



ANNUAL MEETING

Columbus, Ohio
October 1-3, 2017

EXPLORE. EMPOWER. ENRICH.

SIMPLIFYING COMPLEX DATA USING TABLEAU: STORYTELLING WITH DATA VISUALIZATION

Christa Eitel, College Business Officer

Regina Krahenbuhl, Data Analyst

University of Cincinnati

College of Education, Criminal Justice, and Human Services





AGENDA

- University and College Structure
- Budgeting System Overview
- Before Tableau – Data Examples
- Tableau Presentation
 - Enrollment
 - Recruitment
 - Instructional Revenue Breakdown
 - Teaching Loads
 - Functionality
- Benefits and Challenges
- Questions





UNIVERSITY STRUCTURE

- 11 Academic Colleges:
 - Arts and Sciences
 - Business
 - Allied Health
 - Engineering and Applied Science
 - Education, Criminal Justice, and Human Services
 - College Conservatory of Music
 - Design, Architecture, Art, and Planning
 - Law
 - Medicine
 - Nursing
 - Pharmacy

- 2 Regional Campuses: Clermont, Blue Ash

- Fall 2017 University Student Headcount: 44,783
 - Undergraduate: 34,187
 - Graduate, Law, Medicine: 10,596





OUR COLLEGE STRUCTURE

CECH

3,170 Undergrad
1,874 Grad
5,044 Total
91 Programs
\$53.8 million in Revenue

School of Criminal Justice

753 Undergrad
391 Grad
1,144 Total
10 Programs
\$13.5 million

School of Education

1,155 Undergrad
621 Grad
1,776 Total
48 Programs
\$16.4 million

School of Human Services

637 Undergrad
707 Grad
1,344 Total
10 Programs
\$17.9 million

School of Information Technology

593 Undergrad
104 Grad
697 Total
10 Programs
\$6.1 million





OUR DEAN'S OFFICE STRUCTURE

- Business Office
- Recruitment
- Student Services
- Enrollment Management Team (EMT) – co-chairs





OUR BUDGETING SYSTEM

The University of Cincinnati uses a Performance Based Budgeting (PBB) Model

Key elements of PBB:

- Tuition revenue is assigned to the college of student primary major
- When students take courses outside of the college of their major, a portion of tuition revenue is transferred to the college that delivers the course
- Annual tuition revenue targets for each college are based on the prior year's final tuition results
- Colleges that exceed their revenue targets receive expense budget increase
- Colleges that do not meet their targets receive expense budget reduction





PRIOR TO TABLEAU: ENROLLMENT REPORTS

CECH Week-to-Week Enrollment Data
 Summer 2015 <----> Summer 2016
 May 26, 2015 <----> May 24, 2016

Undergraduate															
School	Headcount			Majors Credit Hours in CECH			Non-Majors Transfer In Credit Hours			Majors Credit Hours Transfer Out			FTE of CECH Credit Hours		
	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change
Criminal Justice	221	231	5%	1,082	1,165	8%	354	334	-6%	706	670	-5%	96	100	4%
Education	396	388	-2%	1,299	1,200	-8%	813	603	-26%	717	813	13%	141	120	-15%
Human Services	218	231	6%	1,434	1,541	7%	1,246	1,085	-13%	372	429	15%	179	175	-2%
Information Technology	303	331	9%	1,075	1,252	16%	411	444	8%	516	630	22%	99	113	14%
Undergraduate Total	1,138	1,181	4%	4,890	5,158	5%	2,824	2,466	-13%	2,311	2,542	10%	514	508	-1%

Graduate															
School	Headcount			Majors Credit Hours in CECH			Non-Majors Transfer In Credit Hours			Majors Credit Hours Transfer Out			FTE of CECH Credit Hours		
	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change
Criminal Justice	455	417	-8%	2,957	2,574	-13%	9	12	33%	3	0	-100%	198	172	-13%
Education	693	656	-5%	3,543	3,446	-3%	301	134	-55%	151	198	31%	256	239	-7%
Human Services	548	582	6%	3,511	3,695	5%	93	52	-44%	31	0	-100%	240	250	4%
Information Technology	1	22	2100%	12	150	1150%	78	18	-77%	0	0	---	6	11	87%
Graduate Total	1,697	1,677	-1%	10,023	9,865	-2%	481	216	-55%	185	198	7%	700	672	-4%

Total															
School	Headcount			Majors Credit Hours in CECH			Non-Majors Transfer In Credit Hours			Majors Credit Hours Transfer Out			FTE of CECH Credit Hours		
	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change	15US	16US	% Change
Criminal Justice	676	648	-4%	4,039	3,739	-7%	363	346	-5%	709	670	-6%	293	272	-7%
Education	1,089	1,044	-4%	4,842	4,646	-4%	1,114	737	-34%	868	1,011	16%	397	359	-10%
Human Services	766	813	6%	4,945	5,236	6%	1,339	1,137	-15%	403	429	6%	419	425	1%
Information Technology	304	353	16%	1,087	1,402	29%	489	462	-6%	516	630	22%	105	124	18%
CECH Total	2,835	2,858	1%	14,913	15,023	1%	3,305	2,682	-19%	2,496	2,740	10%	1,215	1,180	-3%





PRIOR TO TABLEAU: PBB

Term	School	Program	Total Revenue FY16	ACE FY16	Transfer In FY16	Transfer Out FY16	Gross Revenue FY16	GIA/GAS FY16	Total Revenue FY17	ACE FY17	Transfer In FY17	Transfer Out FY17	GIA/GAS FY17	GIA/GAS FY17-FY16	Gross Revenue FY17	Online Modifications FY17	Variance	
Fiscal Year Total	Criminal Justice	Criminal Justice	\$14,911,012	\$32,187	\$844,271	(\$1,725,896)	\$14,061,573	(\$1,628,312)	\$13,483,785	\$10,358	\$856,190	(\$1,784,884)	(\$1,633,312)	\$5,000	\$12,560,449	\$350,474	(\$1,150,650)	
		Paralegal Studies	\$738,949	\$10,842	\$60,793	(\$94,486)	\$716,098		\$589,220	\$2,334	\$71,927	(\$91,850)	\$0	\$0	\$571,631		(\$144,467)	
		Open Registration							\$47,628	\$0	\$0	(\$4,299)	\$0	\$0	\$43,330		\$43,330	
		CJ Total	\$15,649,961	\$43,029	\$905,064	(\$1,820,382)	\$14,777,672	(\$1,628,312)	\$14,120,633	\$12,692	\$928,116	-\$1,881,032	-\$1,633,312	\$5,000	\$13,175,410	\$350,474	(\$1,251,788)	
	Education	Curriculum & Instruction	\$3,170,545	\$135,278	\$90,580	(\$38,820)	\$3,357,583	(\$645,140)	\$2,597,592	\$10,356	\$68,376	(\$38,145)	(\$190,557)	(\$454,583)	\$3,092,761	\$14,470	(\$250,352)	
		Early Childhood Education	\$5,382,733	\$18,108	\$150,152	(\$621,362)	\$4,929,631		\$4,991,946	\$1,167	\$149,108	(\$574,332)	\$0	\$0	\$4,567,890	-\$244,804	(\$606,545)	
		Educational Leadership	\$339,994	\$1,920	\$732	\$0	\$342,646	(\$9,742)	\$416,849	\$2,676	\$0	(\$505)	(\$17,644)	\$7,902	\$411,118	-\$18,991	\$49,481	
		Educational Studies	\$1,243,450	\$57,712	\$539,572	(\$11,475)	\$1,829,258	(\$919,575)	\$1,304,817	\$21,472	\$559,662	(\$9,590)	(\$918,641)	(\$934)	\$1,877,295		\$48,037	
		English as a Second Language	\$0	\$15,096	\$711,209	\$0	\$726,305		\$0	\$8,169	\$685,208	\$0	\$0	\$0	\$0	\$693,377		(\$32,927)
		Literacy	\$1,302,873	\$32,414	\$47,365	(\$732)	\$1,381,920	(\$177,717)	\$796,658	\$16,116	\$38,104	(\$6,055)	(\$53,023)	(\$124,694)	\$969,516		(\$412,404)	
		Middle Childhood Education	\$1,285,171	\$6,814	\$977	(\$311,780)	\$981,182		\$1,186,510	\$0	\$1,511	(\$304,825)	\$0	\$0	\$883,196		(\$97,986)	
		Professional Development	\$1,762,505	\$1,280	\$0	(\$3,662)	\$1,260,136	(\$32,570)	\$1,358,436	\$0	\$0	(\$2,274)	\$0	(\$32,570)	\$1,388,732	-\$486,583	(\$357,988)	
		Secondary Education	\$1,868,997	\$0	\$29,298	(\$719,754)	\$1,178,541		\$1,730,830	\$0	\$21,180	(\$697,710)	(\$2,304)	\$2,304	\$1,051,996		(\$126,545)	
		Signed Language Interpreting	\$199,058	\$8,169	\$796,173	(\$33,693)	\$969,707		\$62,481	\$756	\$928,677	(\$1,516)	\$0	\$0	\$990,397		\$20,690	
		Special Education	\$1,532,393	\$46,958	\$214,364	(\$249,277)	\$1,544,438	(\$72,792)	\$1,712,173	\$9,194	\$219,650	(\$282,851)	(\$43,360)	(\$29,432)	\$1,687,598	-\$35,000	\$108,160	
		Open Registration	\$106,959	\$0	\$0	(\$2,197)	\$104,762		\$312,563	\$0	\$0	(\$28,084)	(\$29,892)	\$29,892	\$254,587		\$149,826	
		SoE Total	\$18,194,677	\$323,749	\$2,580,421	(\$1,992,752)	\$18,606,109	(\$1,857,536)	\$16,470,855	\$69,903	\$2,671,477	(\$1,945,886)	(\$1,255,421)	(\$602,115)	\$17,868,464	-\$770,908	(\$1,508,553)	
	Human Services	Athletic Training													\$0			
		Counseling	\$2,384,252	\$36,535	\$328,870	(\$60,305)	\$2,689,352	(\$151,669)	\$2,185,005	\$18,450	\$164,301	(\$42,384)	(\$153,683)	\$2,014	\$2,323,358	-\$305,726	(\$671,720)	
		Health Education	\$3,770,848	\$78,442	\$1,346,487	(\$261,729)	\$4,934,048	(\$430,100)	\$3,378,015	\$14,956	\$1,603,009	(\$233,642)	(\$297,238)	(\$132,862)	\$4,895,200		(\$38,848)	
		Health, Fitness, and Leisure	\$0	\$37,244	\$718,533	\$0	\$755,777		\$0	\$20,043	\$707,827	\$0	\$0	\$0	\$727,869		(\$27,908)	
		School Psychology	\$6,300,178	\$21,120	\$7,325	(\$27,589)	\$6,201,034	(\$441,565)	\$6,595,362	\$11,525	\$4,546	(\$15,876)	(\$432,055)	(\$9,510)	\$6,605,067	-\$124,140	\$279,893	
		Sport Administration	\$3,712,096	\$13,176	\$393,082	(\$831,819)	\$3,286,534	(\$24,532)	\$3,871,883	\$9,266	\$435,409	(\$860,310)	(\$139,642)	\$115,110	\$3,341,138		\$54,604	
		Open Registration							\$252,065	\$0	\$0	(\$21,557)	\$0	\$0	\$230,508		\$230,508	
	HS Total	\$16,167,374	\$186,517	\$2,794,297	(\$1,181,442)	\$17,866,746	(\$1,047,866)	\$16,282,330	\$74,239	\$2,915,091	(\$1,173,768)	(\$1,022,618)	(\$25,248)	\$18,123,140	-\$429,866	(\$173,472)		
	Information Technology	Information Technology	\$4,672,505	\$107,153	\$737,089	(\$759,551)	\$4,757,196	(\$68,142)	\$6,068,674	\$26,704	\$802,918	(\$827,054)	(\$302,771)	\$234,629	\$5,836,613	-\$153,976	\$925,441	
		Open Registration							\$139,024	\$0	\$0	(\$13,225)	(\$37,776)	\$37,776	\$88,024		\$88,024	
	IT Total	\$4,672,505	\$107,153	\$737,089	(\$759,551)	\$4,757,196	(\$68,142)	\$6,207,698	\$26,704	\$802,918	-\$840,278	(\$340,547)	\$272,405	\$5,924,637	-\$153,976	\$1,013,465		
	Econ Center	Econ Center Total					\$72,292							\$0	\$0			
		CECH Total	\$54,684,517	\$660,448	\$7,016,871	(\$5,754,127)	\$56,007,723	(\$4,601,856)	\$53,081,517	\$183,538	\$7,317,603	(\$5,840,965)	(\$4,251,898)	(\$349,958)	\$55,091,651	(\$1,004,276)	(\$1,920,348)	





Tableau Demonstration





BENEFITS AND CHALLENGES

Benefits

- Data is easier to interpret
- Visual charts instead of excel spreadsheets
- Easily identify cross-college partnerships
- One stop shop for all information
- Reporting needs streamlined for data analyst

Challenges

- If you build it, they may not come
- People want to see everything in Tableau, I mean everything!
- Data cleaning and subject matter knowledge
- Switching to new student information system
- Not having direct connections so dashboards are only updated weekly
- It's not a predictive tool





Questions





WEEKLY ENROLLMENT REPORTING

CREDIT HOURS SUMMARY



CECH Week to Week Enrollment Data | Fall 2016 - Fall 2017 | August 27, 2016 - August 26, 2017

Credit Hours Summary

Credit Level	School	Major in CECH				Major Transfer Out				Nonmajor Transfer In			
		2016 Credit Hours	2017 Credit Hours	CH Difference	CH % Change	2016 Credit Hours	2017 Credit Hours	CH Difference	CH % Change	2016 Credit Hours	2017 Credit Hours	CH Difference	CH % Change
Undergraduate	Criminal Justice	7,039	7,044	5	0.07%	4,132	3,648	-484	-11.71%	1,949	2,277	328	16.83%
	Education	8,794	9,280	486	5.53%	4,278	4,482	204	4.77%	5,406	5,133	-273	-5.05%
	Human Services	7,110	7,253	143	2.01%	2,330	1,834	-496	-21.29%	5,218	5,755	537	10.29%
	Information Technology	4,235	5,016	781	18.44%	1,781	1,864	83	4.66%	1,864	1,993	129	6.92%
	Open Registration	149	158	9	6.04%	143	68	-75	-52.45%				
	Total	27,327	28,751	1,424	5.21%	12,664	11,896	-768	-6.06%	14,437	15,158	721	4.99%
Graduate	Criminal Justice	3,721	2,864	-857	-23.03%	6	27	21	350.00%	20	17	-3	-15.00%
	Education	3,708	3,492	-216	-5.83%	100	70	-30	-30.00%	565	458	-107	-18.94%
	Human Services	5,668	5,241	-427	-7.53%	88	66	-22	-25.00%	198	178	-20	-10.10%
	Information Technology	724	809	85	11.74%	38	78	40	105.26%	75	63	-12	-16.00%
	Open Registration	141	229	88	62.41%	32	19	-13	-40.63%				
	Total	13,962	12,635	-1,327	-9.50%	264	260	-4	-1.52%	858	716	-142	-16.55%
Grand Total	41,289	41,386	97	0.23%	12,928	12,156	-772	-5.97%	15,295	15,874	579	3.79%	

Net CECH Course Credit Hours

Credit Level	Course School	2016 CH Net	2017 CH Net	CH Net Difference	CH Net % Change
Undergraduate	Criminal Justice	8,326	8,534	208	2.50%
	Education	14,392	14,396	4	0.03%
	Human Services	13,168	13,971	803	6.10%
	Information Technology	6,074	7,008	934	15.38%
	Total	41,960	43,909	1,949	4.64%
Graduate	Criminal Justice	3,726	2,875	-851	-22.84%
	Education	4,408	4,128	-280	-6.35%
	Human Services	5,884	5,476	-408	-6.93%





WEEKLY ENROLLMENT REPORTING

PROGRAM LEVEL

Majors HC and FTE

Student School	Credit Level	Primary Academic Plan ..	Primary Academic Plan	DL	2016 Headcount	2017 Headcount	HC Difference	HC % Change	2016 FTE	2017 FTE	FTE Difference	FTE % Change
Criminal Justice	Undergraduate	CIA-C2	Crime & Intelligence Analy..	DL	0	1	1		0.0	0.4	0	
		CJ-BS	Criminal Justice	Campus	681	642	-39	-5.73%	654.5	619.6	-35	-5.34%
				DL	46	58	12	26.09%	28.7	40.6	12	41.30%
		FPOP-C2	Forensic Populations	Campus	2	0	-2	-100.00%	1.1	0.0	-1	-100.00%
		PARA-BS	Paralegal Studies	Campus	60	49	-11	-18.33%	51.9	45.6	-6	-12.20%
		PARA-C2	Paralegal Studies	Campus	15	8	-7	-46.67%	8.4	5.8	-3	-30.95%
	VP-C2	Vince Prev in Fam, Schl & ..	DL	0	1	1		0.0	0.8	1		
	Total				804	759	-45	-5.60%	744.7	712.8	-32	-4.29%
	Graduate	CJ-MS	Criminal Justice	Campus	41	36	-5	-12.20%	33.0	27.7	-5	-15.96%
				DL	380	278	-102	-26.84%	173.4	127.3	-46	-26.61%
CJ-PHD			Criminal Justice	Campus	80	74	-6	-7.50%	42.1	37.7	-4	-10.30%
Total				501	388	-113	-22.55%	248.5	192.7	-56	-22.43%	
Total				1,304	1,147	-157	-12.04%	993.2	905.5	-88	-8.83%	
Education	Undergraduate	DFST-C2	Deaf Studies	Campus	4	4	0	0.00%	2.9	1.6	-1	-44.19%
		ECE-BSED	Early Childhood Education	Campus	262	274	12	4.58%	262.5	276.9	14	5.51%
		ECEB5-BSED	Early Childhood Educatio..	DL	187	200	13	6.95%	88.6	99.1	10	11.81%

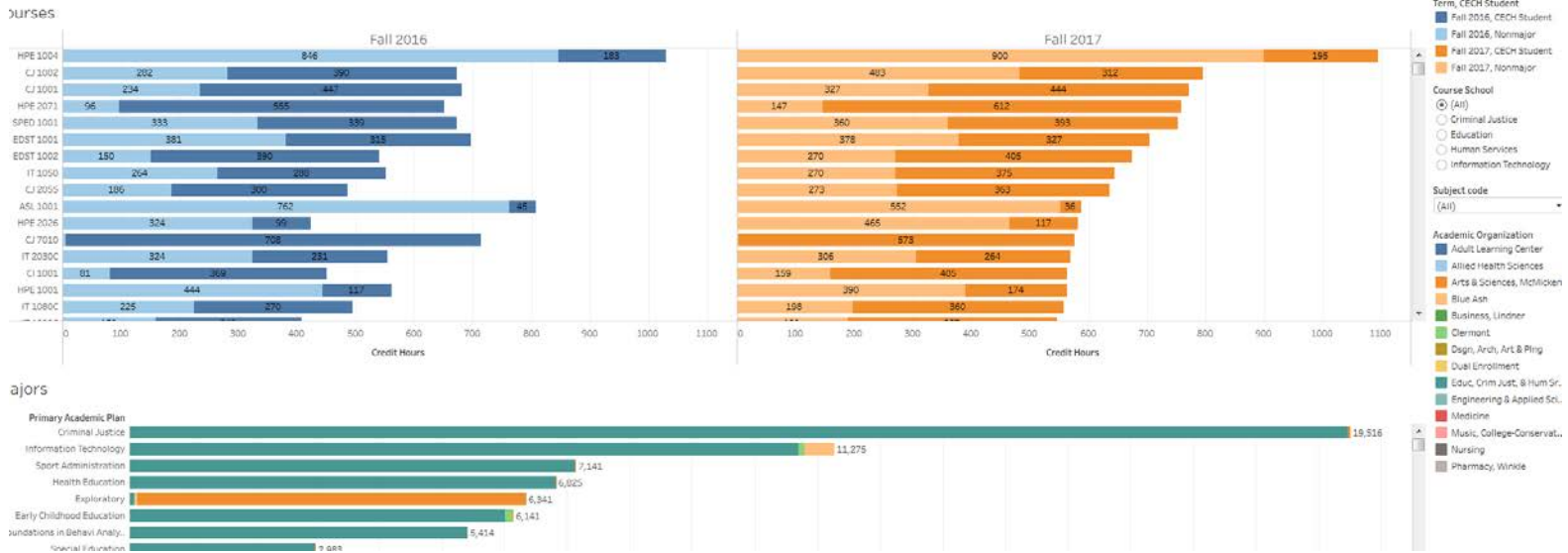




WEEKLY ENROLLMENT REPORTING

COLLEGE LEVEL COURSES

Week to Week Enrollment Dashboard: CECH Courses

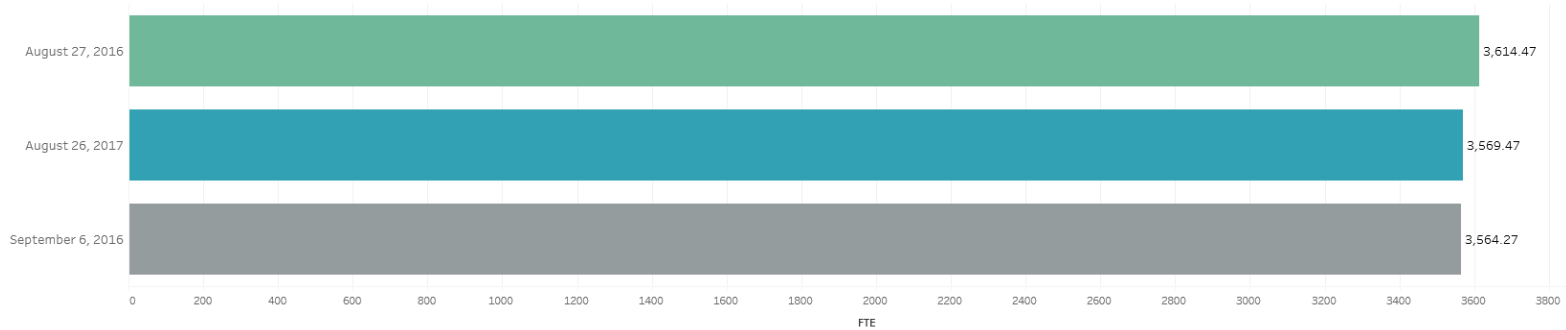




WEEKLY ENROLLMENT REPORTING CENSUS DAY COMPARISON

Week to Week compared to Previous Year Census

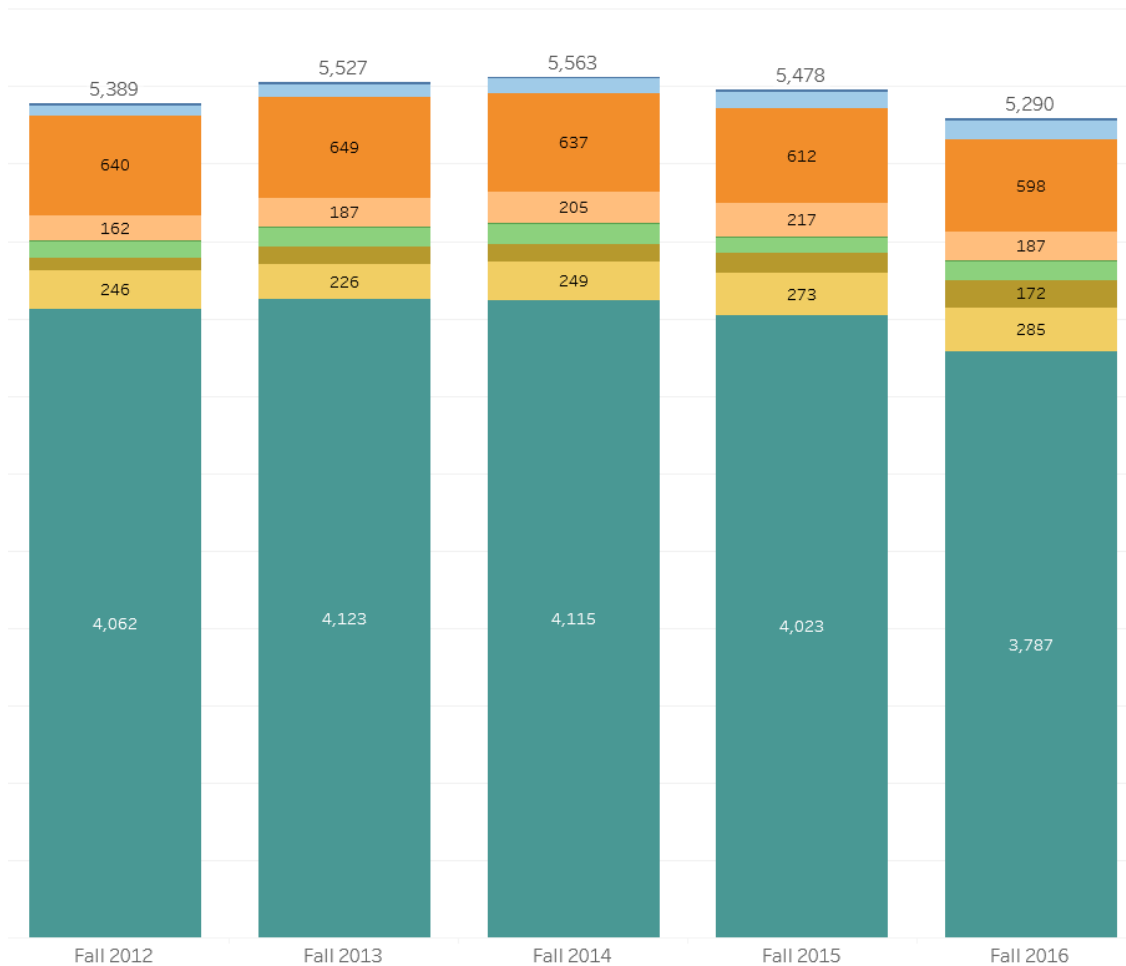
TE Week-to-Week and Census Date Comparison





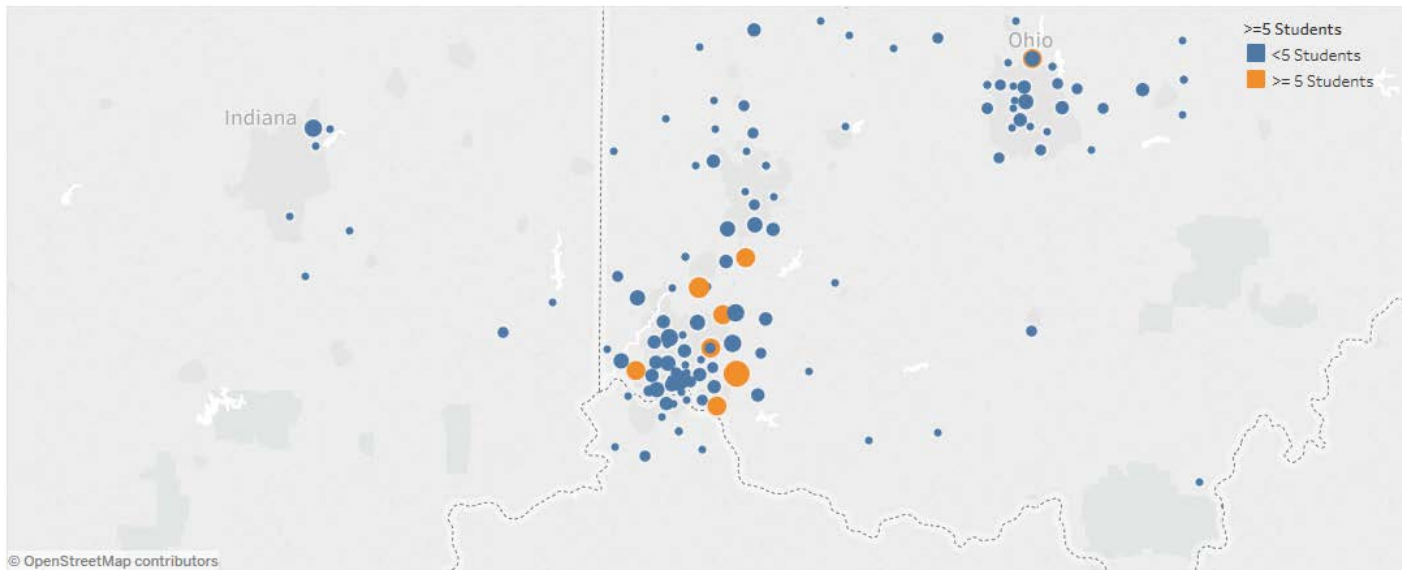
HISTORICAL HEADCOUNT BY ETHNICITY

CECH Historical Headcount by Ethnicity





Fall 2017 CECH Domestic Freshmen: Feeder High Schools Confirmed Students as of 08/31/2017



Program Level Confirms

Click school or program to drill down map and high school list

School	Program	
Criminal Justice	Criminal Justice	113
	Paralegal Studies	5
Education	Early Childhood Care & Education DL	22
	Early Childhood Education	55
	Middle Childhood Education	15
	Secondary Education	40
	Special Education	23
Human Services	Health Promotion & Education	23
	Sport Administration	52

High Schools

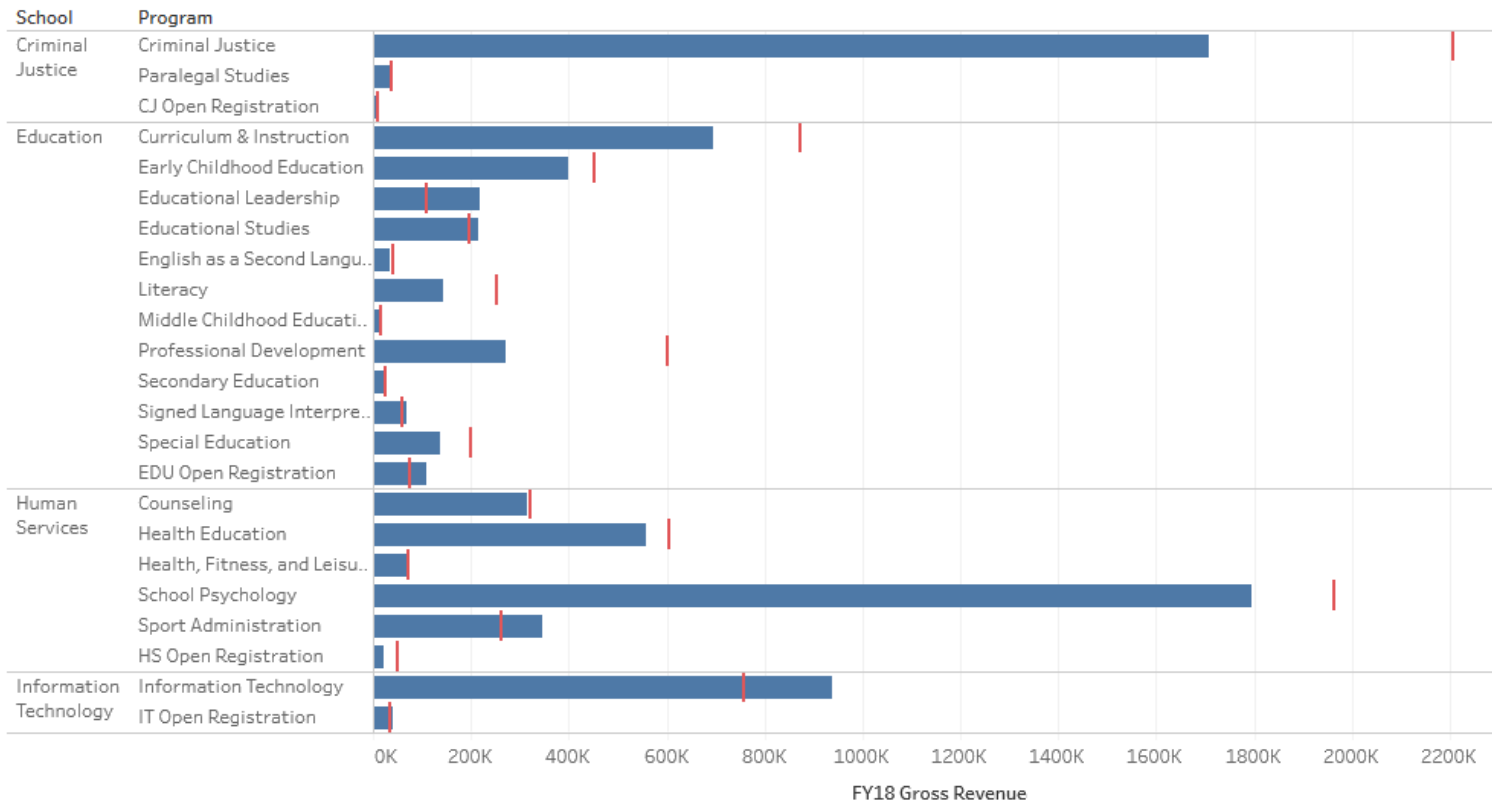
Milford High School	Milford	OH	11
LAKOTA EAST HIGH SCHO..	Liberty Twp	OH	7
ANDERSON HIGH SCHOOL	Cincinnati	OH	6
OAK HILLS HIGH SCHOOL	Cincinnati	OH	6
Olentangy Orange High Sc..	Lewis Center	OH	6
Springboro High School	Springboro	OH	6
Sycamore High School	Cincinnati	OH	6
WILLIAM MASON HIGH SC..	Mason	OH	6
FISHERS HIGH SCHOOL	Fishers	IN	5
Kings High School	Kings Mills	OH	5
Loveland High School	Loveland	OH	5





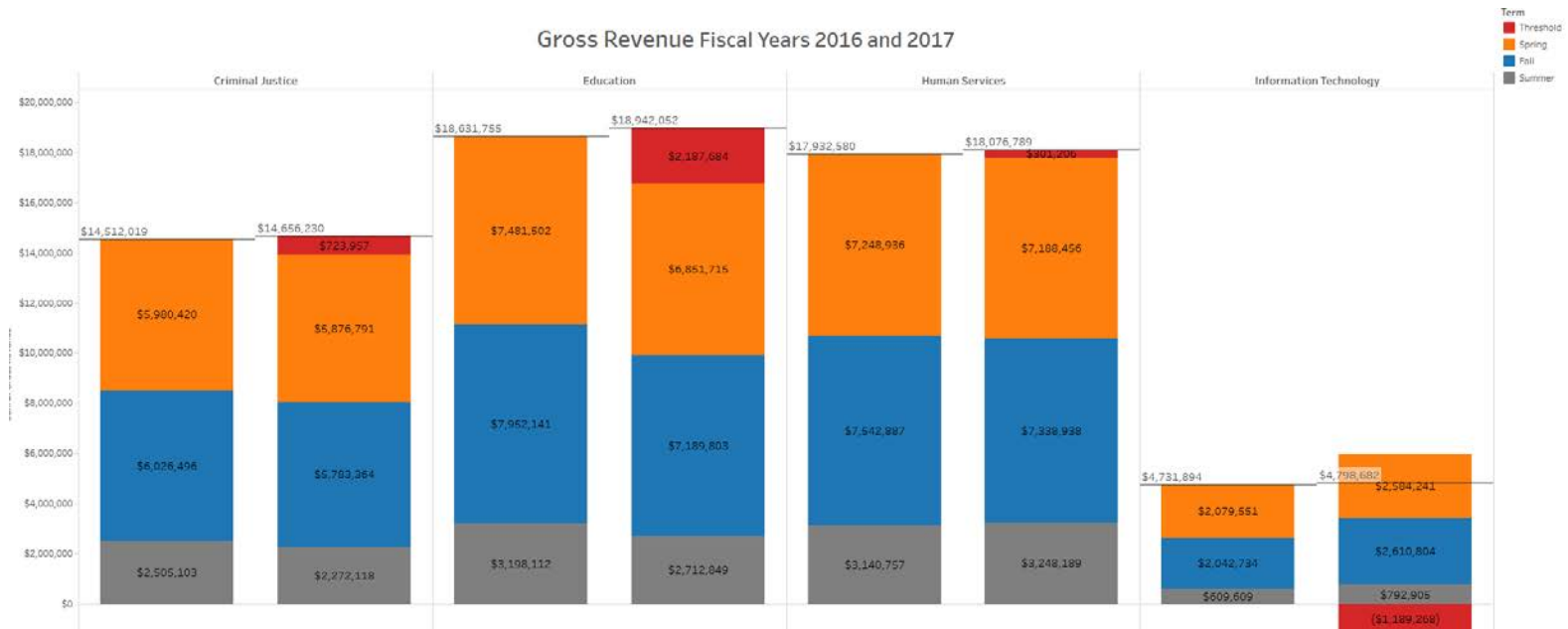
PBB PROGRAM LEVEL SUMMER REVENUE

Summer Program Level
Gross Revenue Targets
FY17 vs FY18





PBB SCHOOL LEVEL GROSS REVENUE

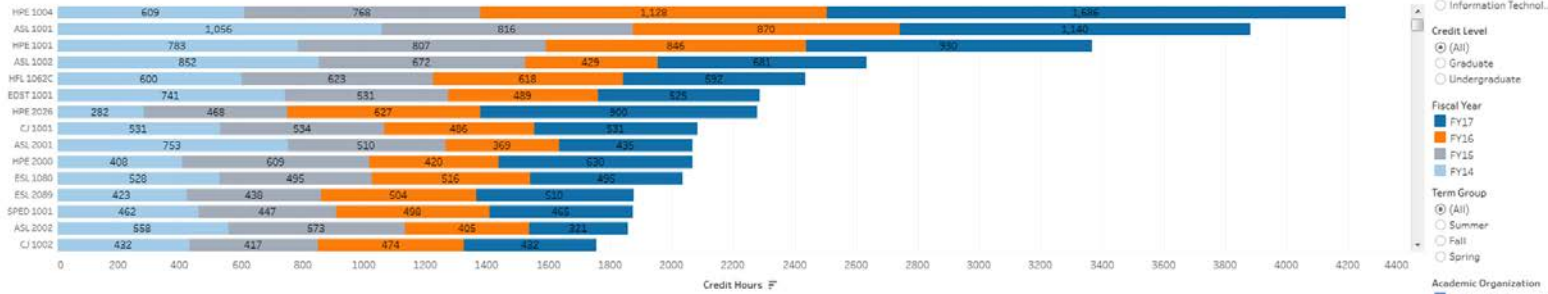




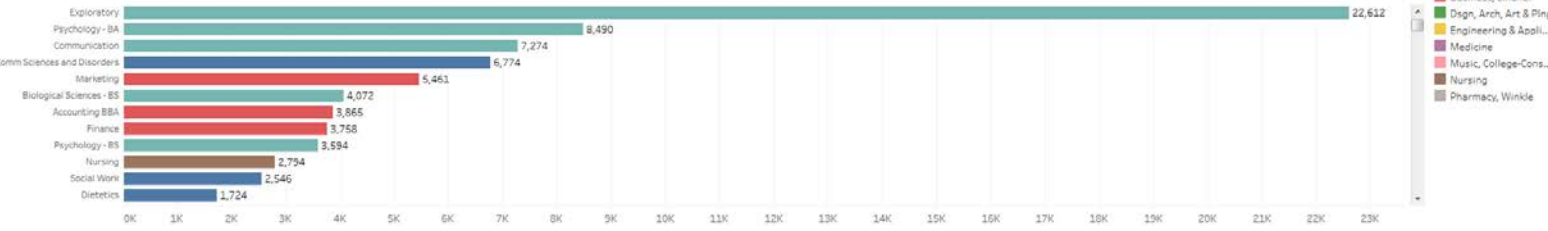
TRANSFER IN (OUTSIDE MAJORS TAKING OUR COURSES)

Transfer In: Non-majors taking CECH courses

Courses



Majors

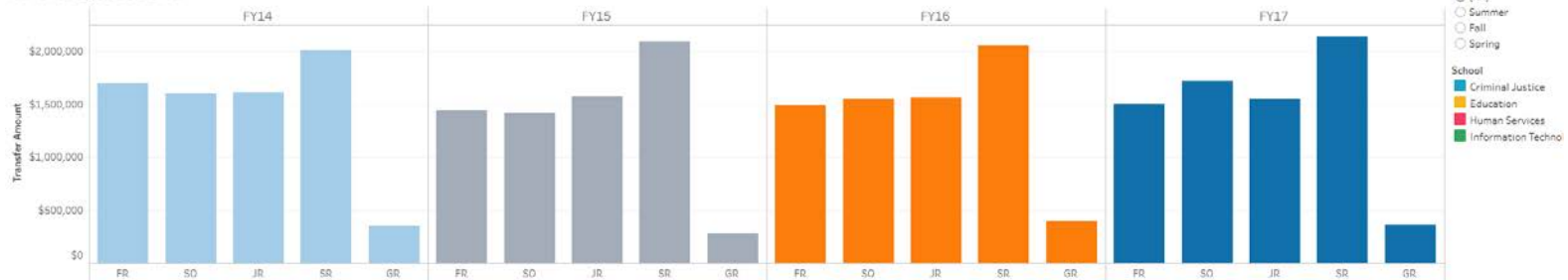




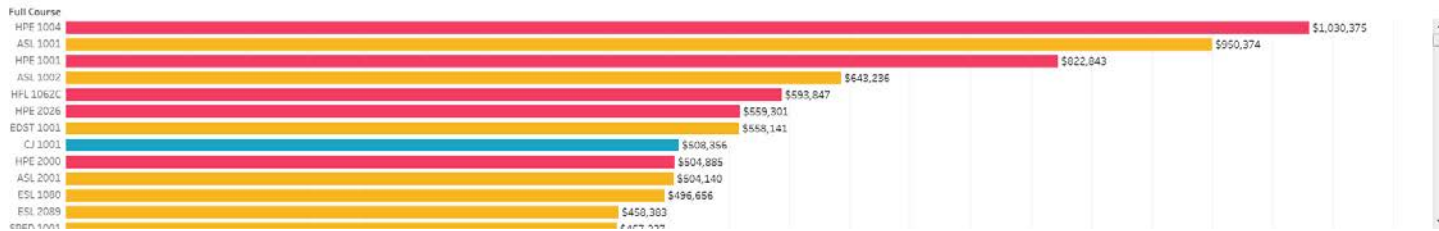
TRANSFER IN BY CLASS LEVEL

Transfer In Revenue and Contributing Courses

Revenue by Class Level

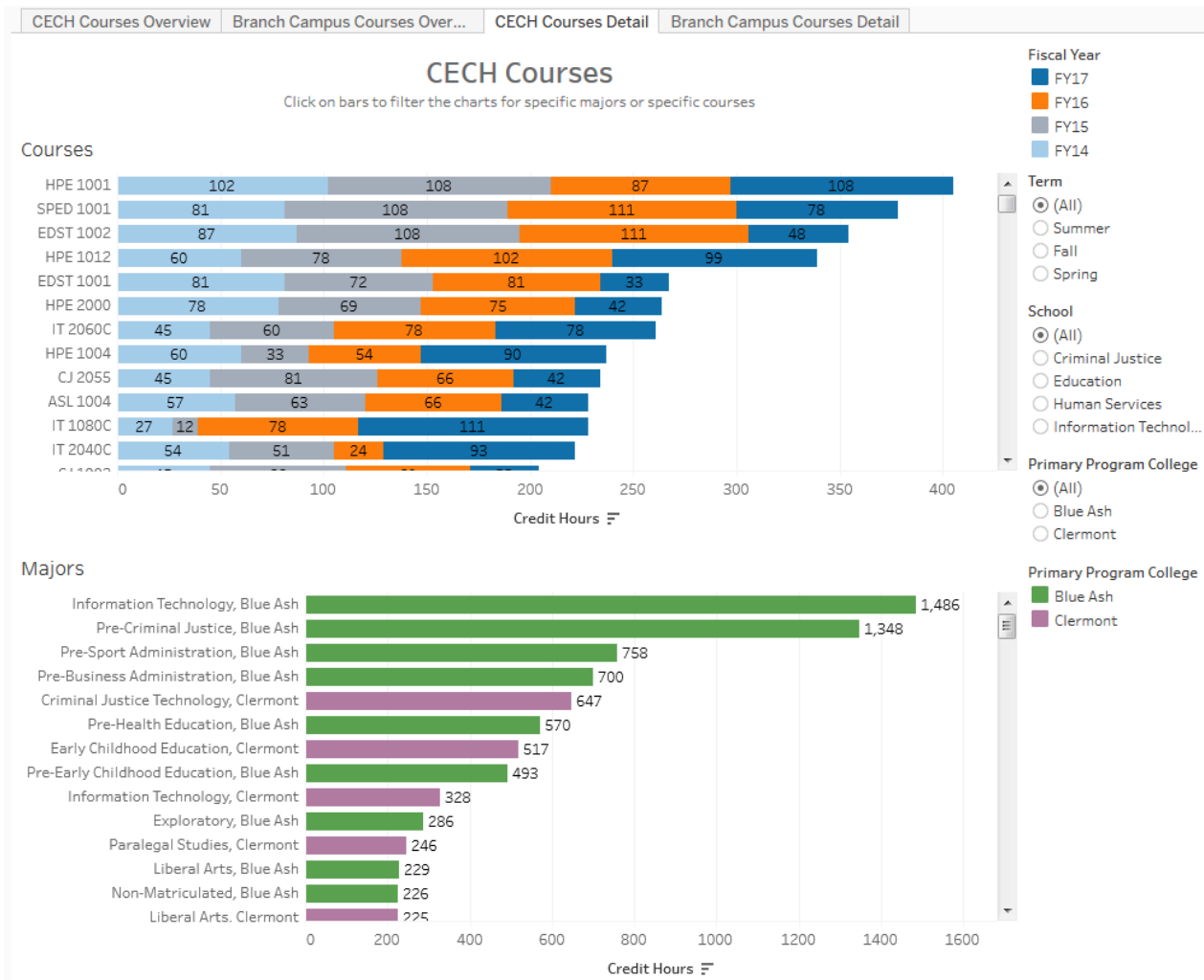


Courses by School





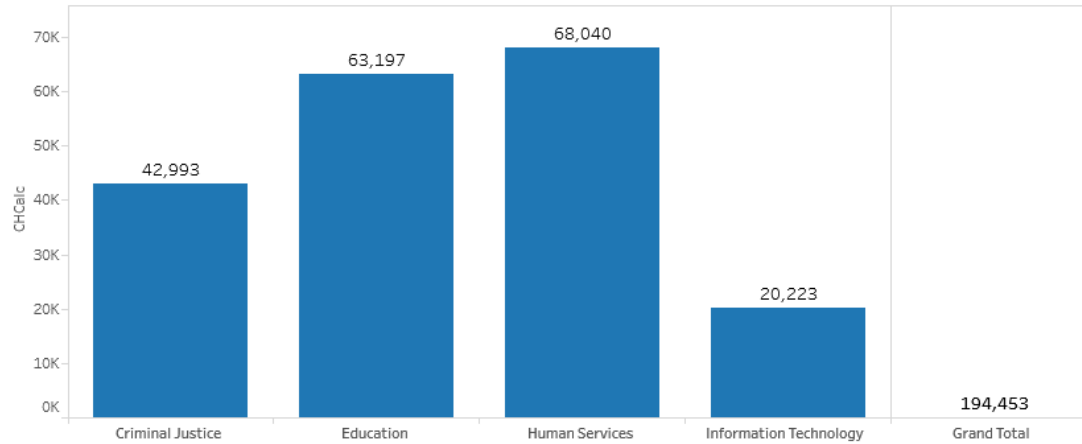
BRANCH CAMPUS





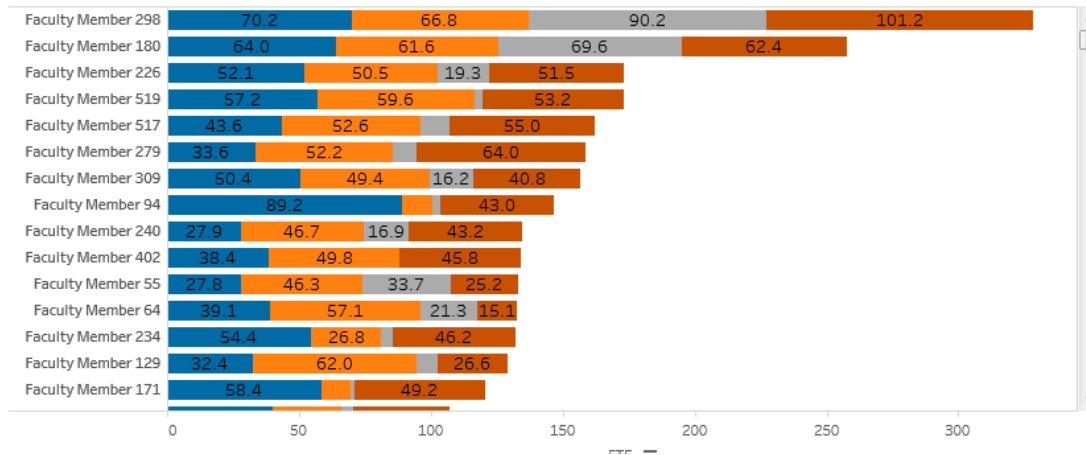
FACULTY TEACHING LOADS

Credit Hours by School



- Term**
- Fall 2015
 - Spring 2016
 - Summer 2016
 - Fall 2016
- Instructor Title**
- (All)
 - Tenure/Tenure Track
 - Field Service, Visiting, ...
 - Adjunct
 - Graduate Assistant
 - Emeriti

FTE by Instructor



- Term**
- Fall 2016
 - Summer 2016
 - Spring 2016
 - Fall 2015

