term by Days From Term Start Date, Term Description

	Fall 2021	Fall 2022	Fall 2023
Days From Term Start Date	# Stud Enrolled Running By Term	# Stud Enrolled Running By Term	# Stud Enrolled Running By Term
-133	852		297
-132	1,004		389
-131	1,118		458
-130	1,192		587
-129	1,247		785
-128	1,273		803
-127	1,292		818
-126	1,350	540	872
-125	1,418	715	926
-124	1,469	816	981
-123	1,537	900	1,043
-122	1,572	938	1,084
-121	1,587	967	1,097

Running Enrollment Diff 2024-2023



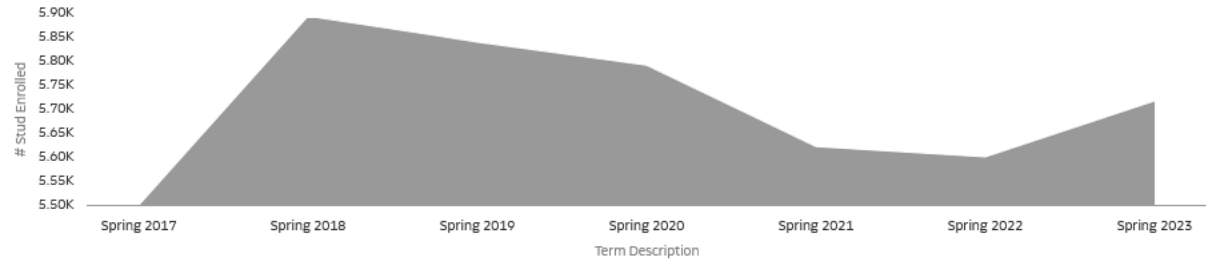


Academic Career: GRAD

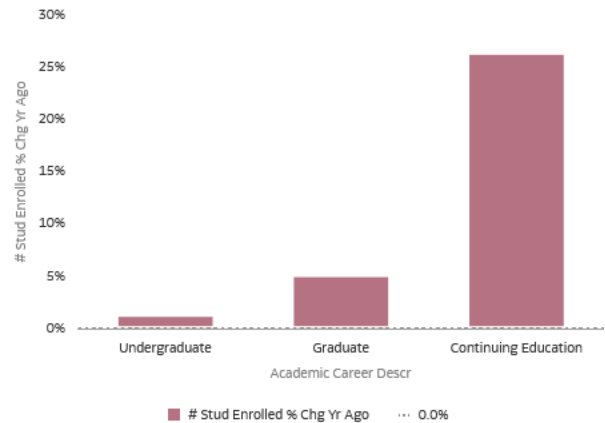
BSU Grad Students Enrolled

935

Stud Enrolled by Term Description



Stud Enrolled % Chg Yr Ago by Academic Career Descr



Stud Enrolled Chg Yr Ago

117

Academic Career: UGRD

BSU Undergrad Students Enroll...

4,683

Stud Enrolled % Chg Yr Ago

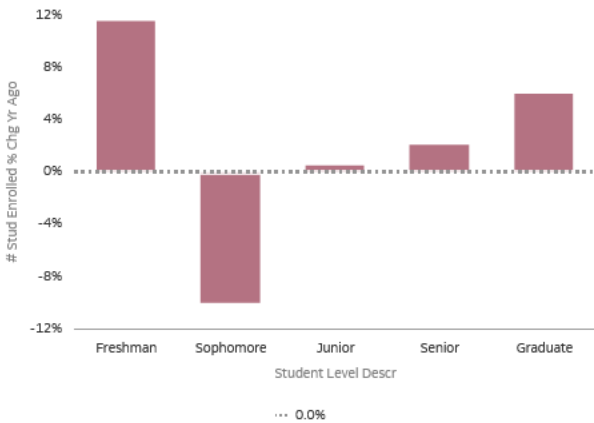
2.09%

Student Level Descr: Freshman

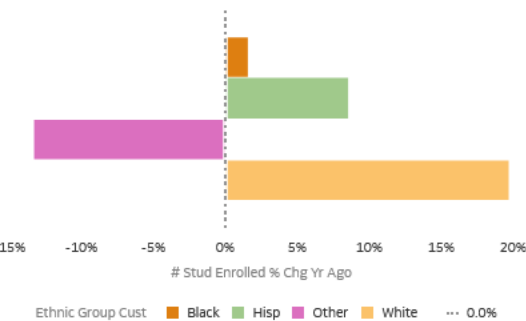
Total Full-Time Freshman

1,106

Stud Enrolled % Chg Yr Ago by Student Level Descr



Ttl # Stud Enrolled by Ethnic Group Cust

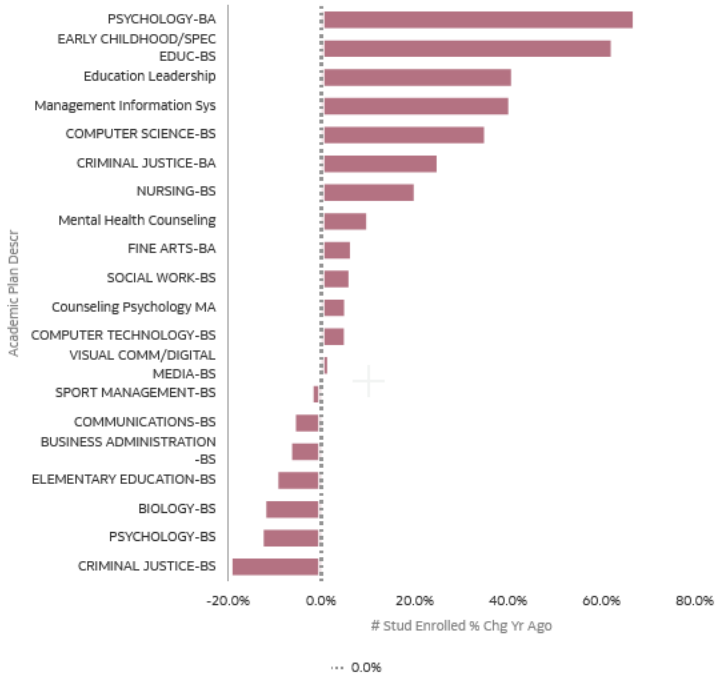


Stud Enrolled by College

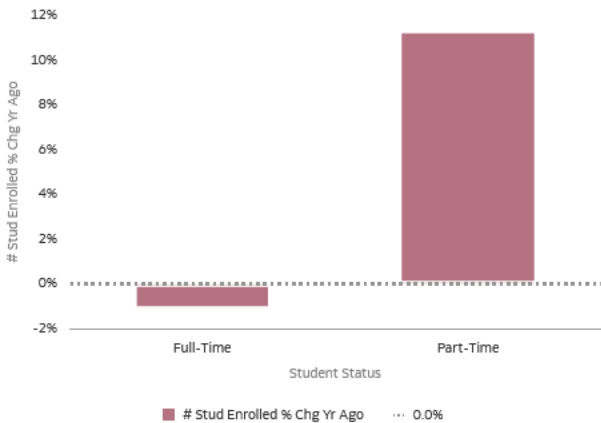


Stud Enrolled % Chg Yr Ago by Academic Plan Descr

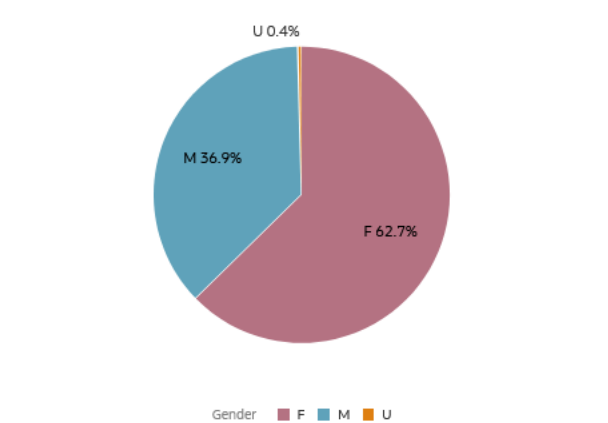
Plan Type: MAJ Top 20 # Stud Enrolled by Academic Plan Descr



Stud Enrolled % Chg Yr Ago by Student Status



of students enrolled by Gender



Academic Career Descr | All

College | All

Student First Enrolled Term | Sprg 2023

Total # Students New to BSU
486

New to BSU vs Yr Ago

225

New to BSU vs Yr Ago change % 13.5%

Grad Students New to BSU

157

New to BSU Freshman

113

New to BSU Sophomores

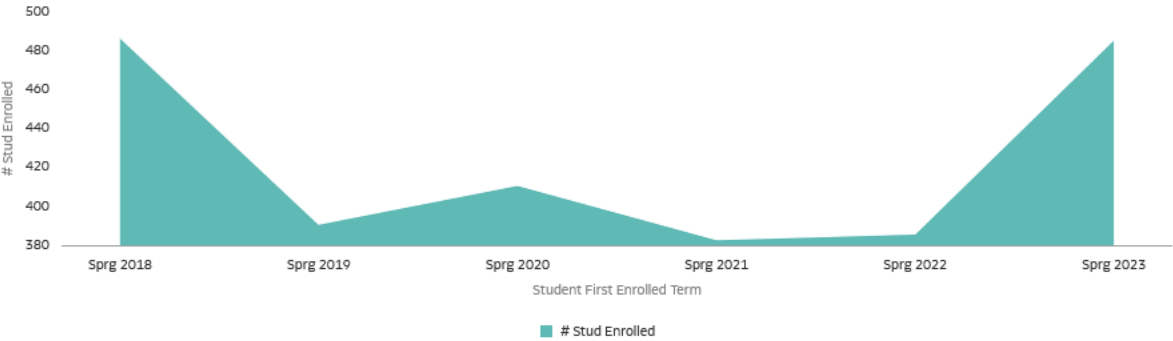
82

New to BSU Upper Class

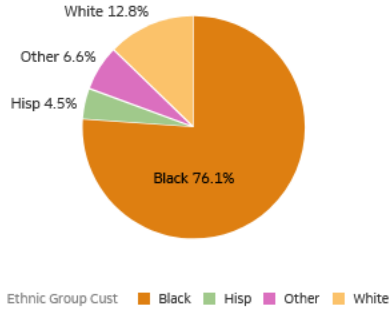
134

Stud Enrolled by Student First Enrolled Term

Student First Enrolled Term: Sprg 2018, Sprg 2019, Sprg 2020, Sprg 2021... +2

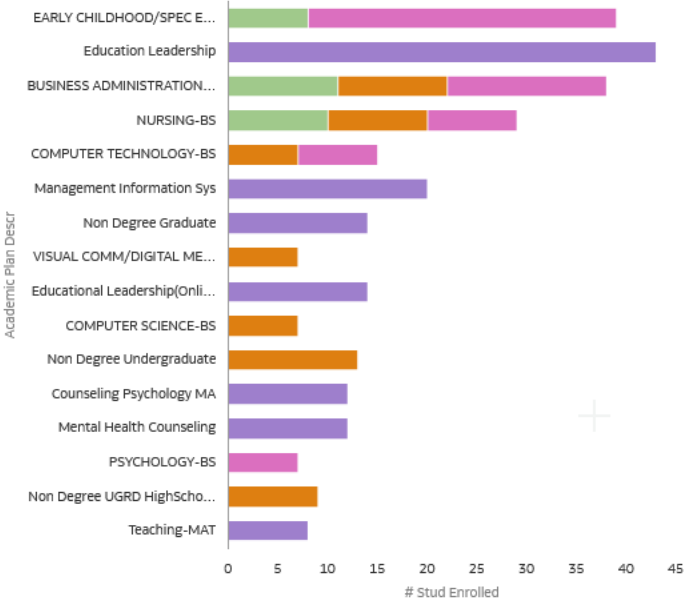


Stud Enrolled by Ethnic Group

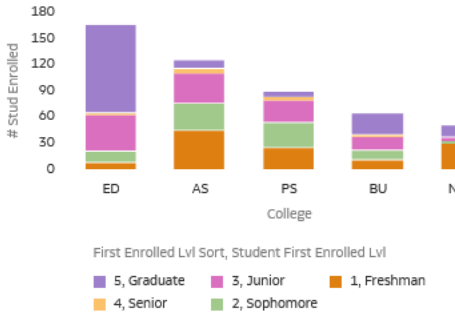


Stud Enrolled by Academic Plan Descr, First Enrolled Lvl Sort, Student First Enroll...

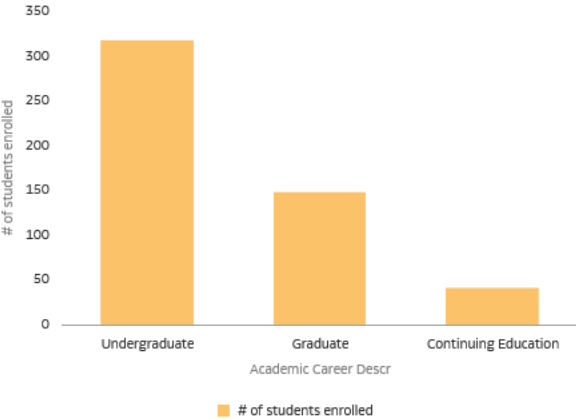
Top 20 # Stud Enrolled



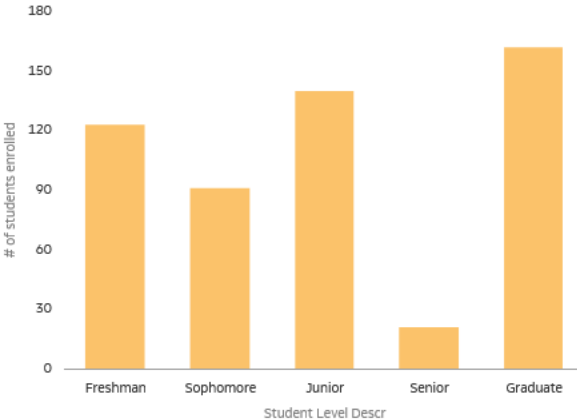
Stud Enrolled by College, First Enrolled Lvl Sort, Student First ...



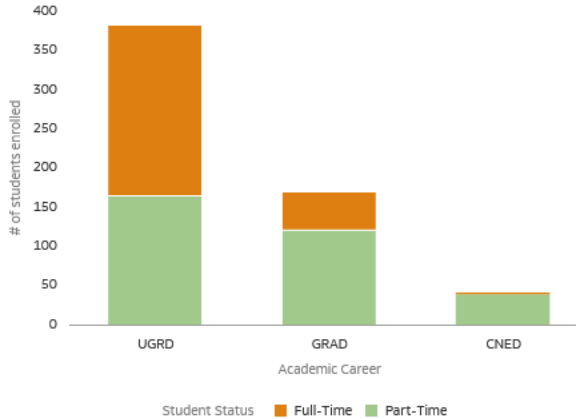
of students enrolled by Academic Career Descr



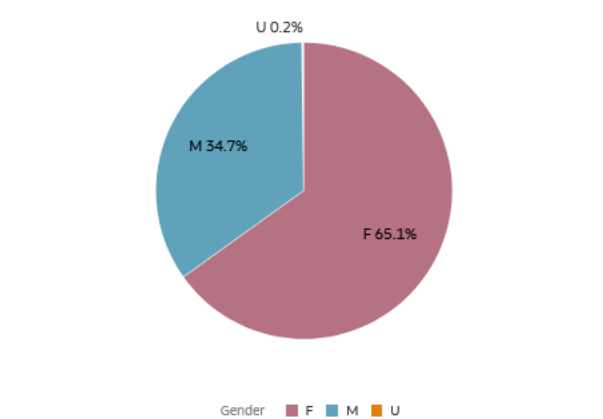
of students enrolled by Student Level Descr



of students enrolled by Academic Career, Student Status

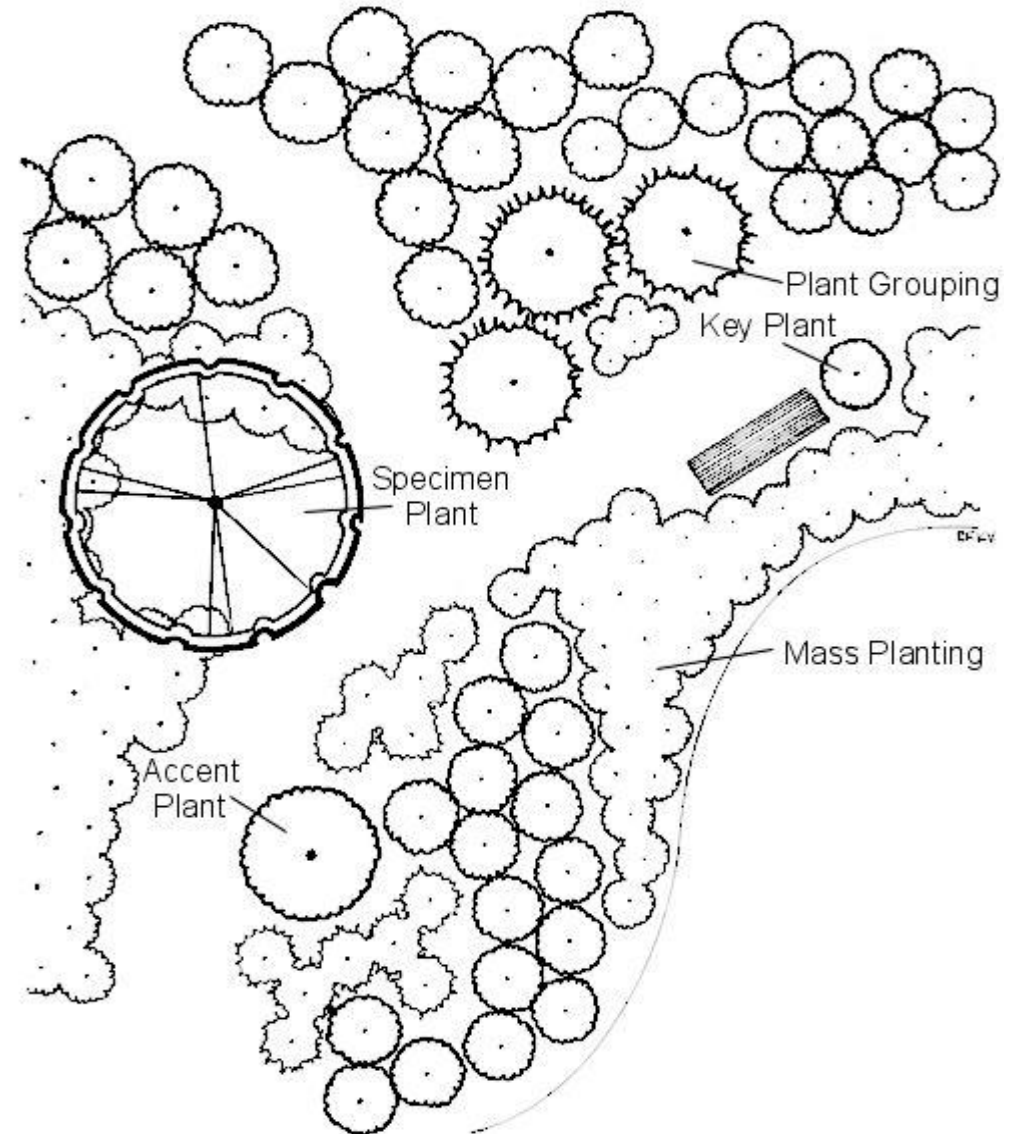


of students enrolled by Gender



Grow Your Analytics Naturally

- Start with a general plan



Grow Your Analytics Naturally

- Start with a general plan
- Enhance existing features



Grow Your Analytics Naturally

- Start with a general plan
- Enhance existing features
- Prepare one bed at a time



Grow Your Analytics Naturally

- Start with a general plan
- Enhance existing features
- Prepare one bed at a time
- Mulch and weed early on





Q & A

Gayle Fink - Assistant Vice President for Institutional Effectiveness

gfink@bowiestate.edu

Tim VlamiS – VlamiS Software Solutions

tvlamis@vlamis.com

Presentation Description (REMOVE)

Wednesday, May 31st

Dreams Do Become Reality: An Institution's Decision-Support Journey

Speaker Session Decision Support

🕒 1:45 PM – 2:30 PM

📍 Meeting Room 20

Description

Bowie State University, Maryland's oldest HBCU, has been on a 10-year journey in developing, sharing, and using data in decision-making. This session will highlight the many twists and turns encountered by the Office of Planning, Analysis, and Accountability along the way. An overview of the journey highlighting key events that led to the institution's current decision-support structure will set the stage for the session. The presenters will then share the factors that lead to the realization that a technology partner was necessary to successfully launch a data warehouse as well as a retrospective on human and technical challenges/opportunities along the current phase of the journey. A live demonstration of the front and back end of decision-support data visualizations including post-graduation outcomes will be shared. The session will close with a conversation about best practices for training and supporting campus leadership use of data.

Speakers

- **Gayle Fink** (Speaker) Assistant Vice President for Institutional Effectiveness, Bowie State University
- **Tim Vlamis** (Speaker) VLAMIS SOFTWARE SOLUTIONS, INC, Vice President & Analytics Strategist

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