



OUT WITH THE OLD, IN WITH THE NEW- A PATH TO MODERNIZING A UNIVERSITY REPORTING TOOL

TAIR 2023 – Jamie Wood, Simon Smith, Toni Floyd,
and Randall Price

LEARNING OUTCOMES

- Learn about Tarleton State University's ongoing journey from outdated reporting tools to interactive dashboards
- Identify potential ways to modernize reporting at your institution
- Realize the importance of teamwork in an IR office



WHERE WE STARTED

- Tabular Reports
 - Minimal ability to interact with data
 - Output is static and must be formatted in Excel
- Too Many Reports
 - Over 225 reports spanning multiple divisions and subject matter
- Frustrated Users
 - Reports can be hard to find
 - Data is not always available in the way it is needed



WHERE WE ARE GOING

- Interactive Dashboards
 - Highly interactive – many filters, ability to drill down
 - Download charts, tabular data, both
- Many Reports in one Dashboard
 - Combine iterative tabular reports into one dashboard via filters
- Excited Users
 - Dashboards make searching for reports extinct
 - Data can be filtered to the needs of the user



THE DECISION PROCESS

- **Testing Systems**
 - PowerBI
 - Tableau
 - ibi WebFOCUS – Web Designer
 - Spotfire
- **Institutional Support**
 - Must have buy-in from administrators
 - Conduct research to present proposal for an enterprise level data reporting solution that can grow with the university
- **Proof of Concept – Build Something**



ENROLLMENT COMPARISON REPORT



More than
25 EC
Reports!



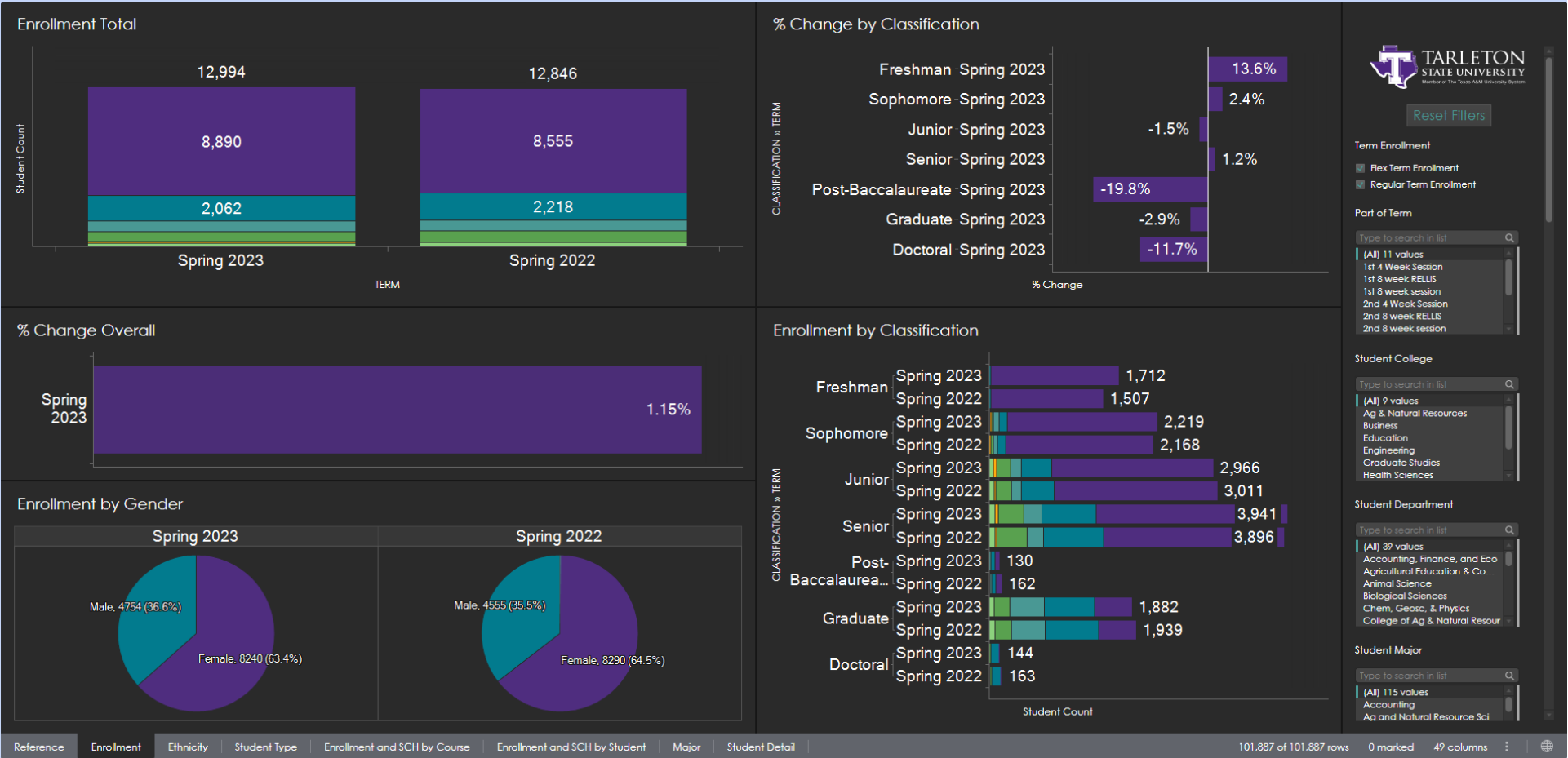
Tarleton State University Enrollment Comparison for 02/17/2023 Spring 2023 to Spring 2022 Class Day - 026

	Spring 2023	Flex 2022 Entry	Spring 2023 Total	Spring 2022	Flex 2021 Entry	Spring 2022 Total	Change	Percent Change
Level								
Freshmen	1,708	136	1,739	1,499	121	1,540	199	12.92%
Sophomore	2,204	323	2,253	2,149	258	2,189	64	2.92%
Junior	2,932	771	3,006	2,979	679	3,049	(43)	-1.41%
Senior	3,910	1,362	4,231	3,859	1,170	4,163	68	1.63%
Post-Baccalaureate	127	46	144	158	41	172	(28)	-16.28%
Masters	1,784	575	1,920	1,852	645	2,019	(99)	-4.90%
Doctoral	144	11	144	163	12	163	(19)	-11.66%
Total Enrollment	12,809	3,224	13,437	12,659	2,926	13,295	142	1.07%
Gender								
Male	4,686	1,229	4,913	4,482	1,126	4,747	166	3.50%
Female	8,123	1,995	8,524	8,176	1,800	8,547	(23)	-2.7%
Not-Reported	0	0	0	1	0	1	(1)	-100.00%
Ethnicity								
Asian	156	41	166	146	43	161	5	3.11%
Black or African American	957	322	1,034	1,020	307	1,103	(69)	-6.26%
Foreign Nationals/Non-Resident	104	20	108	89	16	93	15	16.13%
Hispanic	2,859	746	3,007	2,758	622	2,882	125	4.34%
American Indian/Alaskan Native	73	16	75	56	14	59	16	27.12%
Native Hawaiian or Pacific Islander	10	4	12	8	3	9	3	33.33%
Two or More Races	444	110	466	486	111	509	(43)	-8.45%
White/Non-Hispanic	7,947	1,905	8,299	7,995	1,789	8,372	(73)	-8.7%
Unknown/Not Reported	259	60	270	101	21	107	163	152.34%
Semester Credit Hours								
Lower Level UG	72,123	3,211	75,334	67,877	2,699	70,576	4,758	6.74%
Upper Level UG	61,489	6,641	68,130	59,696	5,328	65,024	3,106	4.78%
Undergraduate	133,612	9,852	143,464	127,573	8,027	135,600	7,864	5.80%
Masters	10,327	1,934	12,253	10,915	2,207	13,111	(858)	-6.54%
Doctoral	735	24	759	873	27	900	(141)	-15.67%
Total SCH	144,674	11,810	156,476	139,361	10,261	149,611	6,865	4.59%
Full-Time Student Equivalents								
Lower Level UG	4,808.20	214.07	5,022.27	4,525.13	179.93	4,705.07	317.20	6.74%
Upper Level UG	4,099.27	442.73	4,542.00	3,979.73	355.20	4,334.93	207.07	4.78%
Undergraduate	8,907.47	656.80	9,564.27	8,504.87	535.13	9,040.00	524.27	5.80%
Masters	860.58	161.17	1,021.08	909.58	183.92	1,092.58	-71.50	-6.54%
Doctoral	81.67	2.67	84.33	97.00	3.00	100.00	-15.67	-15.67%
Total FTSE	9,849.72	820.63	10,669.68	9,511.45	722.05	10,232.58	437.10	4.27%

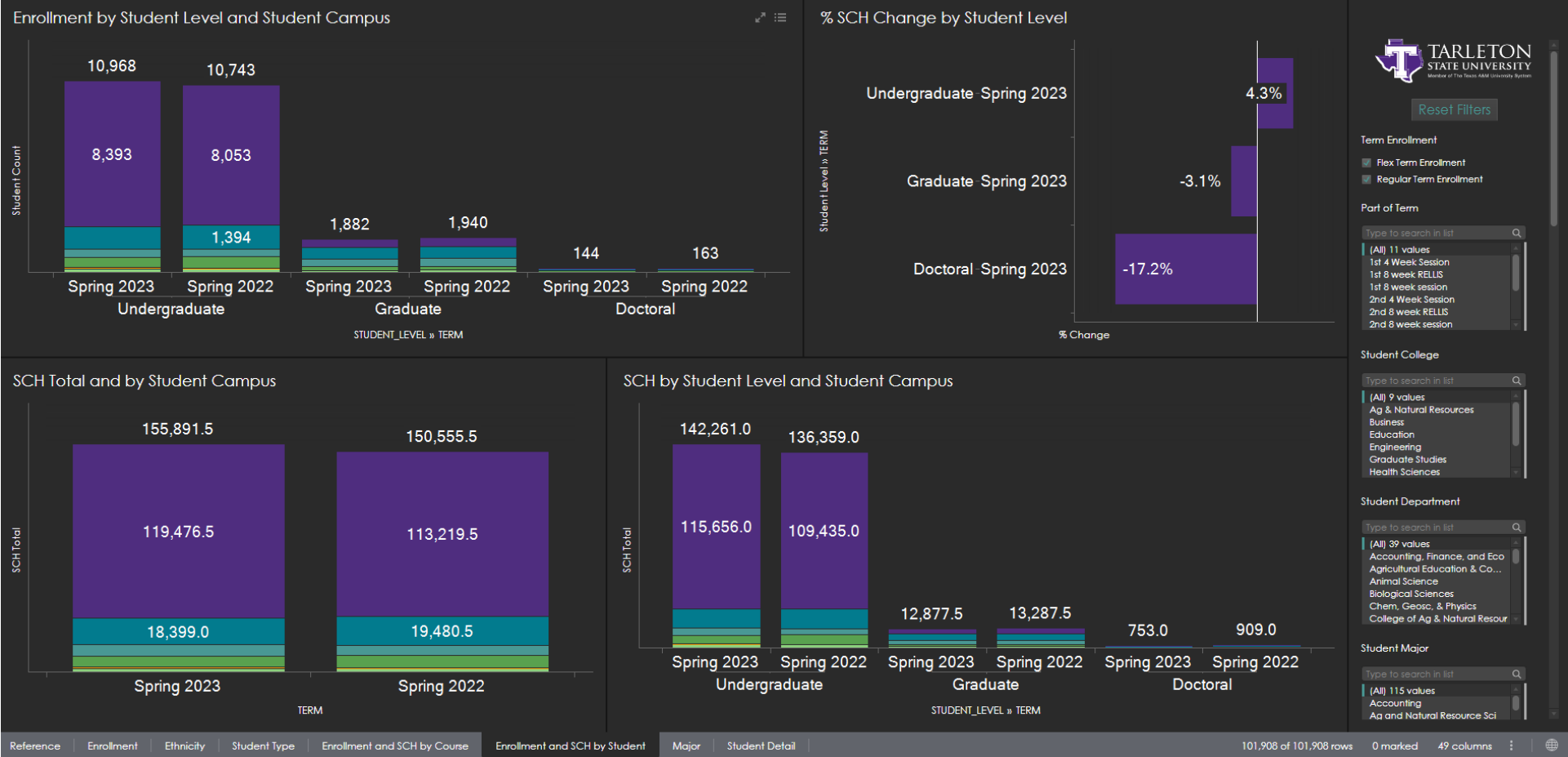
Note: Flex Entry Enrollments -- includes late courses from the previous semester - Date Run: Feb 20, 2023



ENROLLMENT COMPARISON DASHBOARD



ENROLLMENT COMPARISON DASHBOARD



REPEATED COURSES AND TABULAR REPORT CONVERSION

Simon Smith



ATHLETICS REPEATED COURSES



- Spotlight problem courses
- Provide KPI of course sport and course hours repeated
- Repeated course breakdown
- Demographic data

Athlete Count by Sport

Football - Men Athlete Count: 146 Total Hours Repeated: 1062.00	Outdoor Track - ... Athlete Count: 26 Total Hours Repeated: 173.00	Baseball - Men Athlete Count: 21 Total Hours Repeated: 99.00
Outdoor Track - ... Athlete Count: 20 Total Hours Repeated: 137.00	Volleyball - Wo... Athlete Count: 19 Total Hours Repeated: 128.00	Basketball - Men Athlete Count: 16 Total Hours Repeated: 107.00

Faculty

FIRST_NAME	LAST_NAME	COURSE	ACTIVE
		ACCT2301	Y
		ACCT2301	N
		ACCT2301	N
		ACCT2301	Y
		ACCT2301	Y
		ACCT2301	Y
		ACCT2301	Y
		ACCT2301	Y
		ACCT2301	N
		ACCT2301	Y
		ACCT2302	Y
		ACCT2302	Y
		ACCT2302	Y
		ACCT2302	Y
		ACCT2302	Y
		ACCT2302	Y

Repeated Course Information

Column	COURSE	Avg	Sum	Max	Count
COUNT	GOVT2306	2.36	125.00	5	53
	MATH1314	2.26	88.00	4	39
	ENGL1302	2.25	81.00	4	36
	GOVT2305	2.03	79.00	3	39
	ENGL1301	2.32	72.00	4	31
	BIOL2401	2.15	56.00	4	26
	HIST1301	2.12	53.00	4	25
	KINE3310	2.24	47.00	4	21
	HIST1302	2.09	46.00	3	22
	COMM1311	2.19	46.00	4	21
	KINE3380	2.25	45.00	4	20
	ACCT2301	2.10	42.00	3	20
	KINE3360	2.11	38.00	3	18
	KINE3390	2.19	35.00	4	16
	KINE4305	2.19	35.00	3	16
	KINE3390	2.13	32.00	3	15
	MATH0303	2.13	32.00	3	15
	FINC3301	2.21	31.00	4	14
	PSYC2301	2.14	30.00	3	14
	KINE3370	2.23	29.00	3	13

Top 25 Repeated Courses

Ethnicity Count

Black or African American	128
White	105
Hispanic or Latino	29
Multiracial	23
Native Hawaiian or Other Pacific Islander	5
Foreign	4
American Indian or Alaskan Native	1
Not Reported	1

First Generation

N	139
Y	135
NR	22

Filters

Type to search filters

Student Course

Type to search in list

(All) 25 values

ACCT2301

ACCT2302

BIOL2401

BIOL2402

CHEM1411

COMM1311

ETHNICITY

Type to search in list

(All) 8 values

American Indian or Alaskan Native

Black or African American

Foreign

Hispanic or Latino

Multiracial

Native Hawaiian or Other Pacific Islander

GENDER

F

M

FIRST_GEN

N

NR

Y

SPORT

Type to search in list

(All) 14 values

Baseball - Men

Basketball - Men

Basketball - Women

Cross Country - Men

Cross Country - Women

Football - Men

FIRST_TERM

Type to search in list

(All) 26 values

Fall 2012

Fall 2014

Fall 2015

Fall 2016

Fall 2017

Fall 2018

GRAD_TERM

Type to search in list

(All) 3 values

Some filters are hidden. Show all

525 of 525 rows 0 marked 12 columns Student Course



CORPS OF CADETS TABULAR REPORT CONVERSION

- Functional test for converting a tabular report
- Shortcut buttons for filters and page navigation
- Pivoted data
- Graph representation



Quick Filters/Links

Reset Filters
Freshman
Fall 2021
Spring 2022
Fall 2022
Graphs

Overall Cadet Tabular Report

TERM	STATE	HIGH_SCHOOL	CLASS	PREV_CLASS	MAJR	COLLEGE	DEPARTMENT	ETHNICITY	GENDER	ACTIVITY_CODE	SECOND_ACTIVITY	TERM_GPA	OVERALL_GPA	INST_GPA
202108	Texas	Pilot Point High School	Senior	JR	Ag Services and Development	Ag & Natural Resources	Agricultural and Consumer Sci	White	M	COC	AC	3.40	3.00	3.04
202108	Texas	Texas High School	Senior	JR	Wildlife Sus & Ecosystem Sci	Ag & Natural Resources	Wildlife Sus & Ecosystem Sci	White	M	COC	TLC	2.21	2.63	2.57
202108	Texas	San Antonio Christian Hs	Sophomore	FR	Wildlife Sus & Ecosystem Sci	Ag & Natural Resources	Wildlife Sus & Ecosystem Sci	White	M	COC	DCA	2.71	2.93	2.93
202108	Texas	College Station High School	Junior	FR	Wildlife Sus & Ecosystem Sci	Ag & Natural Resources	Wildlife Sus & Ecosystem Sci	Multiracial	F	COC	AC	3.35	3.70	3.70
202108	Texas	Byron Nelson High School	Sophomore	FR	Animal Science	Ag & Natural Resources	Animal Sci & Veterinary Tech	White	M	COC	DCA	2.79	3.18	3.18
202108	Texas	Winston Churchill High School	Freshman		Undeclared Ag & Env Scienc...	Ag & Natural Resources	College of Ag & Env Sciences	Hispanic or Latino	M	COC	DCA	2.08	2.08	2.08
202108	Texas	Victoria West High School	Freshman		Agribusiness	Ag & Natural Resources	Div Ag Business & Ag Econ	White	M	COC	DCA	1.69	1.69	1.69
202108	Texas	Zephyr High School	Senior	SR	Wildlife Sus & Ecosystem Sci	Ag & Natural Resources	Wildlife Sus & Ecosystem Sci	White	M	COC	AC	2.77	2.54	2.59
202108	Texas	MacArthur High School	Junior	SO	Animal Science	Ag & Natural Resources	Animal Sci & Veterinary Tech	Hispanic or Latino	F	COC	AC	2.94	3.01	3.01
202108	Texas	Royse City High School	Junior	SO	Agribusiness	Ag & Natural Resources	Agricultural and Consumer Sci	White	M	COC	AC	3.63	3.30	3.30
202108	Texas	La Vernia High School	Sophomore	FR	Animal Science	Ag & Natural Resources	Animal Sci & Veterinary Tech	Hispanic or Latino	M	COC	DCA	3.00	2.90	2.97
202108	Texas	Northwest High School	Sophomore	FR	Agribusiness	Ag & Natural Resources	Agricultural and Consumer Sci	White	M	COC	DCA	2.71	2.70	2.70
202108	Texas	Independence High Sch-Frisco	Freshman		Animal Science	Ag & Natural Resources	Animal Science	White	F	COC	DCA	4.00	4.00	4.00
202108	Texas	Denton High School	Freshman	FR	Animal Science	Ag & Natural Resources	Animal Science	White	F	COC	DCA	3.20	3.14	3.20
202108	Texas	Whitney High School	Freshman		Undeclared Ag & Env Scienc...	Ag & Natural Resources	College of Ag & Env Sciences	White	M	COC	DCA	1.92	1.92	1.92
202108	Texas	Rockwall Heath High School	Junior	FR	Wildlife Sus & Ecosystem Sci	Ag & Natural Resources	Wildlife & Natural Resources	Hispanic or Latino	F	COC	DCA	2.91	3.09	2.91

Average GPA

COLLEGE	TERM	All data				Current filtering			
		Student Count	Avg GPA	Avg Term GPA	Avg Inst GPA	Student Count	Avg GPA	Avg Term GPA	Avg Inst GPA
Ag & Natural Resources	202108	18	2.90	2.87	2.88	18	2.90	2.87	2.88
	202201	13	2.89	2.68	2.89	13	2.89	2.68	2.89
	202208	18	2.89	2.82	2.82	18	2.89	2.82	2.82
	202301	17	2.94	2.87	2.87	17	2.94	2.87	2.87
Business	202108	20	3.00	2.99	2.98	20	3.00	2.99	2.98
	202201	18	2.96	2.86	2.94	18	2.96	2.86	2.94
	202208	21	3.05	2.97	3.00	21	3.05	2.97	3.00
	202301	23	2.96	0.00	2.92	23	2.96	0.00	2.92
Education	202108	4	3.44	3.55	3.43	4	3.44	3.55	3.43
	202201	7	3.35	3.36	3.35	7	3.35	3.36	3.35
	202208	5	3.52	3.53	3.53	5	3.52	3.53	3.53
	202301	5	3.52	3.53	3.53	5	3.52	3.53	3.53
Engineering	202108	13	3.04	2.96	2.95	13	3.04	2.96	2.95
	202201	8	3.31	3.10	3.36	8	3.31	3.10	3.36
	202208	17	2.24	2.26	2.21	17	2.24	2.26	2.21
	202301	14	2.71	2.67	2.67	14	2.71	2.67	2.67

Student Count by Major/Classification

Major	Freshman	Graduate	Junior	Senior	Sophomore	Grand total
Accounting	-	-	1	-	-	1
Ag Services and Development	1	-	-	1	-	2
Agribusiness	1	-	2	1	1	4
Animal Science	6	-	3	1	5	11
Biomedical Science	3	-	2	2	5	9
Business	-	-	-	1	-	1

Ethnicity Count

ETHNICITY	202108	202201	202208	202301
Asian	1	1	1	1
Black or African American	4	4	5	5
Hispanic or Latino	33	26	29	28
Multiracial	9	9	5	4
Not Reported	-	-	1	1
White	85	70	84	83

Filters

Filtering scheme (2)

COUNTY

(All) 46 values

- Archer
- Bell
- Bexar
- Bowie
- Brazos
- Brown

STATE

- Arkansas
- California
- Florida
- Illinois
- Kansas
- New Hampshire
- Pennsylvania
- Texas
- Virginia

CLASS

- Freshman
- Graduate
- Junior
- Senior
- Sophomore

PREV_CLASS

- FR
- JR
- SO
- SR
- (Empty)

MAJR

(All) 45 values

- Accounting
- Ag Services and Develop...
- Agribusiness
- Animal Science
- Biomedical Science
- Business

COLLEGE

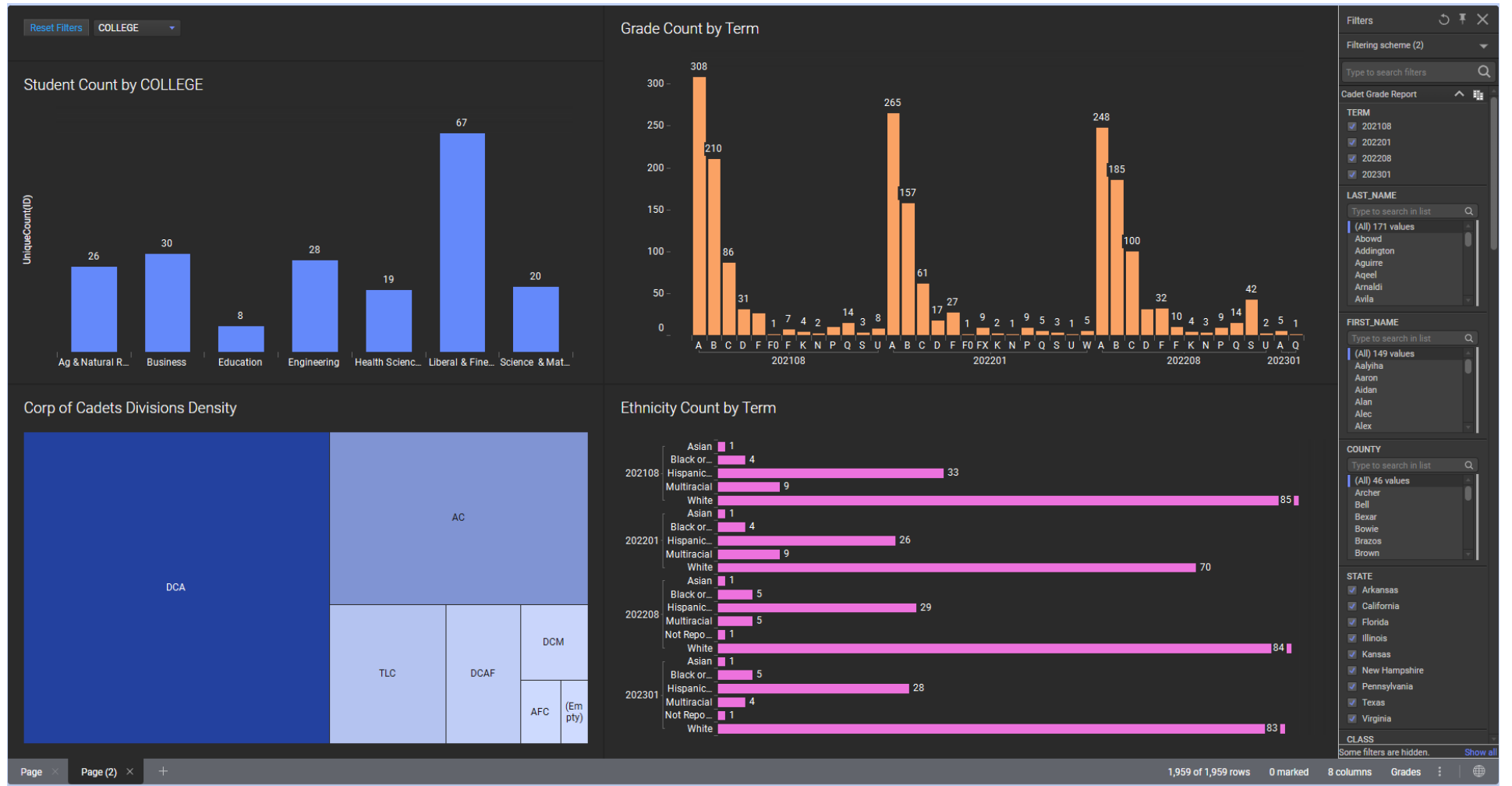
- Ag & Natural Resources
- Business

Some filters are hidden. [Show all](#)



CORPS OF CADETS CONTINUED

- Graphs to highlight key data points
- Multi-use graph
- Tree map for density representation



RETENTION AND GRADUATION UPDATE

Toni Floyd



RETENTION AND GRADUATION

We started with spreadsheets with the overall First-Time In College, Transfer and Graduate student cohorts for each term. We received multiple requests for this same data broken down various ways (by gender, ethnicity, etc.)

FTIC ANNUAL RETENTION RATES AND GRADUATION RATES BY COHORT CLASS

		1st Spring	2nd Fall	2nd Spring	3rd Fall	3rd Spring	4th Fall	4th Spring	5th Fall	5th Spring	6th Fall	6th Spring	
Fall	2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	
Cohort	2169	Enrolled	1891	1456	1324	1179	1129	1009	857	458	273	152	84
		Cumulative Retention	87.18%	67.13%	61.04%	54.36%	52.05%	46.52%	39.51%	21.12%	12.59%	7.01%	3.87%
		Cumulative Departures	278	713	845	981	1022	1055	1075	1074	1094	1103	1115
		Semester Graduates	0	0	9	9	85	134	398	164	114	54	31
		Semester Graduates Not Enrolled	0	0	0	0	0	2	0	2	3	1	3
		Cumulative Graduates	0	0	9	18	103	237	635	799	913	967	998
		Cumulative Grad Rate	0.00%	0.00%	0.41%	0.83%	4.75%	10.93%	29.28%	36.84%	42.09%	44.58%	46.01%
		1st Spring	2nd Fall	2nd Spring	3rd Fall	3rd Spring	4th Fall	4th Spring	5th Fall	5th Spring	6th Fall	6th Spring	
Fall	2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	
Cohort	1899	Enrolled	1683	1314	1212	1100	1052	959	806	379	216	117	
		Cumulative Retention	88.63%	69.19%	63.82%	57.93%	55.40%	50.50%	42.44%	19.96%	11.37%	6.16%	
		Cumulative Departures	216	585	687	792	829	841	864	881	894		
		Semester Graduates	0	0	7	11	81	129	410	149	90		
		Semester Graduates Not Enrolled	0	0	0	0	0	0	1	1	2		
		Cumulative Graduates	0	0	7	18	99	228	638	787	877		
		Cumulative Grad Rate	0.00%	0.00%	0.37%	0.95%	5.21%	12.01%	33.60%	41.44%	46.18%		



RETENTION AND GRADUATION



- Creating a dashboard with even basic charts can create a synergistic result leading to discoveries and questions
 - Additional questions may be answered by adding a chart or entire new dashboard
- Adding Filters
 - Filters allow the users to look at the same data for multiple combinations of subgroups
 - May eliminate some of your reporting requests



FIRST PUBLISHED ITERATION



FTIC Retention Dashboard

Spring terms include summer graduation

Term and Filtered Number of Students

Fall 2014 2073



[Reset Filters](#)

Term

- Fall 2021
- Fall 2020
- Fall 2019
- Fall 2018
- Fall 2017
- Fall 2016
- Fall 2015
- Fall 2014

Full-Time Part-Time 12 hours

- Full-Time
- Part-Time

Full-Time Part-Time 15 hours

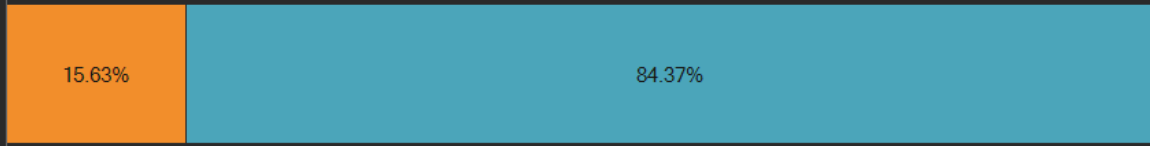
- Full-Time
- Part-Time

College 1st term

Type to search in list

- (All) 7 values
- Ag & Natural Resources
- Business
- Education
- Engineering
- Health Sciences
- Liberal & Fine Arts

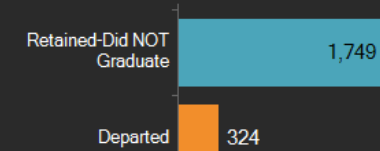
1st Spring



1st Spring

Total Retained = 1749
 Retention Rate = 84.37%
 Cumulative Total Graduates = 0
 Graduation Rate = 0.00%

1st Spring



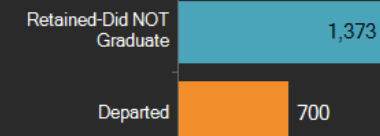
2nd Fall



2nd Fall

Total Retained = 1373
 Retention Rate = 66.23%
 Cumulative Total Graduates = 0
 Graduation Rate = 0.00%

2nd Fall



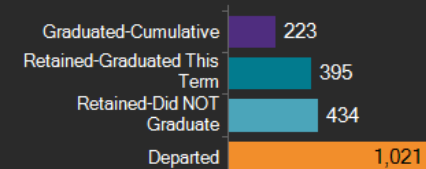
4th Year



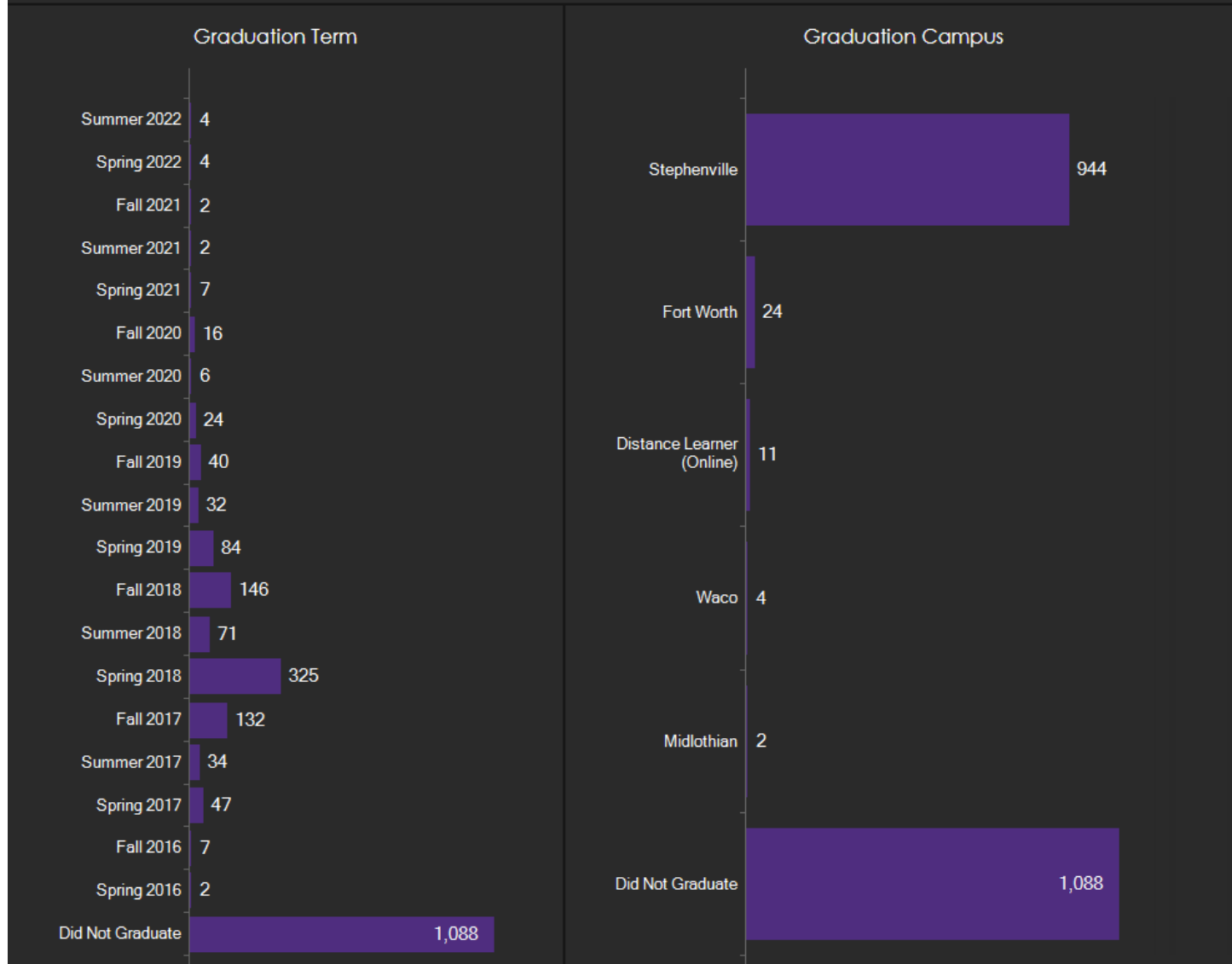
4th Year

Total Retained = 829
 Retention Rate = 39.99%
 Cumulative Total Graduates = 618
 4 Year Graduation Rate = 29.81%

4th Year



FTIC Retention Dashboard



**ADDED
2ND TAB**

Added charts with
graduation term
and campus

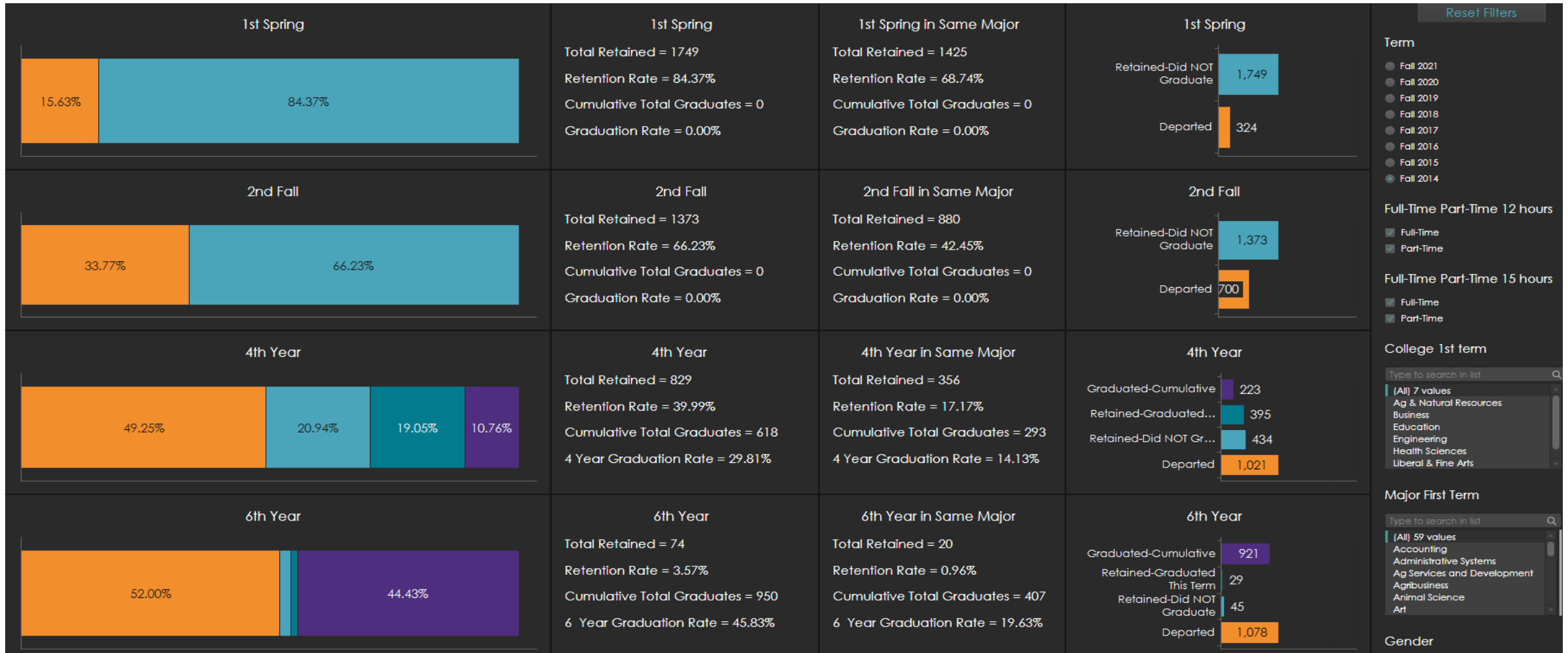




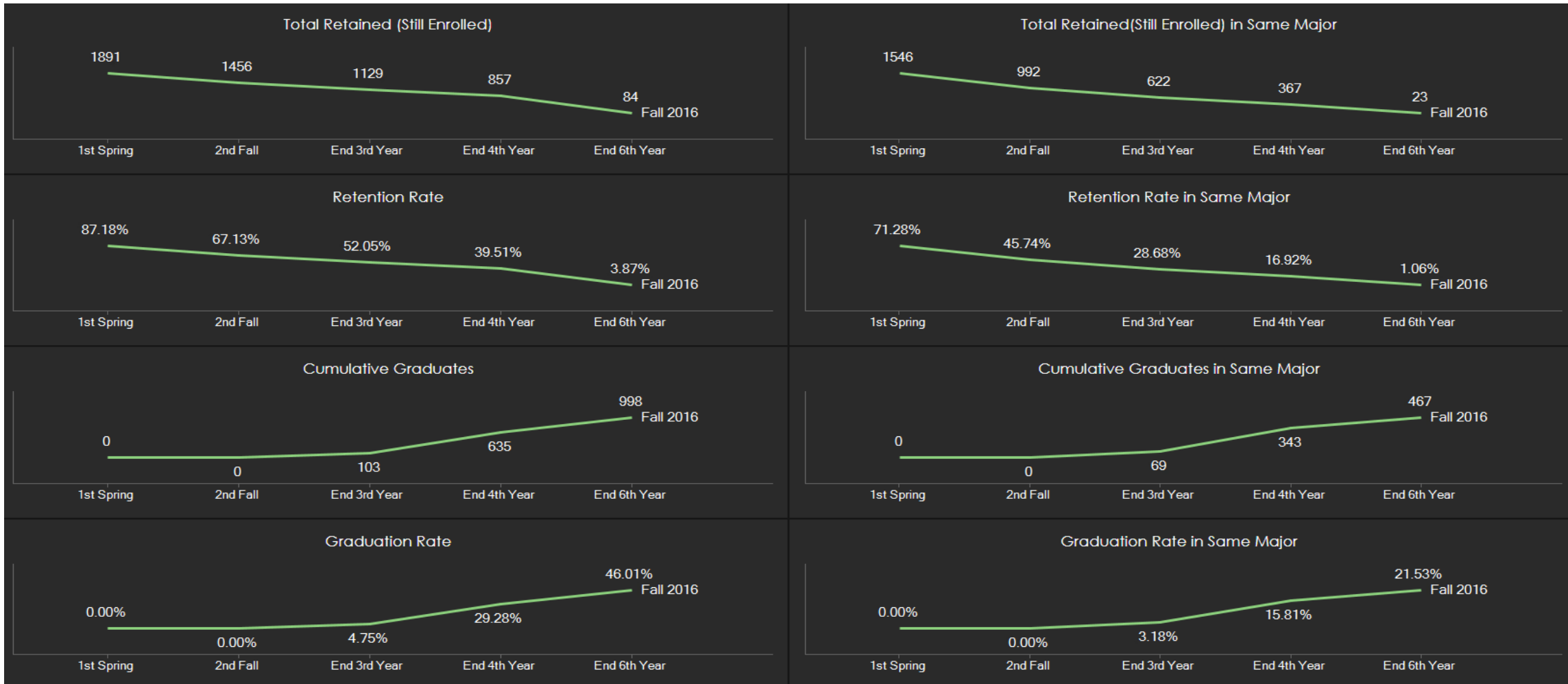
**ADDED
GRADUATION
MAJOR TO 2ND
TAB** 



ADDED RETAINED IN SAME MAJOR



NEW WAY TO PRESENT CALCULATIONS



HELPFUL HINTS



- SAVE OFTEN!!!!
- Create a template
- Look at your visualization on different computers/devices if possible.



FTIC PERSISTENCE



Randy Price



FTIC PERSISTENCE

- FTIC Persistence currently is being emailed daily in the format shown below
- Task was to show this information in a more visual way



FTIC Persistence Daily

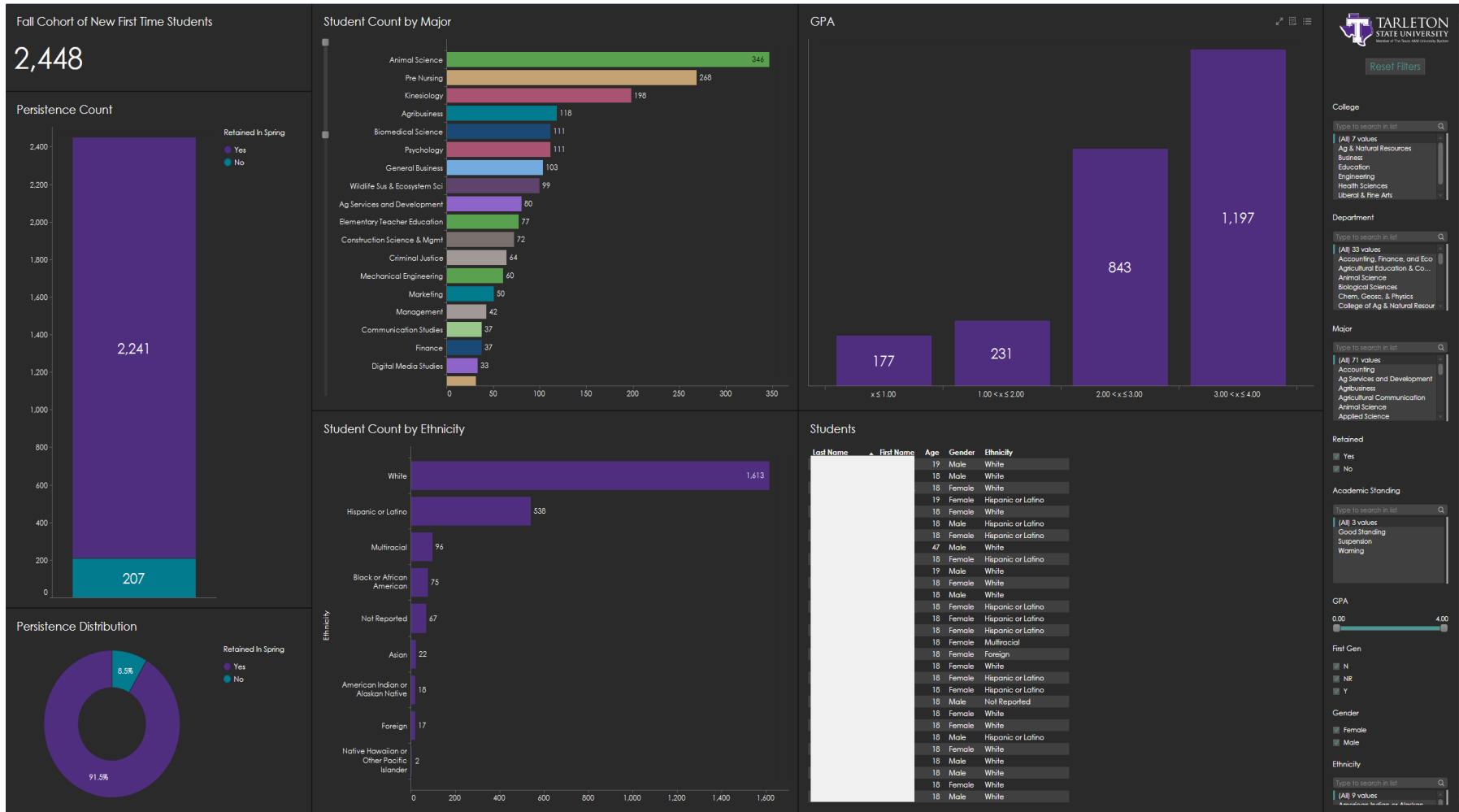
FALL21_COHORT	SPRING22_REG	PCT	FALL20_COHORT	SPRING21_REG	PCT	FALL19_COHORT	SPRING20_REG	PCT	FALL18_COHORT	SPRING19_REG	PCT	FALL17_COHORT	SPRING18_REG	PCT
2,151	1,684	78.29	2,274	1,826	80.30	2,073	1,776	85.67	2,161	1,821	84.27	1,899	1,657	87.26

FTIC Persistence Overall

FALL21_COHORT	SPRING22_REG	PCT	FALL20_COHORT	SPRING21_REG	PCT	FALL19_COHORT	SPRING20_REG	PCT	FALL18_COHORT	SPRING19_REG	PCT	FALL17_COHORT	SPRING18_REG	PCT	FALL16_COHORT	SPRING17_REG	PCT
2,151	1,684	78.29	2,274	1,966	86.46	2,073	1,828	88.18	2,161	1,885	87.23	1,899	1,683	88.63	2,169	1,891	87.18



NEW LOOK





FILTERING AND MARKING

TARLETON STATE UNIVERSITY
Member of The Texas A&M University System

Reset Filters

College

Type to search in list

- (All) 7 values
- Ag & Natural Resources
- Business
- Education
- Engineering
- Health Sciences
- Liberal & Fine Arts

Department

Type to search in list

- (All) 33 values
- Accounting, Finance, and Eco
- Agricultural Education & Co...
- Animal Science
- Biological Sciences
- Chem, Geosc. & Physics
- College of Ag & Natural Resour

Major

Type to search in list

- (All) 71 values
- Accounting
- Ag Services and Development
- Agribusiness
- Agricultural Communication
- Animal Science
- Applied Science

Fall Cohort of New First Time Students
2,448

Persistence Count

Retain...
 Yes

Student Count by Major

Pre Nursing: 1

GPA

3.00 < x ≤ 4.00: 1

Student Count by Ethnicity

Ethnicity	Count
White	1,613
Hispanic or Latino	338
Multiracial	96
Black or African American	75
Not Reported	67
Asian	22
American Indian or Alaskan Native	18
Foreign	17
Native Hawaiian or Other Pacific Islander	2

Persistence Distribution

Retain...
 Yes
 No

Students

Last Name	First Name	Age	Gender	Ethnicity
19	Male	White		
18	Male	White		
18	Female	White		
19	Female	Hispanic or Latino		
18	Female	White		
18	Male	Hispanic or Latino		
18	Female	Hispanic or Latino		
47	Male	White		
18	Female	Hispanic or Latino		
19	Male	White		
18	Female	White		
18	Male	White		
18	Female	Hispanic or Latino		
18	Female	Hispanic or Latino		
18	Female	Hispanic or Latino		
18	Female	Hispanic or Latino		
18	Female	Multiracial		
18	Female	Foreign		
18	Female	White		
18	Female	Hispanic or Latino		
18	Female	Hispanic or Latino		
18	Female	Hispanic or Latino		
18	Male	Not Reported		
18	Female	White		
18	Female	White		
18	Female	White		
18	Male	Hispanic or Latino		
18	Female	White		
18	Male	White		
18	Male	White		
18	Female	White		
18	Male	White		



THANK YOU!

QUESTIONS?

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