

ENROLLMENT PROJECTIONS
UNIVERSITY OF HAWAI'I COMMUNITY COLLEGES
FALL 2016 TO FALL 2021

Institutional Research and Analysis Office
University of Hawai'i System
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INTRODUCTION

This report presents information on historical and projected headcount enrollment for the University of Hawai'i Community Colleges: Hawai'i, Honolulu, Kapi'olani, Kaua'i, Leeward, Maui College and Windward. The projections are statistical extrapolations of current trends in enrollment. In general, they neither set enrollment targets nor take into consideration planned or potential changes in University policies or procedures. They should be considered as an extension into the future of current enrollment trends and may be used as a foundation for further work in the planning and budgeting processes. They are based upon unduplicated headcounts of students enrolled in credit courses. Included are classified students enrolled in general and pre-professional or career and technical education programs as well as unclassified students. Special students (early admits) are included for all years, both historical and projected.

The projection reports also make use of a time series analysis, conducted by UH IRAO staff, which incorporates a variety of economic and demographic factors. This model has been used to guide and validate the standard model projection methodology. (Detailed information on the time series analysis is available as a separate publication.)

Historical data are included in the tables to facilitate comparison and analysis. They were extracted from student enrollment, academic crossover and course registration data files. Information on Hawai'i public high school seniors was provided by the State of Hawai'i Department of Education. Information on Hawai'i public and private high school graduates was obtained from the Western Interstate Commission for Higher Education (WICHE).

METHODOLOGY

The projections for each campus are broken out by student type: first-time, transfer, returning and continuing. Enrollment for each student type category is forecast separately (discussed in detail below). Breakout by program area for first-time, transfer and returning students makes use of average distribution ratios. For continuing students, breakout by program area is made using continuation rates. The UHCC system level numbers for all student types are sums of the data for the individual campuses.

First-time student enrollment is divided into five sub-categories, based upon the geographic location of high school of origin. Each category is forecast separately:

- (a) Hawai'i public high school graduates entering the UH Community Colleges in the fall semester immediately following graduation from high school are called **direct public entrants**. To forecast these entrants, the enrollment projections make use of the public high school senior forecast provided by the Hawai'i Department of Education (see Appendix A). Historical college participation rates of high school seniors are calculated for each campus by school district. An average of these rates is then applied to the annual high school senior forecast by district to yield the projected number of direct public entrants.
- (b) Hawai'i private high school graduates entering the UH Community Colleges in the fall semester immediately following their graduation from high school are called **direct private entrants**. To forecast these entrants, the enrollment projections make use of the private high school graduate forecast for Hawai'i published by the Western Interstate Commission for Higher Education (see Appendix B). Historical ratios of direct private entrants to total Hawai'i private high school graduates are calculated. An average ratio is then applied to the WICHE annual private high school graduate forecast to yield the projected number of direct private entrants.
- (c) First-time students from the **U.S. mainland**, as well as those from **foreign countries and U.S. related areas**, are forecast using trends or historical averages. U.S. related areas include students from U.S. Territories (American Samoa, Guam and the Virgin Islands), students from U.S. Commonwealths (Puerto Rico and the Northern Marianas) and students from the Compact of Free Association states (Federated States of Micronesia, Palau and the Republic of the Marshall Islands).
- (d) All other first-time students, such as those who completed the General Education Development (GED) examination, home schooled students, those Hawai'i high school graduates who have been out of high school for more than one year and those students who did not graduate from high school, are called **other first-time students**. They are projected for each campus using trends or historical averages.

Transfer and **Returning** student enrollment generally are forecast using one of two methods: for those campuses where the enrollment shows a distinct trend, a linear or logarithmic trend is used; for those campuses where the enrollment does not show a trend, a numerical average is used.

Continuing students are forecast for each campus using continuation rates. In this report, a continuation rate is the ratio of continuing enrollment for a given program area to the previous fall semester's total enrollment for that same program area. Historical average continuation rates are applied to the total enrollment by program area to forecast the next year's continuing enrollment.

Table 1 provides headcount enrollment for the UH Community College system by student type and program area. Table 2 gives the headcount enrollment indices for the campuses and the UHCC system as a whole (Fall 2015 = 100). Table 3 summarizes headcount by campus and student type, while Table 4 summarizes headcount by campus and program area. Table 5 provides breakout by attendance status (full-time and part-time). Appendix A shows historical and DOE projected enrollment of Hawai'i public high school seniors by geographic district (last updated in June 2015). Appendix B gives WICHE forecasts of Hawai'i public and private high school graduates through academic year 2027-28 (last updated in December 2012).

In addition to the tables at the UH Community College system level, detailed tables are included for each UH Community College campus showing projected headcount enrollment by student type, headcount enrollment by program area, student semester hours (SSH) offered by program and full-time equivalent (FTE) course enrollment served by program.

Figure 1 illustrates headcount enrollment at the UH Community Colleges from fall 2006 to fall 2015 and the projected enrollment through fall 2021. Figure 2 provides an enrollment index to facilitate comparison with other University of Hawai'i units and campuses (Fall 2015 = 100). Figure 3 shows the historical enrollment for the UH Community Colleges from inception through fall 2015, while Figure 4 illustrates projected enrollment through fall 2021. Figure 5 shows the forecast upper and lower error boundaries. Figures 6 through 9 illustrate historical and projected enrollment by student type. Figure 10 gives historical and projected enrollment by program area. Charts also are provided for each UH Community College campus (at the head of each campus section).

ANALYSIS AND HIGHLIGHTS

- Total headcount enrollment for the University of Hawai'i Community Colleges declined 1.9% in fall 2015 to measure 30,370 students, the fifth consecutive decline in fall semester enrollment (Table 1 & Figure 1). Total headcount enrollment has declined 11.2% from the peak level measured in fall 2010. **Headcount enrollment for the UH Community College system is forecast to decline 1.0% in fall 2016 to measure 30,076, and to continue to decline at a very mild rate through fall 2019.**
- Headcount enrollment for the UH Community Colleges grew rapidly through the 1960s and 1970s, as new campuses were added and as the "baby boom" generation entered college (Figure 3). Enrollment continued to grow at a more modest pace through the 1980s and 1990s, when enrollment surpassed 25,000 students. Beginning in 2008, another period of rapid growth ensued, with enrollment peaking at over 34,000 in fall 2010. Enrollment has since declined for five consecutive fall semesters.

- A linear trend measured from fall 1975 through fall 2007 illustrates that after the initial boom period of the 60s and early 70s, enrollment settled into an extended period of modest but persistent growth (Figure 3). Enrollment has shown periods of rapid growth followed by rapid decline, once in the period from 1980 to 1984, and again from 1988 through 1997. In both cases enrollment eventually returned to the long-term linear trend. The recent period of rapid growth and subsequent decline in enrollment appears to be following this same pattern. Extending the 1975-07 trend forward to fall 2021, the forecast lies somewhat above this long-term trend line (Figure 4).
- Accuracy in the enrollment forecast is tracked by UH IRAO and varies from year to year. Several observations are of note: in percentage terms, forecasts tend to be more accurate for larger campuses or units than for smaller ones; forecasts become less accurate the further out in time they go; forecasts are more accurate in periods of relative stability than they are in periods of rapid change. The ten-year average variance in the forecast for the UHCC system has been 2.5% at year one and 14.9% at year six. Applying these measure of variance to the forecast for fall 2016 yields the high and low projection series, as illustrated in Figure 5. Since the methodology employed by UH IRAO in making these forecasts is conservative, the projected numbers will tend to underestimate enrollment in periods of rapid increase and to overestimate enrollment in periods of rapid decline.
- First-time student enrollment at the UH Community Colleges grew at an average annual rate of 6.5% from fall 2004 to fall 2010, increasing 46% overall (Figure 6). The going rate (college participation rate) of public high school graduates into the UHCC campuses increased steadily over this period, surpassing 30% by fall 2009 (see the MAPS report entitled: “High School Background of First-Time Students”). The public high school going rate to the UHCC has declined since, falling to 25.3% in fall 2015. Hawai'i public high school seniors are forecast by the Hawai'i Department of Education to decrease slightly in academic year 2015-16 and then increase mildly through academic year 2020-21 (Appendix A).
- Transfer student enrollment more than doubled from the low in fall 2004 to the peak in fall 2010, increasing from just under 2,300 students to more than 5,700 (Figure 7). Transfer activity has declined somewhat since, measuring just over 5,000 in fall 2015. The forecast for the UHCC system is modest growth through 2021.
- Returning student enrollment has been up and down in recent years, with a peak enrollment of 2,450 measured in fall 2009 (Figure 8). However, returning enrollment has declined the last two fall semesters to fall below 2,000 in fall 2015. The forecast calls for continued mild decline through fall 2021.

- Continuing enrollment makes up more than half of the total headcount enrollment, by far the largest share of any of the student type categories. Continuing enrollment increased every year from fall 2005 to fall 2011, growing 46% over this period (Figure 9). However, continuing enrollment has declined the last four fall semesters, and is down 15% from the peak measured in fall 2011. Continuing student enrollment is a function of both the number of entering students in prior semesters (especially first-time and transfer) and their persistence patterns. Increase in first-time and transfer student enrollment in fall 2015 should help sustain continuing enrollment.
- Students who are registered and enrolled in classes at a UH campus that is not their home campus of record are considered to be unclassified by definition at the campus where registered. Tracking of this enrollment category began with the transition to Banner in fall 2003. Since then, the percentage at the UHCC campuses has increased, measuring 16% in fall 2015 (Figure 10). Enrollment of early admits (high school students admitted to college courses) may increase in the future due to recent grant funding dedicated to the purpose of helping high school students make the transition to college. Details on this strategy system-wide were not available when this report was completed.

PROJECTIONS BY CAMPUS

Hawai'i Community College: After peaking in fall 2011 at just over 3,900 students, headcount enrollment has declined for four fall semesters, measuring 3,087 in fall 2015 (Table A1 & Figure A1). Overall, enrollment has declined 21% over this period. Further declines in classified students may be offset to some extent by increases in unclassified students, especially early admits. However, early admits tend to carry low credit loads (average = 3.4 in fall 2015). Consequently, further decline in student semester hours offered and FTE course enrollment served are anticipated (Tables A3 and A4).

Honolulu Community College: After declining for four fall semesters, headcount enrollment increased 4.4% in fall 2015 to measure 4,328 (Table B1 & Figure B1). Honolulu CC was the only campus in the UHCC system to post an enrollment increase in fall 2015. However, enrollment is still 8.4% below the peak measured in fall 2010. The forecast calls for continued mild growth, with enrollment surpassing 4,600 by fall 2021. Recent growth in the number of early admits adds uncertainty to the forecast, however, in that whether or not these increases can be sustained is not known.

Kapi'olani Community College: Headcount enrollment peaked in fall 2010 at 9,301 and has declined for five consecutive fall semesters, measuring 7,816 in fall 2015 (Table C1 & Figure C1). Enrollment has declined 16% since the peak measured in fall 2010.

Enrollment is forecast to decline very mildly through 2021, but to remain above 7,600 (Figure C3). The disposition of early admit enrollment is also an unknown for this campus.

Kaua'i Community College: Headcount enrollment declined 1.6% in fall 2015 to measure 1,401 students (Table D1 & Figure D1). This decline comes after a 6.9% decline in fall 2014. Despite these recent declines, however, enrollment appears to have recovered from the long decline which followed Hurricane Iniki in 1992. Enrollment is forecast to decline very mildly through 2021 (Figure D3).

Leeward Community College: Headcount enrollment declined 2.7% in fall 2015 to measure 7,535 students (Table E1 & Figure E4). This decline follows a 2.9% decline in fall 2014. Enrollment has decline 5.5% from the peak measured in fall 2013. Enrollment is expected to decline 1.4% in fall 2016 to measure 7,427, then to decline very mildly through 2019. The Hawai'i DOE forecast of high school seniors shows steady increases in the Leeward district beginning in academic year 2016-17 through 2020-21 (Appendix A). These increases should help support first-time enrollment at Leeward CC and mitigate against further decline in overall headcount enrollment.

University of Hawai'i Maui College: Headcount enrollment at UH Maui College declined 5.7% in fall 2015 to measure 3,593 students (Table F1 & Figure F1). This was the fourth consecutive decline in fall semester enrollment. Enrollment has declined 20.6% since the peak measured in fall 2011. Prior to fall 2008, the long-term trend had been for steady enrollment growth (Figure F3). As for other campuses in the UHCC system, and for the UHCC system overall, the high rate of growth realized from fall 2008 to fall 2011 could be considered an anomaly, with enrollment now returning to the long-term trend. The forecast calls for additional mild decline, but with enrollment remaining above 3,300 through fall 2021.

Windward Community College: Headcount enrollment declined 1.9% in fall 2015 to measure 2,610 (Table G1 & Figure G1). This decline follows a 4.9% decline in fall 2014. Enrollment had peaked in fall 2013 at 2,799, the all-time high for the campus in headcount enrollment. The forecast has enrollment declining very mildly through 2019 and sustaining 2,500 through 2021.

Hawai'i Community College Headcount Enrollment Projections

Figure A1
Recent and Projected Headcount Enrollment

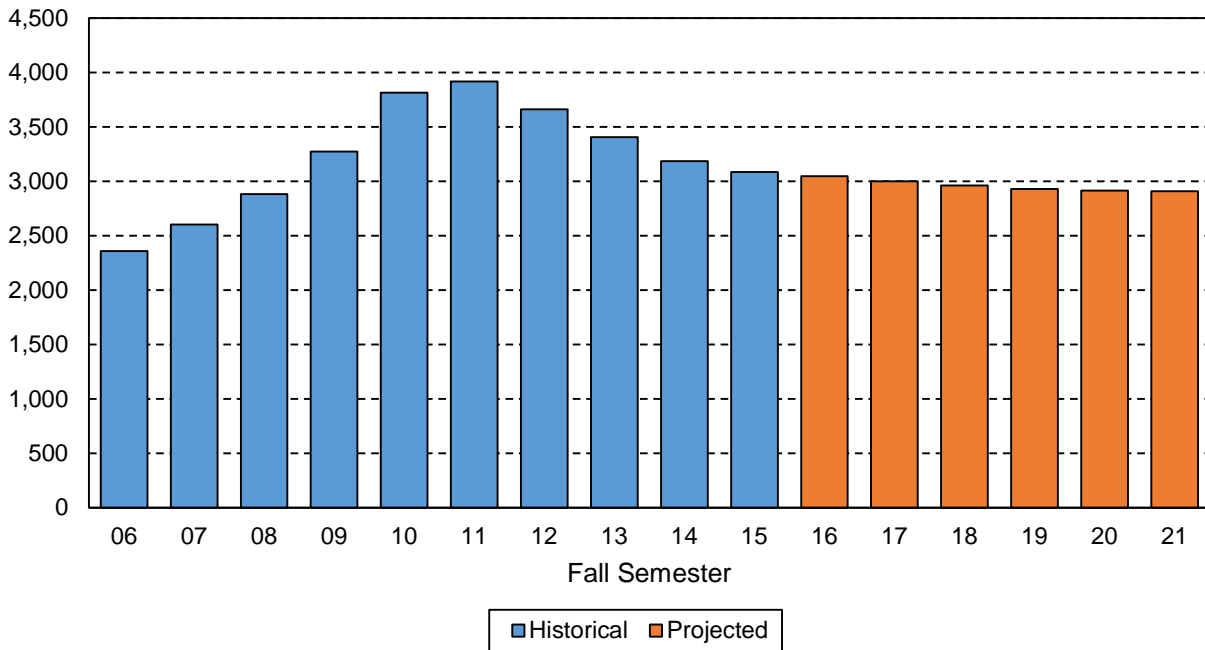
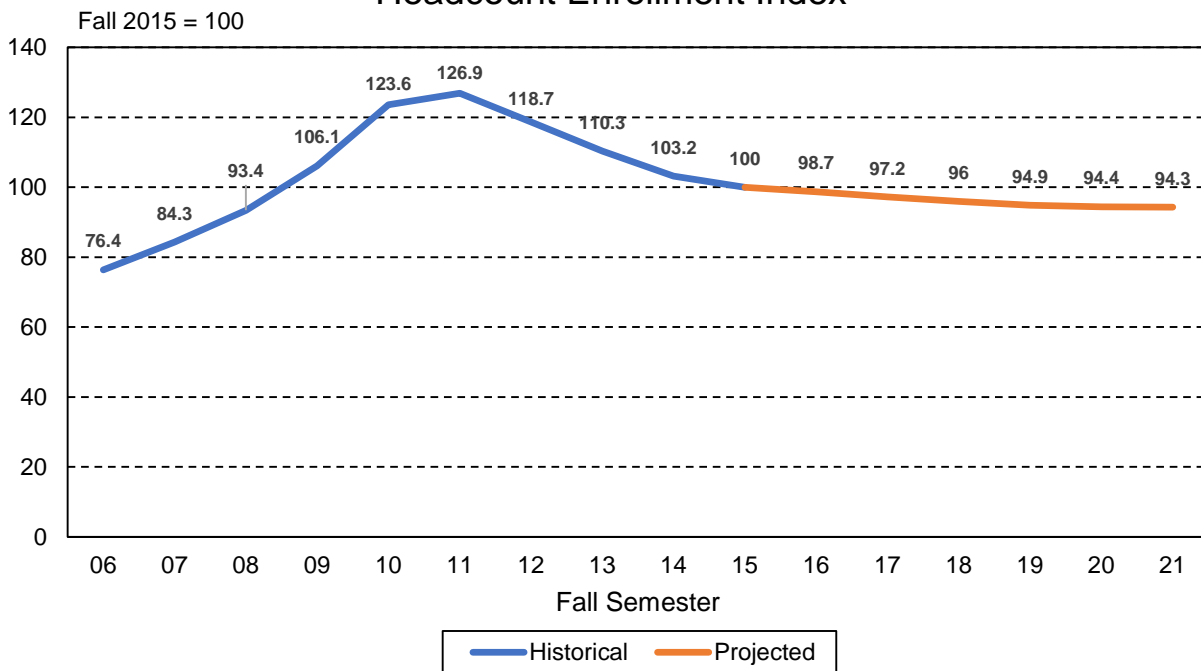


Figure A2
Headcount Enrollment Index



Hawai'i Community College Headcount Enrollment Projections

Figure A3
Historical and Projected Headcount Enrollment

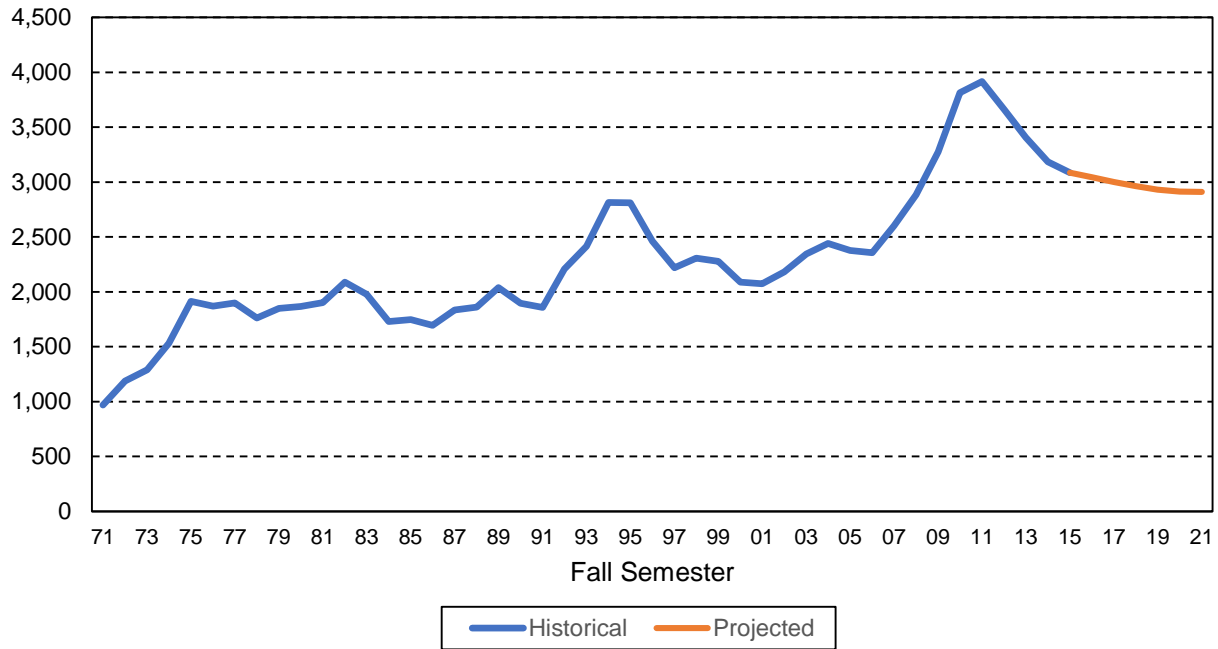
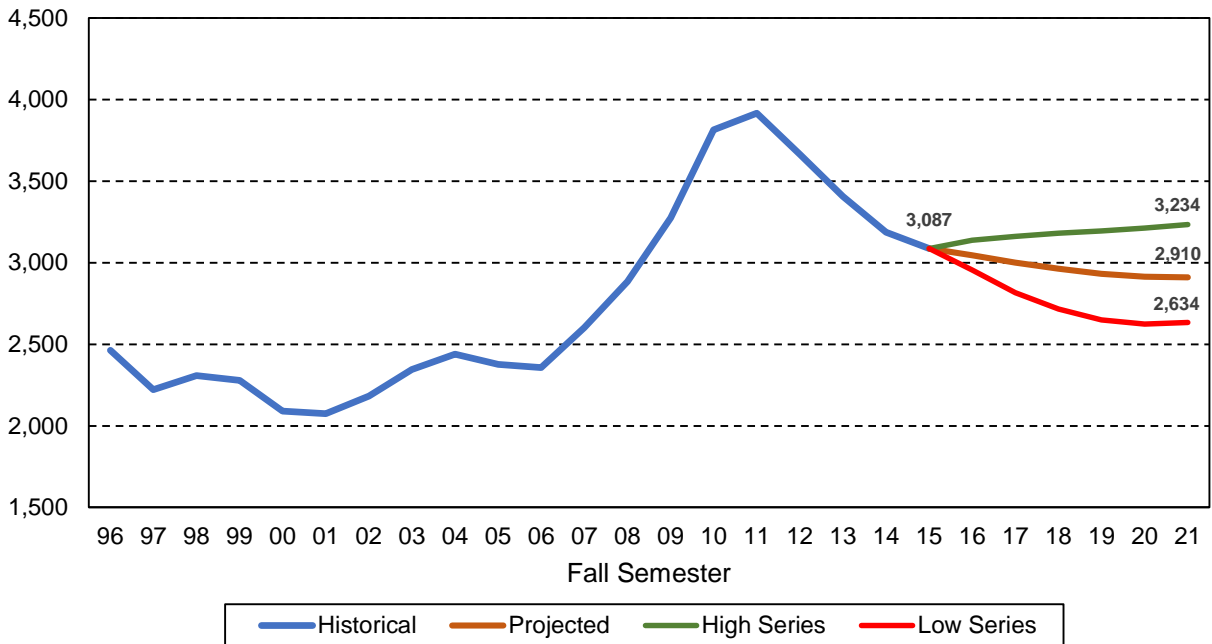


Figure A4
Projected Enrollment with Error Boundaries



**TABLE A1
HEADCOUNT ENROLLMENT BY STUDENT TYPE AND PROGRAM AREA
HAWAI'I COMMUNITY COLLEGE
FALL 2010 TO FALL 2021**

REGISTRATION STATUS	HISTORICAL						PROJECTED					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
TOTAL	3,815	3,917	3,663	3,406	3,186	3,087	3,046	3,000	2,963	2,931	2,914	2,910
General & Pre-Professional Ed ...	1,137	1,331	1,510	1,510	1,256	1,110	1,065	1,036	1,018	1,004	996	992
Career & Technical Ed	2,114	2,049	1,661	1,412	1,377	1,244	1,186	1,150	1,126	1,108	1,096	1,090
Unclassified	68	71	59	68	68	51	69	71	71	72	74	79
Specials	96	107	109	109	197	353	350	350	350	350	350	350
Home-Based at Other UH 1/.....	400	359	324	307	288	329	376	393	398	397	398	399
First-Time By HS Background	1,129	1,135	1,004	904	899	981	1,002	1,002	1,003	1,000	1,007	1,019
Direct from HI Public HS	460	424	423	373	356	307	330	328	328	327	334	344
Direct from HI Private HS	40	44	36	25	27	32	33	35	36	34	34	36
U.S. Mainland	77	104	94	78	63	59	59	59	59	59	59	59
Foreign & U.S. Related Areas	26	25	31	19	14	27	27	27	27	27	27	27
Other First-Time Students 2/	526	538	420	409	439	556	553	553	553	553	553	553
First-Time, By Program	1,129	1,135	1,004	904	899	981	1,002	1,002	1,003	1,000	1,007	1,019
General & Pre-Professional Ed ...	372	400	423	407	300	295	301	301	302	301	303	306
Career & Technical Ed	636	574	424	323	334	276	282	282	282	281	283	287
Unclassified	11	38	32	45	52	33	44	44	44	44	46	51
Specials (Early Admits) 3/	96	107	109	109	197	353	350	350	350	350	350	350
Home-Based at Other UH 1/.....	14	16	16	20	16	24	25	25	25	24	25	25
Transfer	448	419	384	433	375	362	362	362	362	362	362	362
General & Pre-Professional Ed ...	93	116	135	153	115	86	86	86	86	86	86	86
Career & Technical Ed	176	151	114	147	145	130	130	130	130	130	130	130
Unclassified	15	7	3	2								
Home-Based at Other UH 1/.....	164	145	132	131	115	146	146	146	146	146	146	146

TABLE A1
HEADCOUNT ENROLLMENT BY STUDENT TYPE AND PROGRAM AREA
HAWAI'I COMMUNITY COLLEGE
FALL 2010 TO FALL 2021

REGISTRATION STATUS	HISTORICAL						PROJECTED					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Returning	321	343	318	295	254	230	217	206	197	189	182	175
General & Pre-Professional Ed ...	95	130	166	138	108	95	90	85	81	78	75	72
Career & Technical Ed	209	196	139	147	138	124	117	111	106	102	98	94
Unclassified	12	6	1		1		1	1	1	1	1	1
Home-Based at Other UH 1/.....	5	11	12	10	7	11	9	9	9	8	8	8
Continuing	1,917	2,020	1,957	1,774	1,658	1,514	1,465	1,430	1,401	1,380	1,363	1,354
General & Pre-Professional Ed ...	577	685	786	812	733	634	588	564	549	539	532	528
Career & Technical Ed	1,093	1,128	984	795	760	714	657	627	608	595	585	579
Unclassified	30	20	23	21	15	18	24	26	26	27	27	27
Home-Based at Other UH 1/.....	217	187	164	146	150	148	196	213	218	219	219	220

1/ Students whose home-campus, as defined in Banner / ODS, is not Hawai'i Community College.

2/ Includes GED, students from Hawai'i who are not recent high school graduates, records with invalid high school code and unclassified.

3/ Early Admits are high school students admitted to college courses; they are unclassified by definition.

SOURCE: UH Institutional Research and Analysis Office, January 2016.

TABLE A2
HEADCOUNT ENROLLMENT BY PROGRAM
HAWAI'I COMMUNITY COLLEGE
FALL 2015 TO FALL 2021

PROGRAM	HISTORICAL	PROJECTED					
	2015	2016	2017	2018	2019	2020	2021
Total Students	3,087	3,046	3,000	2,963	2,931	2,914	2,910
General & Pre Prof Ed	1,110	1,065	1,036	1,018	1,004	996	992
Hawaiian Studies 1/	51	49	48	47	46	46	46
Liberal Arts 2/	1,015	974	947	931	918	911	907
Natural Sciences	44	42	41	40	40	39	39
Career & Technical Ed	1,244	1,186	1,150	1,126	1,108	1,096	1,090
Business	222	212	206	201	198	196	195
Food Services	87	83	80	79	77	77	76
Health Services	249	237	230	225	222	219	218
Public Services	291	277	269	263	259	256	255
Technology	395	377	365	358	352	348	346
Unclassified	733	795	814	819	819	822	828
Regular Unclassified 2/	51	69	71	71	72	74	79
Home-Based Other UH 3/	329	376	393	398	397	398	399
Special Students	353	350	350	350	350	350	350
Early Admit	353	350	350	350	350	350	350

1/ Hawaiian Studies approved by the UH Board of Regents in May 2012, effective Fall 2012.

2/ Includes records with invalid data on education level.

3/ Students whose home-campus, as defined in Banner / ODS, is not Hawai'i Community College.

TABLE A3
STUDENT SEMESTER HOURS OFFERED BY PROGRAM
HAWAI'I COMMUNITY COLLEGE
FALL 2015 TO FALL 2021

PROGRAM	HISTORICAL	PROJECTED					
	2015	2016	2017	2018	2019	2020	2021
Total	27,075	26,146	25,494	25,056	24,709	24,523	24,444
General & Pre Prof Ed	19,039	18,392	17,970	17,678	17,452	17,332	17,291
Humanities	10,184	9,861	9,654	9,507	9,391	9,336	9,318
Natural Sciences	5,401	5,196	5,060	4,967	4,897	4,855	4,839
Social Sciences	3,016	2,906	2,830	2,779	2,742	2,719	2,712
Other General Education .	438	429	426	425	422	422	422
Career & Technical Ed	8,036	7,754	7,524	7,378	7,257	7,191	7,153
Business	2,018	2,000	1,947	1,904	1,877	1,860	1,854
Food Services	881	840	810	800	780	780	770
Health Services	653	624	606	592	584	577	574
Public Services	1,632	1,566	1,522	1,493	1,471	1,457	1,453
Technology	2,852	2,724	2,639	2,589	2,545	2,517	2,502

TABLE A4
FULL-TIME EQUIVALENT COURSE ENROLLMENT SERVED BY PROGRAM
HAWAI'I COMMUNITY COLLEGE
FALL 2015 TO FALL 2021

PROGRAM	HISTORICAL	PROJECTED					
	2015	2016	2017	2018	2019	2020	2021
Total	1,808	1,743	1,699	1,670	1,647	1,634	1,630
General & Pre Prof Ed	1,271	1,226	1,198	1,178	1,163	1,155	1,153
Humanities	679	657	644	634	626	622	621
Natural Sciences	360	346	337	331	326	324	323
Social Sciences	203	194	189	185	183	181	181
Other General Education .	29	29	28	28	28	28	28
Career & Technical Ed	537	517	501	492	484	479	477
Business	135	133	130	127	125	124	124
Food Services	59	56	54	53	52	52	51
Health Services	44	42	40	39	39	38	38
Public Services	109	104	101	100	98	97	97
Technology	190	182	176	173	170	168	167