



RESEARCH BRIEF

Topic: PARS Attendance Study for Fall 2008 through Spring 2018 for CCSF v2

Date: May 21, 2019

OVERVIEW

This research brief examines patterns of enrollment and attendance in non-credit courses at CCSF. Biweekly PARS period records for the Fall and Spring terms of ten academic years were examined for CCSF as a whole. The PARS period records are student-level course section attendance records for Fall 2008 through Spring 2018. The following analysis is based on 13,698 course sections and 847,939 enrollments.

In general, enrollment and mean daily attendance hours peaked in the second or third period of each term, then declined. The effect of open enrollment was examined by focusing on the most recent Fall and Spring terms in the 10-year dataset. New enrollees began attending classes throughout the term, but their numbers were few relative to the numbers of new enrollees in the periods at the beginning of the terms.

FINDINGS

Fall Term Attendance

Instructional Days per Period

The start and end dates of terms, PARS periods, and course sections often differ. Consequently, as shown in Table 1, below, the first and last periods have the most variability in the number of instructional days. The number of instructional days, in turn, affects most of the attendance metrics in this analysis. The first period of Fall 2017, with only one instructional day, particularly stands out throughout the Fall section of this research brief. In Table 1, below, the periods having the fewest instructional days are highlighted in the darkest red, while those having the greatest number are white.

Table 1. Instructional Days per Period in Fall

AY	Period of Term									
	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last
2008-2009	6	11	14	14	13	14	12	11	13	8
2009-2010	6	13	12	14	13	14	12	10	13	8
2010-2011	6	13	12	14	13	14	12	10	13	8
2011-2012	4	13	12	14	13	14	12	10	13	10
2012-2013	11	11	13	14	13	14	11	9	14	4
2013-2014	11	11	13	14	13	14	11	10	13	8
2014-2015	6	11	14	13	14	14	13	11	13	8
2015-2016	6	13	12	13	14	13	13	11	13	8
2016-2017	9	13	12	13	14	13	13	11	13	6
2017-2018	1	13	12	14	13	14	13	11	13	13

Period Enrollment

Period enrollment is the total number of enrollments in each period of the term. In Table 2, below, the cells showing the highest enrollments are highlighted in the darkest green, while those showing the lowest are highlighted in the darkest red. The bolded box in each row indicates the period in which enrollments fell to or below the term mean (shown in the last column) after being above the mean in an earlier period. This occurred in the seventh or eighth period in the ten years of this analysis of CCSF as a whole.

Table 2. Period Enrollment in Fall

AY	Period of Term										Mean
	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last	
2008-2009	26281	31453	32137	31222	29926	29448	28300	26770	26121	20272	28193
2009-2010	25653	32264	30765	31092	29379	29139	28160	25992	25604	20424	27847
2010-2011	24938	30451	29301	29286	27917	27766	26278	24668	24314	19496	26442
2011-2012	19439	28664	27826	27867	26617	26259	24841	23102	23016	20042	24767
2012-2013	25383	26174	26014	25673	24765	24089	23223	21227	21452	12817	23082
2013-2014	23498	24269	23819	23711	22459	22318	21137	19544	19565	14408	21473
2014-2015	18405	21164	21703	20990	20567	20007	19123	18123	17420	13514	19102
2015-2016	16878	21174	20402	20281	19842	19395	18559	17278	17068	13330	18421
2016-2017	17332	20161	19102	18998	18463	17433	17153	15794	15442	11486	17136
2017-2018	1119	19598	18419	18763	17503	17377	16596	15147	15158	13462	15314

The enrollment numbers in the table above are depicted in the figure below.

Figure 1. Period Enrollment in Fall

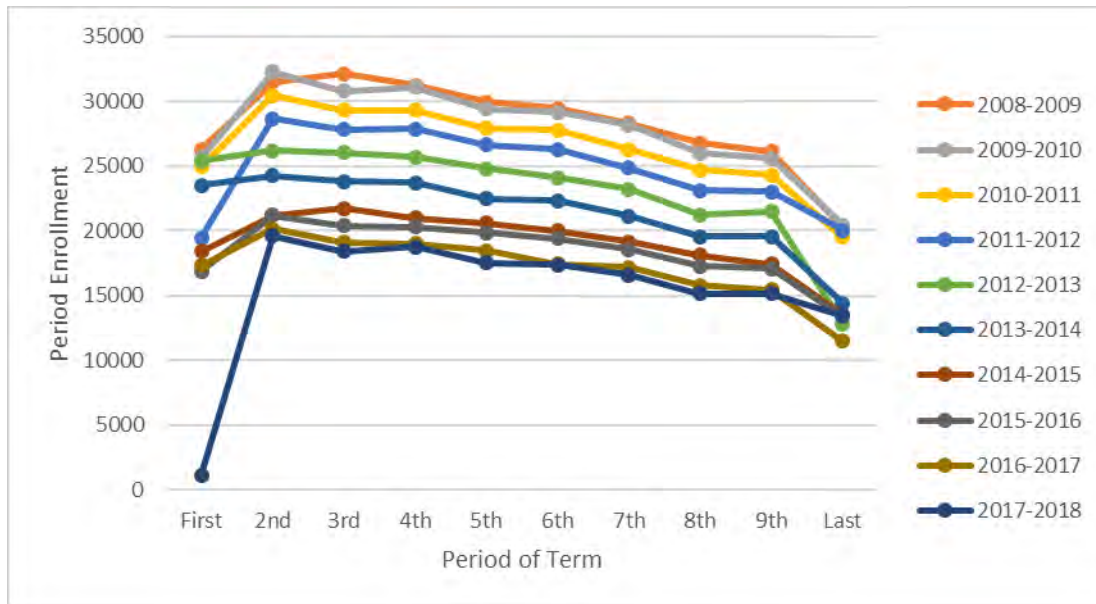


Table 3, below, illustrates the rate of change in enrollments compared to second period enrollments. The second period is used as the reference point instead of the first period because of the variability in the number of instructional days in the first period, as shown earlier in Table 1. The cells showing the greatest decreases in enrollment are highlighted in the darkest red, while increases and the smallest decreases are highlighted in the darkest green.

Table 3. Change in Period Enrollment in Fall

AY	Period of Term									
	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last
2008-2009		baseline	2%	-1%	-5%	-6%	-10%	-15%	-17%	-36%
2009-2010		baseline	-5%	-4%	-9%	-10%	-13%	-19%	-21%	-37%
2010-2011		baseline	-4%	-4%	-8%	-9%	-14%	-19%	-20%	-36%
2011-2012		baseline	-3%	-3%	-7%	-8%	-13%	-19%	-20%	-30%
2012-2013		baseline	-1%	-2%	-5%	-8%	-11%	-19%	-18%	-51%
2013-2014		baseline	-2%	-2%	-7%	-8%	-13%	-19%	-19%	-41%
2014-2015		baseline	3%	-1%	-3%	-5%	-10%	-14%	-18%	-36%
2015-2016		baseline	-4%	-4%	-6%	-8%	-12%	-18%	-19%	-37%
2016-2017		baseline	-5%	-6%	-8%	-14%	-15%	-22%	-23%	-43%
2017-2018		baseline	-6%	-4%	-11%	-11%	-15%	-23%	-23%	-31%

Daily Attendance Hours

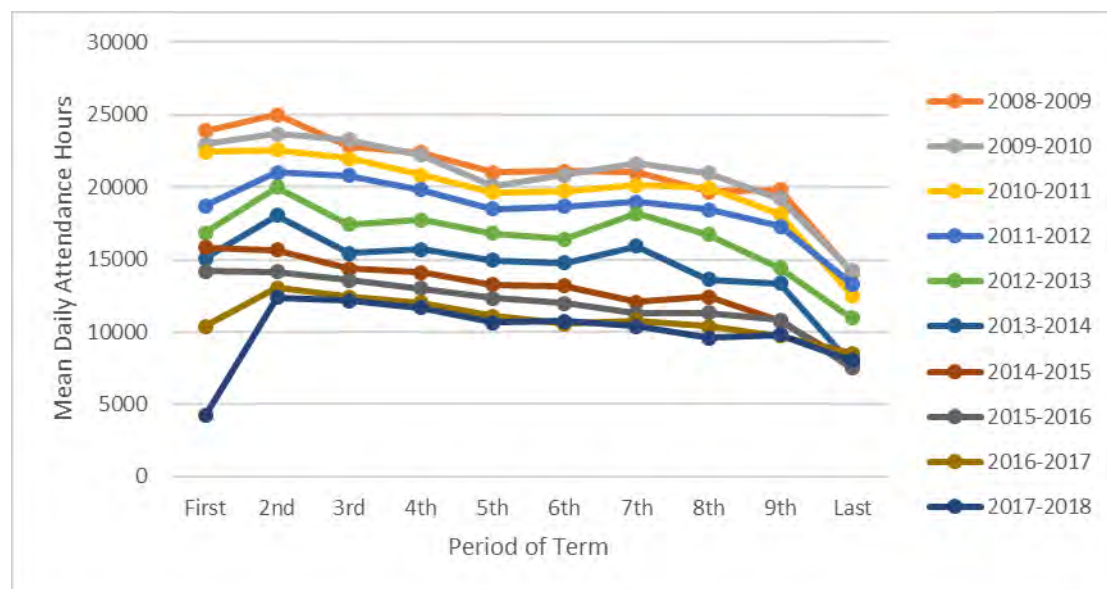
Mean daily attendance hours provides a fair comparison of attendance hours from period to period, as opposed to total period attendance hours which vary by the number of instructional days in the period. To calculate the mean daily attendance hours for a period, the total number of attendance hours for the period is divided by the number of instructional days in the period. As in Table 2, the cells showing the highest mean daily attendance hours are highlighted in the darkest green, while those showing the lowest are highlighted in the darkest red. The bolded box in each row indicates the period in which mean daily attendance hours fell to or below the term mean after being above the mean in an earlier period. Mean daily attendance hours generally did this earlier than did period enrollments (see Table 2).

Table 4. Mean Daily Attendance Hours in Fall

AY	Period of Term										Mean
	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last	
2008-2009	23884	25014	22831	22403	21029	21113	21025	19698	19838	14116	21211
2009-2010	22980	23655	23253	22222	20070	20820	21624	20983	19201	14241	21050
2010-2011	22438	22580	21977	20852	19633	19713	20113	19943	18130	12502	19926
2011-2012	18702	20994	20783	19797	18503	18671	18962	18461	17270	13279	18658
2012-2013	16851	20015	17411	17723	16794	16412	18175	16734	14395	10952	16877
2013-2014	15080	18036	15427	15676	14931	14783	15921	13605	13347	7705	14675
2014-2015	15827	15658	14375	14092	13275	13178	12079	12432	10750	7827	12975
2015-2016	14188	14121	13570	13011	12308	11953	11250	11312	10838	7483	12068
2016-2017	10390	13049	12432	12000	11079	10568	10766	10357	9711	8519	11043
2017-2018	4190	12387	12128	11658	10647	10744	10354	9580	9787	8015	10549

The mean daily attendance hours in the table above are depicted in the figure below.

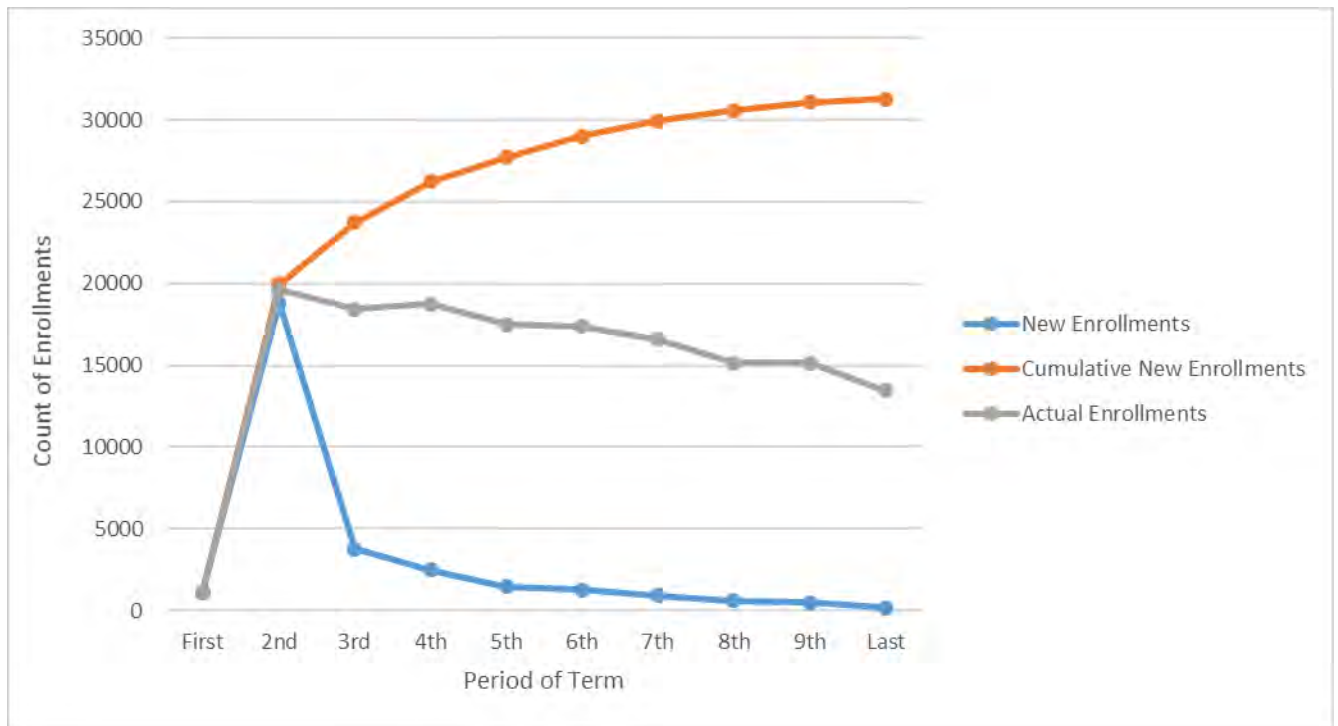
Figure 2. Mean Daily Attendance Hours in Fall



New Enrollments, Cumulative New Enrollments, and Actual Enrollments

The following figure, based on Fall 2017 data for the entire college, shows the number of new enrollments and the cumulative number of new enrollments per period. The effect of open enrollment can be seen. New students continued to enter course sections throughout the term, but by the fourth or fifth period, they were increasingly few. Both “new enrollments” metrics are shown in contrast to actual period enrollment.

Figure 3. New Enrollments, Cumulative New Enrollments, and Actual Enrollments in Fall 2017



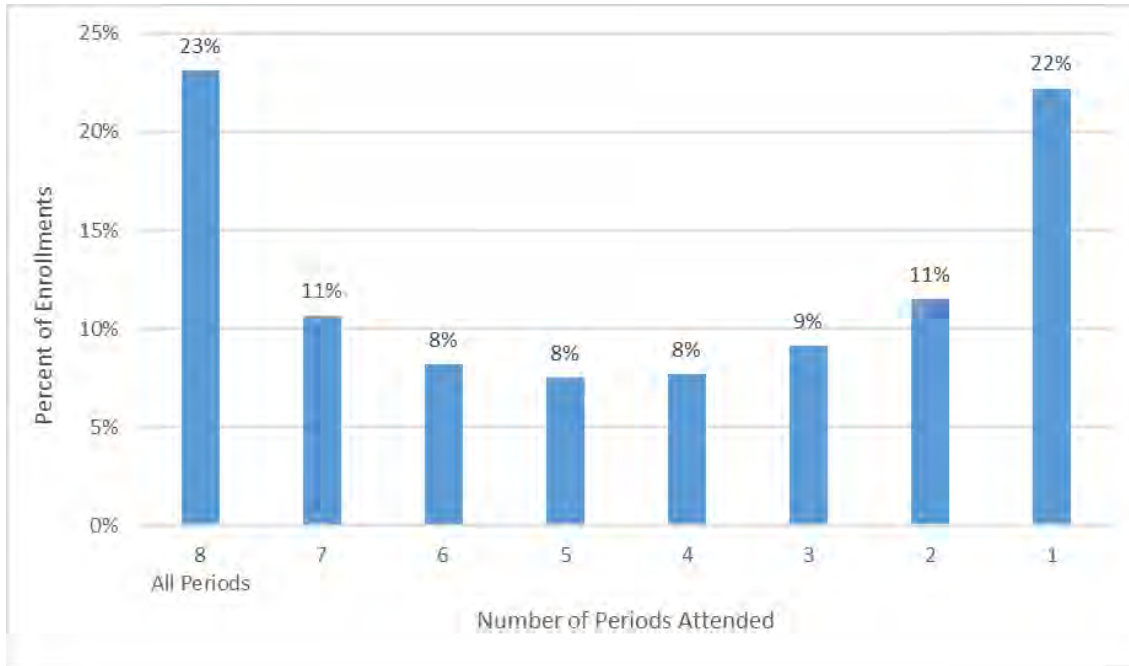
Persistence in Attendance

Two approaches were taken to quantify persistence in attendance for Fall 2017. Because of the variability in instructional days per period as shown earlier in Table 1, the first two periods of the ten periods of the term were combined and considered as one in the persistence calculations presented below. The last two periods of the term were also combined into one.

The first approach calculates the percentage of enrollees who attended in both the first and last combined periods, regardless of their attendance in the intervening six periods. The Fall 2017 result for CCSF as a whole was 56%.

The other approach is based on the number of enrollments in each of the eight periods. As shown in the following figure, 23% of enrollees attended every one of the eight periods in Fall 2017, while half of the enrollees attended class in four or fewer of the periods of the term.

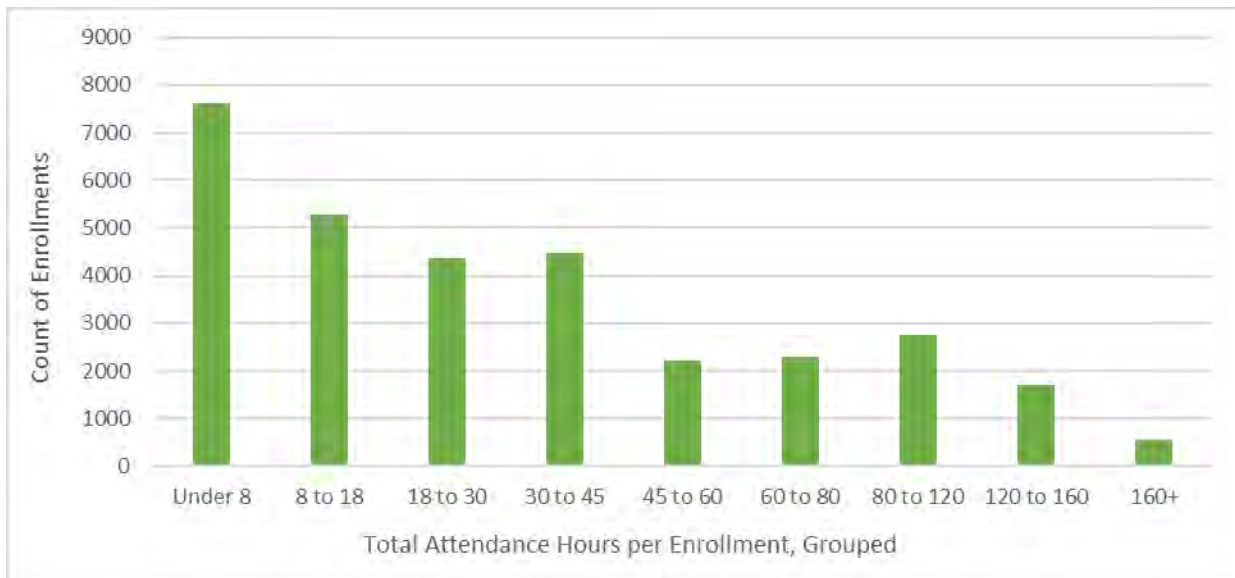
Figure 4. Persistence in Attendance: Number of periods attended in Fall 2017



Attendance Hours per Enrollment

As shown in Figure 5, below, nearly one quarter of the Fall 2017 enrollments amounted to fewer than eight hours for the term.

Figure 5. Total Hours Attended per Enrollment in Fall 2017



Spring Term Attendance

Because it is possible that Spring enrollment and attendance patterns could differ from those of the Fall term, the Spring term, too, was analyzed.

Instructional Days per Period

As previously mentioned, the first and last periods have the most variability in the number of instructional days, and this affects the attendance metrics shown below. Spring 2014 began with two days that fell in the period before the usual first period of the term (see Methodology section). Additionally, as shown in the following table, most or all of the days in Spring Break fell in the sixth sequential period, except in Spring 2009 when Spring Break days fell mostly in the seventh sequential period of the term. The table cells having smaller numbers of instructional days in the periods that included most or all of Spring Break are highlighted in red.

Table 5. Instructional Days per Period in Spring

Period of Term (*Spring 2014 began a period earlier)											
AY	*	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last
2008-2009		12	13	10	14	14	12	6	14	14	6
2009-2010		5	14	10	14	14	5	13	14	14	12
2010-2011		5	13	12	12	14	6	14	14	14	13
2011-2012		5	13	12	12	14	6	14	13	14	13
2012-2013		12	14	10	14	13	5	14	13	14	6
2013-2014	2	13	12	10	14	14	7	12	13	14	6
2014-2015		12	14	9	14	14	8	13	14	14	6
2015-2016		5	14	10	14	13	8	13	14	14	12
2016-2017		5	14	12	13	14	7	14	13	14	11
2017-2018		5	14	12	12	13	8	13	14	14	10

Period Enrollment

In Table 6, below, the cells showing the highest enrollments are highlighted in the darkest green, while those showing the lowest are highlighted in the darkest red.

Table 6. Period Enrollment in Spring

Period of Term (*Spring 2014 began a period earlier)												
AY	*	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last	Mean
2008-2009		31683	31383	29896	30980	30449	28677	24264	27802	26168	20115	28142
2009-2010		23072	31572	28916	29455	28919	21875	27048	26595	25752	22835	26604
2010-2011		24755	30035	29490	28603	28473	22596	27132	26175	25484	22897	26564
2011-2012		21030	27264	26758	26374	26195	21013	24582	24216	23517	21375	24232
2012-2013		24125	23941	21511	23096	22069	16301	21248	20205	19484	15114	20709
2013-2014	7254	24130	22556	22332	22908	22487	18768	20712	20321	19805	15061	19667
2014-2015		18797	18845	16337	17700	17560	14951	16517	16285	15530	11977	16450
2015-2016		14739	20083	17527	19258	18164	15756	17551	17026	16343	14305	17075
2016-2017		13456	19144	18526	18384	18784	15546	17667	17197	16587	14427	16972
2017-2018		12872	18390	17267	16049	16551	14037	15442	15288	14537	12495	15293

The enrollment numbers in the table above are depicted in the figure below. The lines dip in the periods that included most of the days of Spring Break.

Figure 6. Period Enrollment in Spring

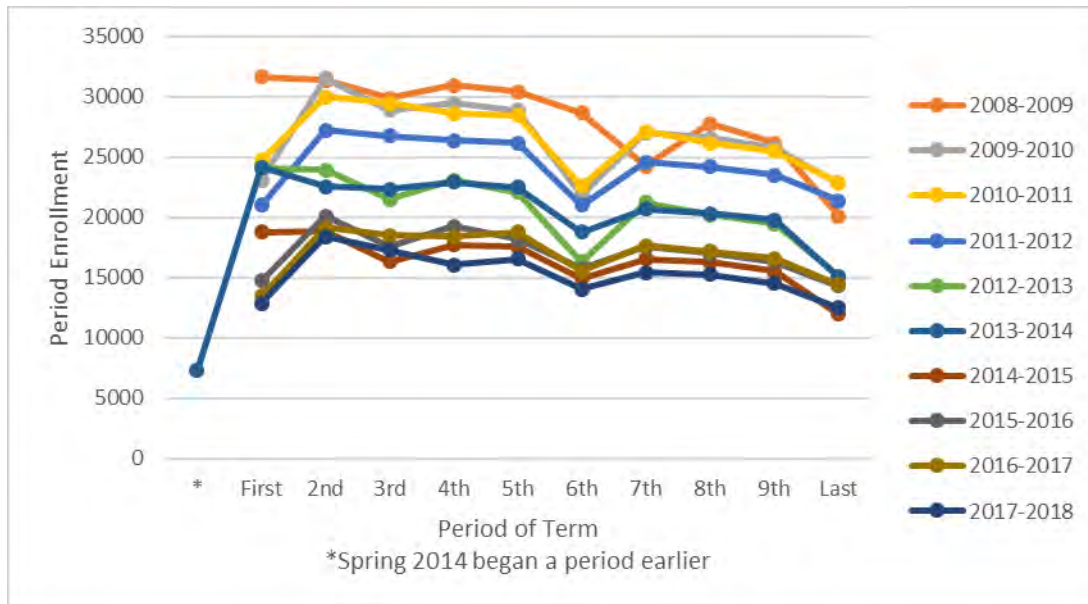


Table 7, below, illustrates the rate of change in enrollments compared to second period enrollments. As shown in Table 5, Spring 2014 classes began two days before the usual first period of the term (see Methodology section), so comparable rates of change in enrollment cannot be calculated for Spring 2014. The cells showing the greatest decreases in enrollment are highlighted in the darkest red, while the smallest decreases are highlighted in the darkest green.

Table 7. Change in Period Enrollment in Spring

AY	Period of Term (*Spring 2014 began a period earlier)										
	*	First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last
2008-2009		baseline	-5%	-1%	-3%	-9%	-23%	-11%	-17%	-36%	
2009-2010		baseline	-8%	-7%	-8%	-31%	-14%	-16%	-18%	-28%	
2010-2011		baseline	-2%	-5%	-5%	-25%	-10%	-13%	-15%	-24%	
2011-2012		baseline	-2%	-3%	-4%	-23%	-10%	-11%	-14%	-22%	
2012-2013		baseline	-10%	-4%	-8%	-32%	-11%	-16%	-19%	-37%	
2013-2014		Comparable % change cannot be calculated for this academic year									
2014-2015		baseline	-13%	-6%	-7%	-21%	-12%	-14%	-18%	-36%	
2015-2016		baseline	-13%	-4%	-10%	-22%	-13%	-15%	-19%	-29%	
2016-2017		baseline	-3%	-4%	-2%	-19%	-8%	-10%	-13%	-25%	
2017-2018		baseline	-6%	-13%	-10%	-24%	-16%	-17%	-21%	-32%	

Daily Attendance Hours

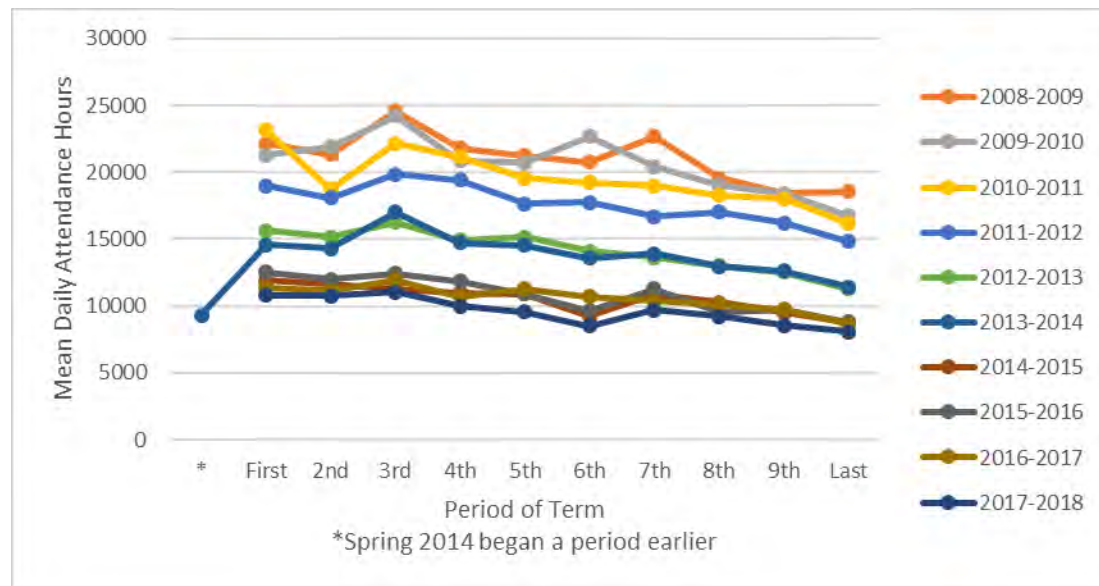
As mentioned earlier, mean daily attendance hours provides a fair comparison of attendance hours from period to period, as opposed to total period attendance hours which vary by the number of instructional days in the period. It is the total number of attendance hours for the period divided by the number of instructional days in the period. In Table 8, below, the cells showing the highest mean daily attendance hours are highlighted in the darkest green, while those showing the lowest are highlighted in the darkest red.

Table 8. Mean Daily Attendance Hours in Spring

AY	*	Period of Term (*Spring 2014 began a period earlier)										Mean
		First	2nd	3rd	4th	5th	6th	7th	8th	9th	Last	
2008-2009		22134	21324	24620	21821	21232	20746	22667	19590	18399	18563	21043
2009-2010		21287	21891	24213	20844	20713	22676	20439	19054	18402	16723	20356
2010-2011		23158	18740	22137	21160	19584	19230	18970	18262	18024	16183	19252
2011-2012		19005	18092	19876	19427	17650	17764	16688	17049	16216	14837	17506
2012-2013		15664	15153	16262	14942	15161	14118	13612	13026	12515	11300	14283
2013-2014	9306	14596	14295	17029	14735	14540	13566	13923	12951	12631	11445	13982
2014-2015		11917	11653	11259	10986	10891	9244	10854	10267	9507	8811	10665
2015-2016		12552	11980	12447	11870	10878	9634	11277	9552	9687	8788	10778
2016-2017		11375	11154	11945	10730	11306	10730	10368	10150	9762	8650	10583
2017-2018		10785	10755	11037	10005	9549	8517	9681	9208	8555	8056	9603

The mean daily attendance hours in the table above are depicted in the figure below. Because the calculation of mean daily attendance hours is based on the number of instructional days per period, Spring Break is barely discernible.

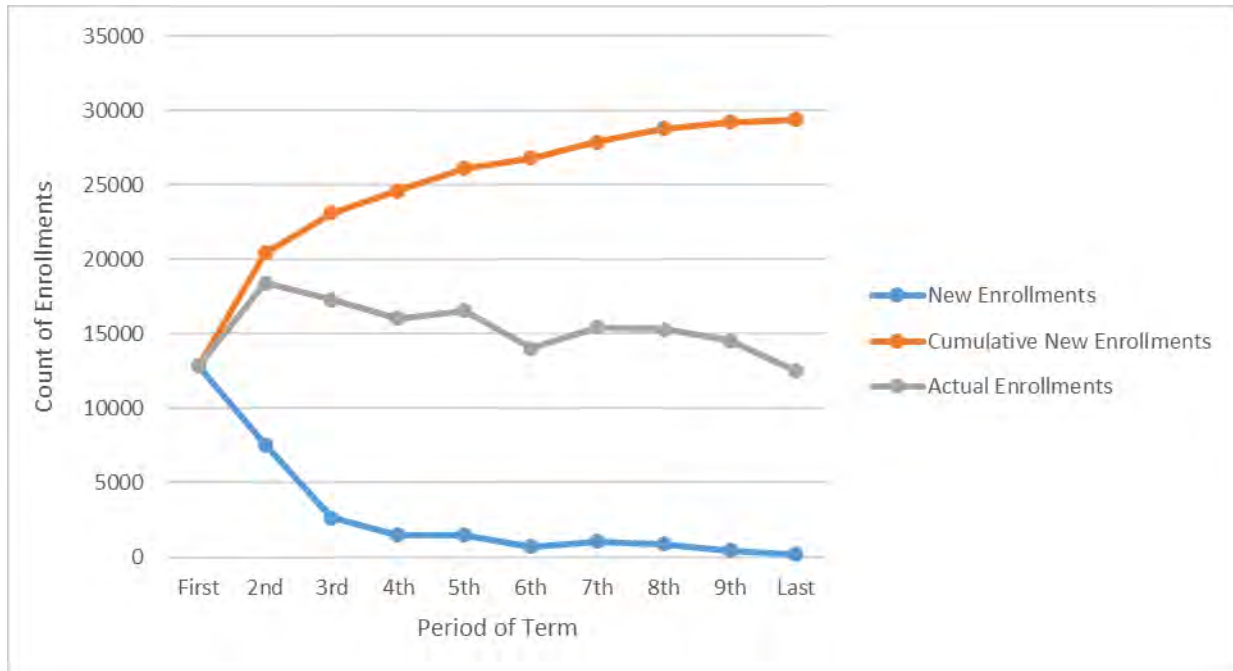
Figure 7. Mean Daily Attendance Hours in Spring



New Enrollments, Cumulative New Enrollments, and Actual Enrollments

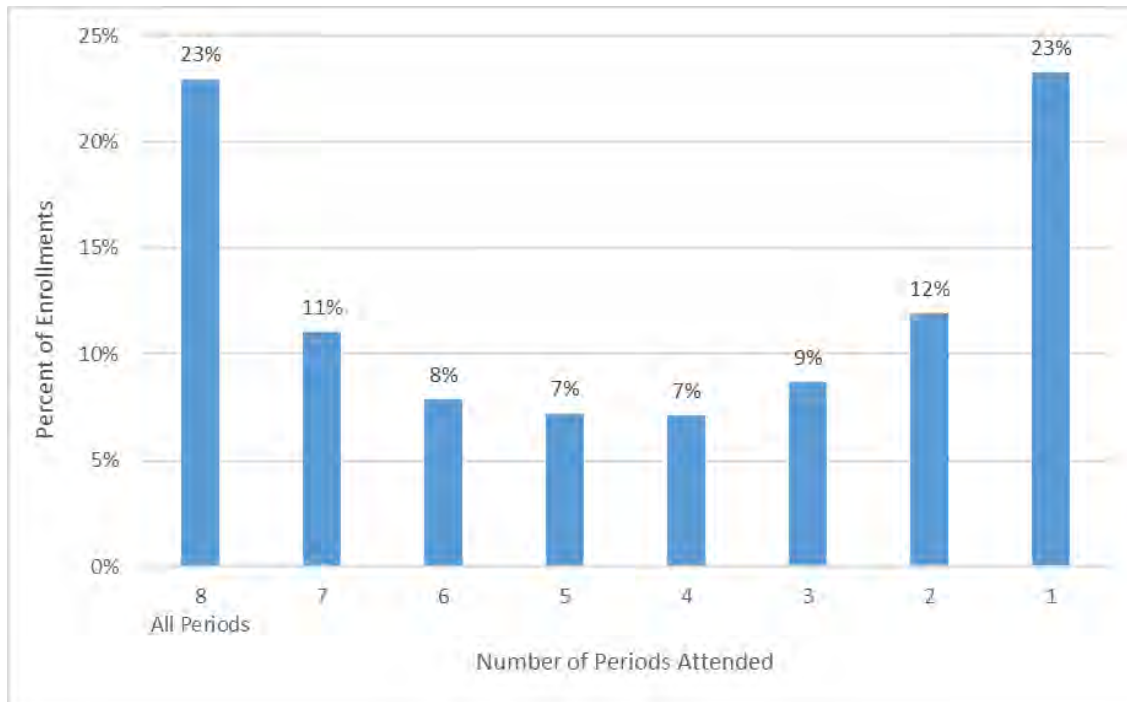
The following figure, based on Spring 2018 data for the entire college, shows the number of new enrollments and the cumulative number of new enrollments by period, both shown in contrast to actual period enrollment. As in Fall 2017, the entrance of new students in course sections was minimal after the third or fourth period.

Figure 8. New Enrollments, Cumulative New Enrollments, and Actual Enrollments in Spring 2018



Persistence in Attendance

As was done for Fall 2017, two approaches were taken to quantify persistence in attendance for Spring 2018. The results were nearly the same as those of the Fall term. After combining the periods at the beginning of the term and those at the end, as described earlier, the percentage of enrollees who attend in both the first and last combined periods was calculated, regardless of their attendance in the intervening six periods. The Spring 2018 result for CCSF as a whole was 57%. Using the other approach that counts enrollments in each of the eight periods, the percent of students attending every period in Spring 2018 was 23%.

Figure 9. Persistence in Attendance: Number of periods attended in Spring 2018

METHODOLOGY

Definitions and Calculations

The start and end dates of terms, PARS periods, and course sections often differ. Every year, PARS period 1 begins on July 1st. The Fall term usually runs from PARS periods 4 through 13. Spring usually runs from period 15 through period 24. In this analysis, the periods of the Fall and Spring terms are simply named in sequential order from “First” to “Last.”

To calculate period enrollment, each student is counted once per period per course section attended. In other words, if a student attends one course section four times in a period, the student is counted once. It is one enrollment. Conversely, if a student attends each of four course sections once in a period, the student is counted four times. There are four enrollments.

Mean daily attendance hours is the total number of attendance hours for the period divided by the number of instructional days in the period.

Two approaches were taken to quantify persistence in attendance for academic year 2017-2018. Course section start dates sometimes fall in the second period of the term, and the final meeting days of course sections may fall in either the last or second-to-last period. To accommodate this, attendance in either or both of the first two periods (and, similarly, of the last two periods) was counted once in the persistence calculations. In other words, while there were actually ten periods in the term, combining the first two and similarly combining the last two yielded a total of eight periods in the term for the calculations. One approach calculated the percentage of enrollees who attend in both the first and last periods, regardless of their attendance in the intervening six periods. The other approach counted attendance in each of the eight periods.

Dataset Inclusions and Exclusions

The first class meeting days of course sections can fall in the first or second period of the term. Similarly, the final class meetings and/or final exam days can fall in either of the last two periods of the term. Only course sections that ran from the first or second period through the second-to-last or last period of the term and that were designated as “full term” in Banner were included in the study dataset. Course sections having any Saturday or Sunday class meeting days were included. LERN 1000 and ENGL 1000 tutorial attendance was excluded.

Limiting the study dataset to only full-term course sections reduced the number of PARS records to 4,354,509 (81%) from 5,053,641 in the original Fall and Spring dataset. The resulting study dataset represents 13,698 course sections, split nearly evenly between Fall and Spring. These course sections are 66% of the 20,803 course sections in the dataset before limiting it to full-term course sections.

SOURCE

PARS

Date of data extraction: March 7, 2019

Created by: Wendy Schweitzer