Online Courses and Enrollment Trends at Kapi`olani Community College

Part 2 of OFIE Research Briefs on Distance Education

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1/17/2018

Introduction

In May 2016, the Office for Institutional Effectiveness at Kapi`olani Community College examined demographic and academic characteristics of online-only students on its campus[1]. This report is a follow up to the *Online-Only Students Research Brief*, looking at students who are not taking any online courses (traditional students) and students who are taking at least one course online (online students) within a given semester.

Key Takeaway: Online students will soon outnumber traditional students. Kapi`olani Community College will need the infrastructure to support this shift.

Methodology

"Online students" were defined as those taking at least one online course in the corresponding term (de_mode_delivery='DCO') from fall 2013 to fall 2017. The enrollment data filters ignored where students were home based and strictly focused on whether or not students were enrolled at Kapi`olani Community College (iro_institution='KAP'). "Traditional students" were defined within a semester of taking zero online courses (de_mode_delivery not like 'DCO').

All data was extracted at census.

Simple linear regression was performed using previous enrollment numbers as data points to predict future enrollments.

For the purposes of this paper, Δ represents the difference between two values.

Analysis

Within two years, online full-time students will outnumber traditional full-time students**.**

In Figure 11, predictions show 959 traditional students and 978 online students enrolled full time in spring 2020 (Δ19). The same transition is expected for fall semester in the next year (Fig. 7). Predictions show 992 full-time traditional students and 1,053 full-time online students for fall 2021 (Δ61).

Predictions for spring 2018 are 3,770 students enrolled in only traditional classes and 2,680 students enrolled in at least one online class (Fig.4). For fall 2018, enrollment predictions are 4,047 on campus and 2,733 online respectively (Fig. 3).

The number of students enrolled in traditional classes continues to decrease consistently. The only area of enrollment that shows a positive slope is the full-time online student cohort in fall semesters. In all other categories, online student numbers are declining at a slower rate than the declines in traditional student numbers. Therefore, enrollments will continue to decrease, and it is most likely that online students will outnumber traditional students.

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[1] Link to research brief on OFIE website: http://ofie.kapiolani.hawaii.edu/wp-content/uploads/2013/01/OFIE_rsrchBrf_2016_05.pdf

- The average age of a traditional student is 24; the average age for an online student is 25 (Table 4).

- In traditional classes, the makeup on average is 54% female and 47% male (Table 6). In online classes, the makeup on average is 65% female and 35% male (Table 5).

- In general, students with a Leeward O`ahu address are enrolled at higher rates in online courses versus on campus (Tables 7 and 8).

- For the past two academic years, on average, 15.2% of students enrolled in traditional classes only have been Native Hawaiian (Table 10). During that same timeframe, on average, 18.6% of students taking at least one online class have been Native Hawaiian (Table 9). OFIE Enrollment Reports show Native Hawaiian students accounted for 16.9% (average) of the Kapi`olani Community College student population from fall 2015 to spring 2017.

- For the past two academic years, on average, 53.3% of students enrolled in traditional classes only have been Asian (Table 10). During that same timeframe, on average, 49.1% of students taking at least one online class have been Asian (Table 9). OFIE Enrollment Reports show Asian students accounted for 51.7% (average) of the Kapi`olani Community College student population from fall 2015 to spring 2017.

Recommendations

In order for the campus to be prepared for the next three years, infrastructure must support the transition in student learning environments. Some possible solutions to ensure retention are listed below:

Distance Education Planning: This campus has a dedicated team of professors, instructional designers, and counselors focused on improving the online education experience. This group should continue to implement methods to encourage peers to adopt traditional materials to fit online learning management systems. Through surveys and live data, the DE Planning Group can begin to assess both the skills and attitudes of teachers and students in online courses.

Professional Development for Instructors: CELTT has created the Teaching Online Prep Program (TOPP) with incentives to motivate instructional faculty to complete this eight-week course. As more cohorts complete TOPP, analysts will begin looking at the program's impact on generating more online course creation and its effect on registration.

Going Forward

Future studies will include an in-depth analysis of the students who transition from the traditional classroom experience to an online environment, as well as registration reenrollment trends from semester-to-semester. Another aspect of exploration will include tracking whether or not these students continue to take online courses after their initial online course.

Tables: Enrollment of Part-Time and Full-Time Students

Table 1: Enrollment of Online Students and Traditional Students

Fall					Spring				
Year	Online Students	Percent Online Students	Traditional Students	Percent Traditional Students	Year	Online Students	Percent Online Students	Traditional Students	Percent Traditional Students
2013	2918	34.8%	5458	65.2%	2014	2889	37.2%	4869	62.8%
2014	2749	34.4%	5245	65.6%	2015	2823	36.9%	4829	63.1%
2015	2854	36.5%	4962	63.5%	2016	2856	39.3%	4404	60.7%
2016	2743	37.2%	4639	62.8%	2017	2696	40.2%	4004	59.8%
2017	2791	39.3%	4304	60.7%	2018	TBD			

Table 2: Enrollment of Full-Time and Part-Time Online Students at Kapi`olani CC

Fall					Spring				
Year	Full-Time Students	Percent Full-Time Students	Part-Time Students	Percent Part-Time Students	Year	Full-Time Students	Percent Full-Time Students	Part-Time Students	Percent Part-Time Students
2013	959	32.9%	1959	67.1%	2014	988	34.2%	1901	65.8%
2014	952	34.6%	1797	65.4%	2015	949	33.6%	1874	66.4%
2015	1026	35.9%	1828	64.1%	2016	1036	36.3%	1820	63.7%
2016	941	34.3%	1802	65.7%	2017	956	35.5%	1740	64.5%
2017	1025	36.7%	1766	63.3%	2018	TBD			

Table 3: Enrollment of Full-Time and Part-Time Traditional Students at Kapi`olani CC

Fall					Spring				
Year	Full-Time Students	Percent Full-Time Students	Part-Time Students	Percent Part-Time Students	Year	Full-Time Students	Percent Full-Time Students	Part-Time Students	Percent Part-Time Students
2013	2217	40.6%	3241	59.4%	2014	1740	35.7%	3129	64.3%
2014	2042	38.9%	3203	61.1%	2015	1722	35.7%	3107	64.3%
2015	1976	39.8%	2986	60.2%	2016	1504	34.2%	2900	65.8%
2016	1772	38.2%	2867	61.8%	2017	1353	33.8%	2651	66.2%
2017	1581	36.7%	2723	63.3%	2018	TBD			

Figures: Fall and Spring Enrollment Trends

Figure 1: Fall Enrollment Trends

Traditional: 5458 (2013), 5245 (2014), 4962 (2015), 4639 (2016), 4304 (2017)
Online: 2918 (2013), 2749 (2014), 2854 (2015), 2743 (2016), 2791 (2017)

Y-axis: Headcount (1000–6000)
Legend: Online, Traditional
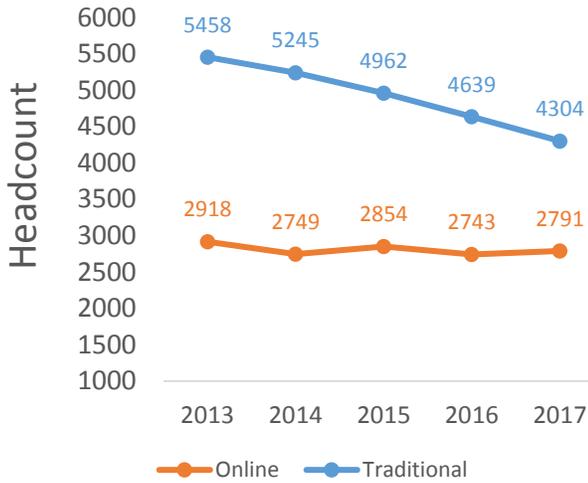
Figure 2: Spring Enrollment Trends

Traditional: 4869 (2014), 4829 (2015), 4404 (2016), 4004 (2017)
Online: 2889 (2014), 2823 (2015), 2856 (2016), 2696 (2017)

Y-axis: Headcount (1000–6000)
Legend: Online, Traditional
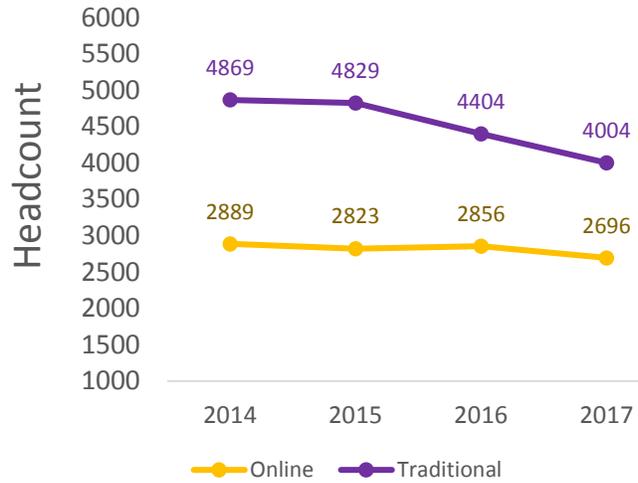
Figure 3: Projections for Fall Enrollment (2018 to 2022)

Traditional: 5458, 5245, 4962, 4639, 4304

$y = -291.4x + 5795.8$
$R^2 = 0.9929$

Online: 2918, 2749, 2854, 2743, 2791

$y = -26x + 2889$
$R^2 = 0.305$

Y-axis: Headcount (1000–6000)
X-axis: 2013–2022
Legend: Online, Traditional, Linear (Online), Linear (Traditional)
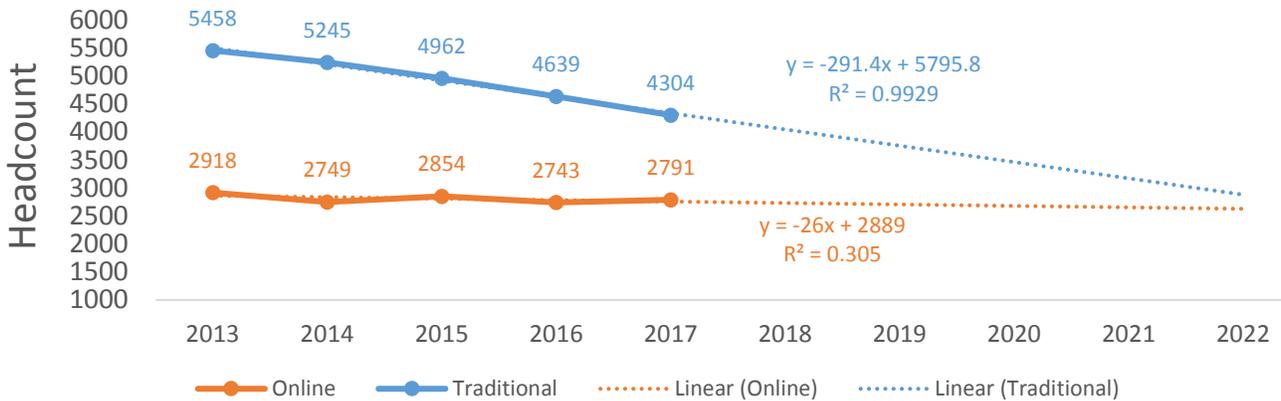
Figure 4: Projections for Spring Enrollment (2018 to 2022)

Traditional: 4869, 4829, 4404, 4004

$y = -302x + 5281.5$
$R^2 = 0.9179$

Online: 2889, 2823, 2856, 2696

$y = -54.6x + 2952.5$
$R^2 = 0.6972$

Y-axis: Headcount (1000–6000)
X-axis: 2014–2022
Legend: Online, Traditional, Linear (Online), Linear (Traditional)
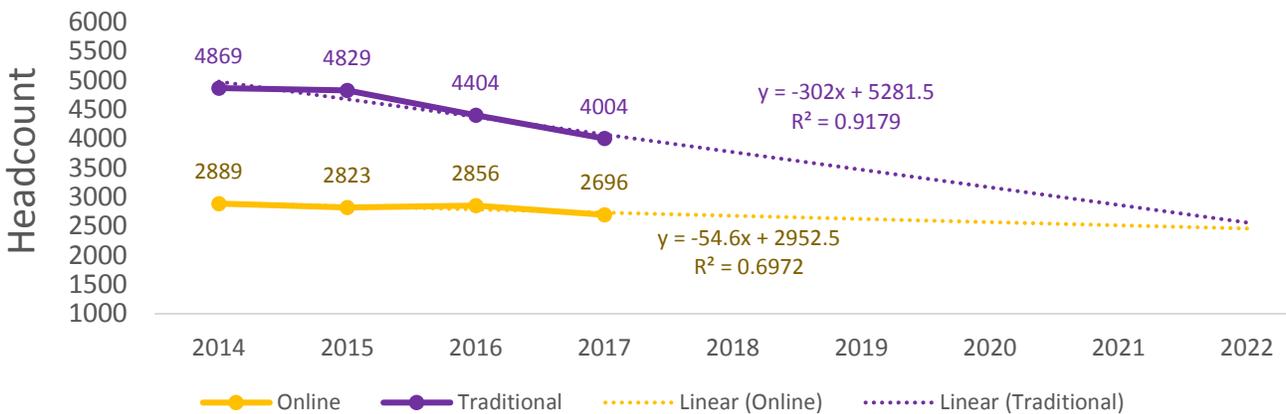
Fall Figures: Full Time and Part Time Enrollment Trends

Figure 5: Fall *Full Time* Trends: Traditional vs. Online

Traditional Full Time: 2013: 2217, 2014: 2042, 2015: 1976, 2016: 1772, 2017: 1581

Online Full Time: 2013: 959, 2014: 952, 2015: 1026, 2016: 941, 2017: 1025
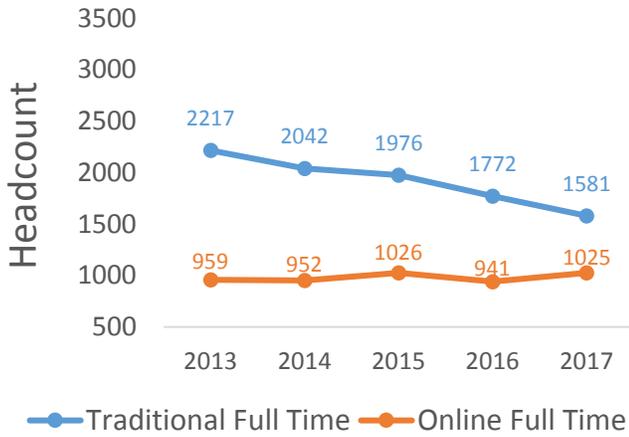
Figure 6: Fall *Part Time* Trends: Traditional vs. Online

Traditional Part Time: 2013: 3241, 2014: 3203, 2015: 2986, 2016: 2867, 2017: 2723

Online Part Time: 2013: 1959, 2014: 1797, 2015: 1828, 2016: 1802, 2017: 1766
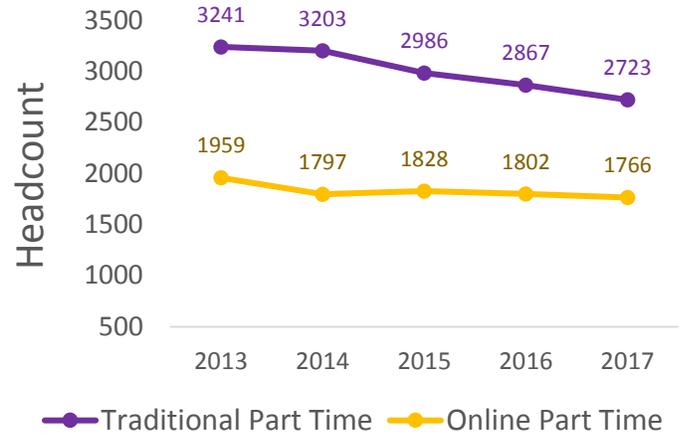
Figure 7: Trendline Projections for Fall *Full Time* Students: Traditional vs. Online

Traditional Full Time: 2013: 2217, 2014: 2042, 2015: 1976, 2016: 1772, 2017: 1581

Online Full Time: 2013: 959, 2014: 952, 2015: 1026, 2016: 941, 2017: 1025

$y = -154.2x + 2380.2$
$R^2 = 0.9784$

$y = 12.1x + 944.3$
$R^2 = 0.2126$

Legend: Traditional Full Time, Online Full Time, Linear (Traditional Full Time), Linear (Online Full Time)
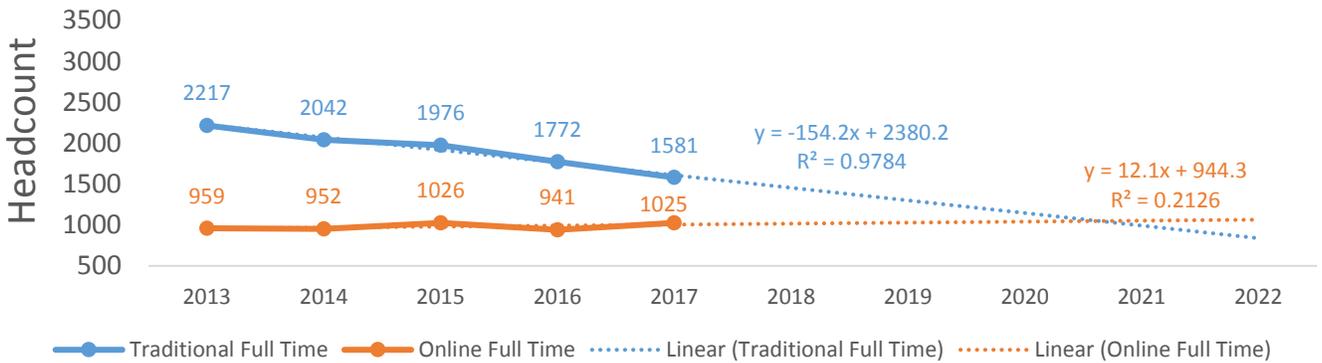
Figure 8: Trendline Projections for Fall *Part Time* Students: Traditional vs. Online

Traditional Part Time: 2013: 3241, 2014: 3203, 2015: 2986, 2016: 2867, 2017: 2723

Online Part Time: 2013: 1959, 2014: 1797, 2015: 1828, 2016: 1802, 2017: 1766

$y = -137.2x + 3415.6$
$R^2 = 0.9712$

$y = -38.1x + 1944.7$
$R^2 = 0.6419$

Legend: Traditional Part Time, Online Part Time, Linear (Traditional Part Time), Linear (Online Part Time)
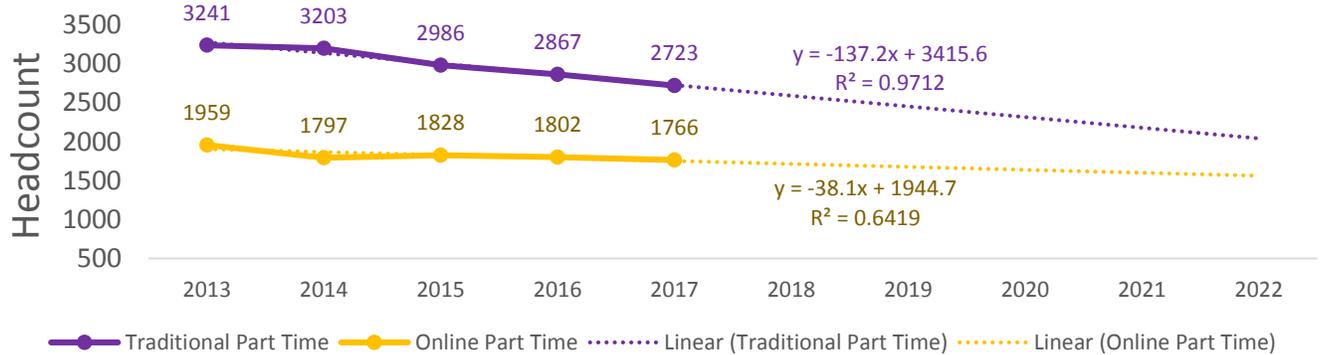
Spring Figures: Full Time and Part Time Enrollment Trends

Figure 9: Spring *Full Time* Trends: Traditional vs. Online

Year	Traditional Full Time	Online Full Time
2014	1740	988
2015	1722	949
2016	1504	1036
2017	1353	956

Figure 10: Spring *Part Time* Trends: Traditional vs. Online

Year	Traditional Part Time	Online Part Time
2014	3129	1901
2015	3107	1874
2016	2900	1820
2017	2651	1740
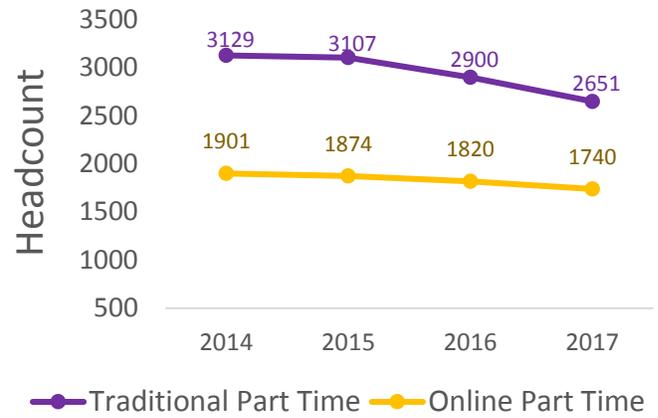
Figure 11: Trendline Projections for Spring *Full Time* Students: Traditional vs. Online

Traditional Full Time: $y = -137.9x + 1924.5$, $R^2 = 0.9225$

Online Full Time: $y = -0.9x + 984.5$, $R^2 = 0.0009$

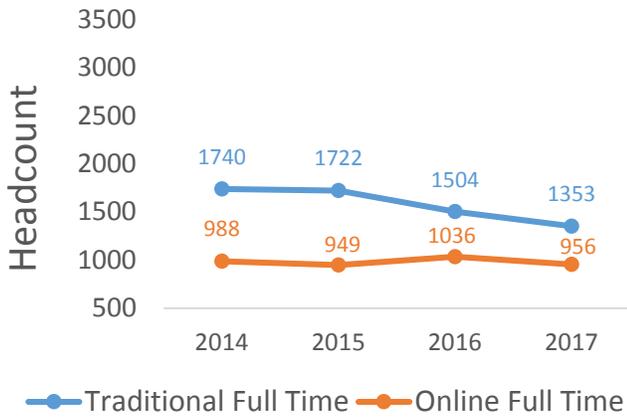Data points: Traditional Full Time — 1740 (2014), 1722 (2015), 1504 (2016), 1353 (2017); Online Full Time — 988 (2014), 949 (2015), 1036 (2016), 956 (2017)
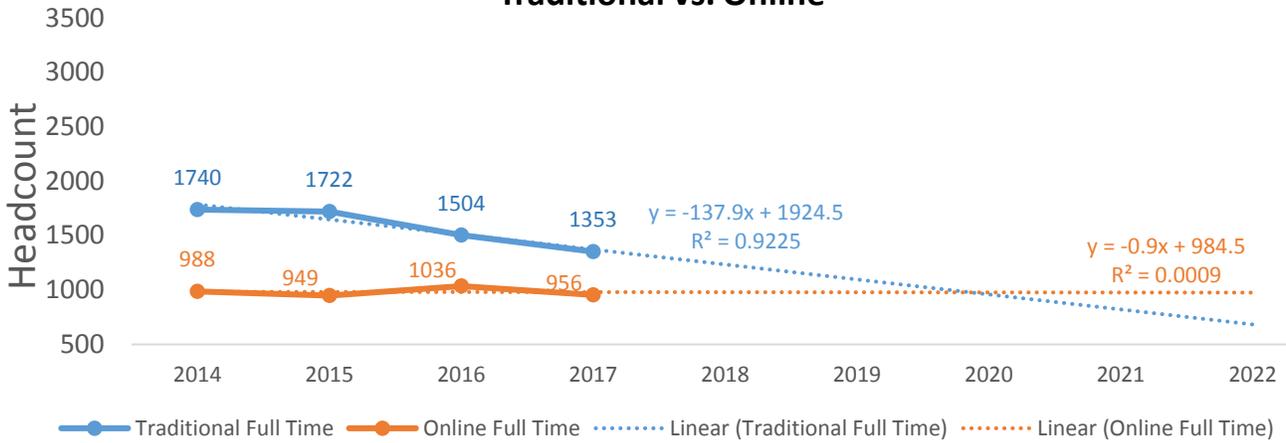
Figure 12: Trendline Projections for Spring *Part Time* Students: Traditional vs. Online

Traditional Part Time: $y = -164.1x + 3357$, $R^2 = 0.9064$

Online Part Time: $y = -53.7x + 1968$, $R^2 = 0.9536$

Data points: Traditional Part Time — 3129 (2014), 3107 (2015), 2900 (2016), 2651 (2017); Online Part Time — 1901 (2014), 1874 (2015), 1820 (2016), 1740 (2017)
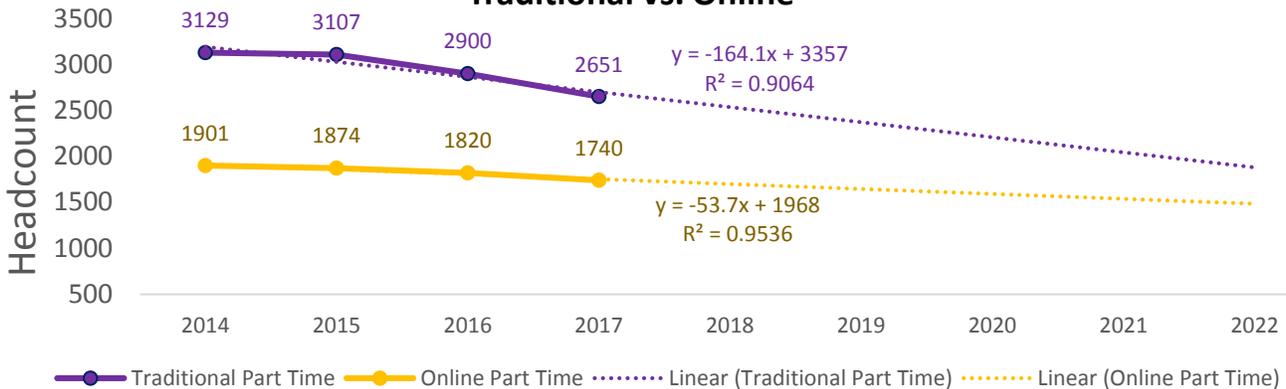
Tables: Age and Gender

Table 4: Average Age of Online Students and Traditional Students						
Fall				**Spring**		
Year	Online Students	Traditional Students		Year	Online Students	Traditional Students
2013	24.9	23.9		2014	25.9	24.4
2014	25.5	24.1		2015	25.2	24.6
2015	25.4	24.0		2016	25.1	24.6
2016	24.8	24.4		2017	25.1	25.0
2017	24.9	24.5		2018	TBD	

Table 5: Enrollment of Male and Female Online Students at Kapi`olani CC									
Fall					**Spring**				
Year	Female Students	Percent Female Students	Male Students	Percent Male Students	Year	Female Students	Percent Female Students	Male Students	Percent Male Students
2013	1857	63.6%	1061	36.4%	2014	1806	62.5%	1083	37.5%
2014	1786	65%	963	35%	2015	1865	66.1%	958	33.9%
2015	1831	64.2%	1023	35.8%	2016	1845	64.6%	1011	35.4%
2016	1812	66.1%	931	33.9%	2017	1725	64%	971	36%
2017	1828	65.5%	963	34.5%	2018	TBD			

Table 6: Enrollment of Male and Female Traditional Students at Kapi`olani CC									
Fall					**Spring**				
Year	Female Students	Percent Female Students	Male Students	Percent Male Students	Year	Female Students	Percent Female Students	Male Students	Percent Male Students
2013	2853	52.3%	2605	47.7%	2014	2552	52.4%	2317	47.6%
2014	2761	52.6%	2484	47.4%	2015	2555	52.9%	2274	47.1%
2015	2706	54.5%	2256	45.5%	2016	2400	54.5%	2004	45.5%
2016	2544	54.8%	2095	45.2%	2017	2200	54.9%	1804	45.1%
2017	2350	54.6%	1954	45.4%	2018	TBD			

Figures: Gender and Enrollment by Semester

Figure 13: Fall Enrollment Numbers by Gender

Female Traditional: 2853 (2013), 2761 (2014), 2706 (2015), 2544 (2016), 2350 (2017)
Male Traditional: 2605 (2013), 2484 (2014), 2256 (2015), 2095 (2016), 1954 (2017)
Female Online: 1857 (2013), 1786 (2014), 1831 (2015), 1812 (2016), 1828 (2017)
Male Online: 1061 (2013), 963 (2014), 1023 (2015), 931 (2016), 963 (2017)

Figure 14: Spring Enrollment Numbers by Gender

Female Traditional: 2552 (2014), 2555 (2015), 2400 (2016), 2200 (2017)
Male Traditional: 2317 (2014), 2274 (2015), 2004 (2016), 1804 (2017)
Female Online: 1806 (2014), 1865 (2015), 1845 (2016), 1725 (2017)
Male Online: 1083 (2014), 958 (2015), 1011 (2016), 971 (2017)

Tables: Permanent Home Address of Students (State of Hawai`i)

Table 7: Hawaiian Geographic Location of Online Students at Kapi`olani CC																
Island and/or County	Fall 2013		Spring 2014		Fall 2014		Spring 2015		Fall 2015		Spring 2016		Fall 2016		Spring 2017	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Honolulu (Urban)	1259	48.2	1214	47.1	1231	50.6	1228	49.5	1303	51.2	1313	52.3	1222	50.5	1232	52.3
O'ahu (Leeward)	617	23.6	603	23.4	551	22.7	595	24.0	566	22.2	556	22.1	534	22.1	520	22.1
O'ahu (Windward)	236	9.0	241	9.4	185	7.6	187	7.5	216	8.5	210	8.4	192	7.9	186	7.9
Honolulu (East)	185	7.1	197	7.7	176	7.2	188	7.6	185	7.3	190	7.6	186	7.7	197	8.4
Hawai'i	122	4.7	126	4.9	102	4.2	96	3.9	88	3.5	80	3.2	92	3.8	76	3.2
Maui County	110	4.2	101	3.9	116	4.8	100	4	114	4.5	93	3.7	107	4.4	80	3.4
Kaua'i	81	3.1	93	3.6	70	2.9	87	3.5	74	2.9	69	2.7	88	3.6	64	2.7

Table 8: Hawaiian Geographic Location of Traditional Students at Kapi`olani CC																
Island and/or County	Fall 2013		Spring 2014		Fall 2014		Spring 2015		Fall 2015		Spring 2016		Fall 2016		Spring 2017	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Honolulu (Urban)	2824	59.4	2597	60.8	2750	60.9	2571	61.1	2677	62.3	2402	62.5	2499	62.0	2113	60.5
O'ahu (Leeward)	811	17.1	714	16.7	747	16.5	676	16.1	681	15.8	635	16.5	723	17.9	666	19.1
O'ahu (Windward)	389	8.2	306	7.2	367	8.1	352	8.4	349	8.1	285	7.4	307	7.6	287	8.2
Honolulu (East)	422	8.9	388	9.1	427	9.5	389	9.2	409	9.5	343	8.9	353	8.8	298	8.5
Hawai'i	131	2.8	117	2.7	85	1.9	92	2.2	60	1.4	60	1.6	58	1.4	48	1.4
Maui County	95	2.0	83	1.9	79	1.7	66	1.6	57	1.3	62	1.6	48	1.2	47	1.3
Kaua'i	61	1.3	52	1.2	51	1.1	52	1.2	50	1.2	38	1.0	33	0.8	22	0.6

Regions of Oʻahu are shaded in gray. Total numbers in Table 7 and Table 8 will differ from headcount given in previous tables to account for local students who have not supplied a permanent home address or for students who do not have a permanent address in the Hawaiian Islands.

Tables: Ethnicity Demographics for the Past Two Academic Years

Table 9: Ethnicity of Online Students at Kapi`olani CC								
Ethnicity	**Fall 2015**		**Spring 2016**		**Fall 2016**		**Spring 2017**	
	Count	%	Count	%	Count	%	Count	%
Asian	1369	48.0	1398	48.9	1353	49.3	1355	50.3
Native Hawaiian	536	18.8	524	18.3	533	19.4	480	17.8
Mixed Race (2 or more)	387	13.6	395	13.8	371	13.5	371	13.8
Caucasian	397	13.9	384	13.4	336	12.2	355	13.2
Pacific Islander, Guamanian, or Chamorro	35	1.2	44	1.5	45	1.6	46	1.7
African American or Black	46	1.6	46	1.6	45	1.6	36	1.3
Hispanic	55	1.9	38	1.3	35	1.3	35	1.3
American Indian or Alaskan Native	13	0.5	*	*	10	0.4	*	*

Table 10: Ethnicity of Traditional Students at Kapi`olani CC								
Ethnicity	**Fall 2015**		**Spring 2016**		**Fall 2016**		**Spring 2017**	
	Count	%	Count	%	Count	%	Count	%
Asian	2619	52.8	2290	52.0	2522	54.4	2166	54.1
Native Hawaiian	782	15.8	671	15.2	697	15.0	595	14.9
Mixed Race (2 or more)	689	13.9	609	13.8	671	14.5	578	14.4
Caucasian	552	11.1	543	12.3	516	11.1	459	11.5
Pacific Islander, Guamanian, or Chamorro	105	2.1	86	2.0	81	1.7	71	1.8
African American or Black	66	1.3	60	1.4	52	1.1	57	1.4
Hispanic	83	1.7	78	1.8	73	1.6	60	1.5
American Indian or Alaskan Native	13	0.3	13	0.3	*	*	*	*

Asterisks indicate numbers that were too small to ensure student anonymity and have been removed. Total numbers in Table 9 and Table 10 may differ for the headcount given in previous tables to account for students who have not supplied information ("no data") on ethnicity. Native Hawaiian and Pacific Islander groups are highlighted due to effort to close gaps with those specific populations. Filipino students are aggregated with Asian population, which aligns with the definitions used by the University of Hawai`i Office of the Vice President for Community Colleges.

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