![WestEd logo](WestEd.org)

Student Progress Before and After California State University's Executive Order 1110

Kathy Reeves Bracco

Vanessa Ximenes Barrat

Susann Skjoldhorne

Neal Finkelstein

January 2021

WestEd is a nonpartisan, nonprofit research, development, and service agency that works with education and other communities throughout the United States and abroad to promote excellence, achieve equity, and improve learning for children, youth, and adults. WestEd has more than a dozen offices nationwide, from Massachusetts, Vermont, Georgia, and Washington, DC, to Arizona and California, with headquarters in San Francisco.

Contents

LIST OF BOXES

LIST OF FIGURES

LIST OF TABLES

Executive Summary

WestEd is undertaking a series of implementation studies intended to inform the California State University (CSU) system about the implementation of Executive Order 1110 (EO 1110). A major policy adopted by the CSU Chancellor's Office in 2017, EO 1110 requires CSU campuses to eliminate noncredit developmental courses — often known as "remedial" courses — in Written Communication (WC) and Mathematics/Quantitative Reasoning (QR), change the process for how students are placed into WC and QR courses, and improve how students are supported to succeed. This report compares outcomes for students who entered the CSU system in 2018, the first year under the new policy, with those who entered in 2017, just prior to implementation.

WestEd analysts examined systemwide student outcomes for the two cohorts, using three key variables: credits attempted and earned in the students' first year of enrollment; completion of the WC and QR General Education (GE) requirements in their first year; and retention into their second, third, and fourth semesters. Of particular interest are the outcomes for students who entered in 2017 and were required to take noncredit developmental coursework (designated as "not college ready"), compared to outcomes for students in the 2018 cohort who were instead placed into baccalaureate-level courses with additional supports provided (designated as placement categories III and IV). This comparison illustrates that, on a systemwide level, the EO 1110 policy had the intended impact of getting students to complete their GE requirements and to earn more baccalaureate-level credits in their first year of enrollment. However, analyses also show very little change in the subsequent year's retention patterns for students under the new policy, and indicate that there are still important differences in outcomes for students of different racial and ethnic backgrounds:

- The impact of the new policy in terms of credit accumulation is clear. Students in placement categories III and IV in 2018 attempted and earned a significantly higher number of baccalaureate units, on average, than students designated as "not college ready" in the 2017 cohort. This increase was completely consistent with the policy's intent of placing students directly into college-level courses and eliminating non-baccalaureate courses.

- Important differences in credit accumulation across different racial/ethnic groups remain. For all placement categories across both cohorts, Black/African American students and Hispanic/Latino students earned fewer baccalaureate units in their first year than their White and Asian counterparts.

- The change in policy led to a significant increase in the percentage of students able to complete the QR requirement (designated by CSU as B4) in their first year. Overall, approximately 73 percent of students in the 2018 cohort completed the QR requirement in their first year, compared to about 60 percent of students in the 2017 cohort.

- The percentages of students completing the WC requirement (designated by CSU as A2) in their first year were similar for the two cohorts (approximately 80%). Because so many CSU campuses had previously eliminated the use of developmental education in WC, the new policy did not have a significant impact on completion of the A2 requirement.

- Despite the increase in credit accumulation and completion of the B4 requirement in their first year, declines in retention for subsequent semesters were similar for the two cohorts. Retention for students in all placement categories dropped off with each semester, with the steepest drop between students' second and third semester (between their first and second year of enrollment).

- These drops in retention were particularly steep for students who entered the CSU system needing additional supports. Taken together, the 2018 entering students in QR placement categories III and IV had the same retention rate as the students in the 2017 cohort who were deemed "not ready" in mathematics. By the second semester, retention rates for these students in both cohorts had dropped to 75 percent, and by the third semester, fewer than 70 percent of these students remained enrolled.

- Although there were declines in retention rates across both cohorts for each racial/ethnic group, the retention rates for Black/African American students and Hispanic/Latino students dropped more precipitously from the second semester to the third semester than was the case for their White and Asian counterparts.

The analysis of credit accumulation and GE completion in students' first years seems to show that the EO 1110 policy had a positive impact, at least initially, but the retention numbers demonstrate that students still need more support to complete their degrees. Completion of the A2 and B4 requirements is necessary but not sufficient for long-term retention; addressing this challenge requires a more nuanced analysis of outcomes at the campus level, where information about students' academic work can be examined against a context of the broader student support experience. The systemwide analysis that is the focus of this report demonstrates some overall patterns, but a campus-level analysis of student outcomes is also necessary to disentangle some of the reasons for the differences across ethnic groups or across placement categories, which would be useful for knowing how best to address those differences.

Introduction

WestEd is undertaking a multiyear series of implementation studies intended to inform the California State University (CSU) system about the implementation of Executive Order 1110 (EO 1110). A major policy adopted by the CSU Chancellor's Office in 2017, EO 1110 requires CSU campuses to eliminate noncredit developmental courses (often known as "remedial" courses) in Written Communication (WC) and Mathematics/Quantitative Reasoning (QR), change the process for how students are placed into WC and QR courses, and improve how students are supported to succeed. WestEd's first EO 1110 report (Bracco et al., 2019) describes the variation in course models and instructional approaches adopted by campuses in response to this major policy change. A second report (Bracco et al., 2020) examines the progress of nearly 60,000 students during the policy's first year of implementation, the 2018/19 academic year. This third report in the series examines outcomes (credit accumulation, completion of WC and QR requirements, and retention into subsequent semesters) for students who entered the CSU system in 2018 in comparison with outcomes for those who entered in 2017, prior to the new policy's implementation.

Over the past decade, through two different graduation initiatives, the CSU system has placed a major emphasis on improving student success, prioritizing improvements to graduation rates, and reducing time to degree for its diverse student body. Graduation Initiative 2025 (GI 2025), adopted in 2015,

places explicit emphasis on the elimination of equity gaps between traditionally underrepresented students and their peers. EO 1110, first implemented in fall 2018, is a part of the larger GI 2025 strategy, focused on helping students enroll immediately in baccalaureate-level coursework and complete their General Education (GE) WC and QR courses during their first year of enrollment.

This report is a follow-up to the most recent of WestEd's prior EO 1110 reports (Bracco et al., 2020) and compares key outcomes of the first-time student cohort in 2018 to outcomes of a similar cohort in 2017, the year immediately prior to the implementation of EO 1110. The outcomes examined are students' credit accumulation, completion of GE requirements in WC and QR, and retention into subsequent semesters. The 2017 data provide a baseline comparison that allows for an examination of differences in these outcomes for students who entered the CSU system before and after the implementation of EO 1110. The demonstrated contrast between these two student cohorts does not illustrate a causal link between the EO 1110 policy change and the reported outcomes, but it does provide important information about patterns over the time period when the policy change shifted campus-level and systemwide practices related to entry-level courses.

Background

Although EO 1110 focuses on changes to placement policy and course design for entry-level WC and QR courses, it is just one part of a larger effort to address student success. In conducting interviews on campuses in fall 2018, and in subsequent discussions with faculty groups, researchers for this study were regularly reminded that changes to entry-level courses, although important, must be considered as part of a broader strategy. The literature on student success finds many factors, both academic and nonacademic, that impact student success (CCRC, 2013; Barnett & Kopko, 2020; Bickerstaff & Edgecombe, 2019; Moore et al., 2017). Factors such as financial challenges, child care needs, and transportation difficulties all impact the potential for student success. For many students, particularly first-generation college students, lack of familiarity with how to deal with college bureaucracies can also present a significant hurdle (CCRC, 2013). Researchers have argued that to successfully improve graduation rates and reduce equity gaps, reforms must be intentional and cohesive, support students through their entire college careers, and include mutually supportive efforts rather than separate initiatives (Bailey, 2017; Moore et al., 2017).

Many developmental education reform initiatives, therefore, have sought to address both academic and nonacademic supports. The CUNY Start program at the City University of New York, for example, aims to support students who are considered not yet ready for college-level mathematics or reading and writing courses. The program uses a comprehensive approach to address both academic preparedness and college skills. It uses a combination of student-centered instruction and student supports integrated into the classroom. In addition, students in CUNY Start must enroll in a mandatory student success seminar, with increased access to advising and tutoring. An early evaluation of the program determined that this combination of supports provided significant short-term gains for students, in terms of completion of developmental coursework, passage of gateway courses in their first year of college, and retention into their second semester. The program had the largest effect on students with the greatest remedial needs (Scrivener et al., 2018; Webber, 2018).

Reform efforts at Georgia State University provide another example of the potential impact of this type of approach. Since implementing a comprehensive set of reforms to address both academic and student-support needs, Georgia State has seen its graduation rates increase, while the achievement gap has been effectively eliminated for underrepresented students. The university uses a data-driven approach to support students in a variety of ways, including through targeted, proactive advising; an intensive summer success academy; first-year learning communities; supplementary financial support; and "chat bots" in support of student success (Georgia State University, 2018; Moore et al., 2017; Kurzweil & Wu, 2015).

The research on student success suggests that the big picture needs to be taken into consideration when analyzing the impact of EO 1110. Although the system-level data on credit accumulation, course completion, and retention can reveal patterns both before and after the implementation of the policy, there are likely many other factors at play. A perfect data set would show both the courses and the additional supports — advising, enhanced tutoring, financial aid, and so on. Whereas the analyses described in this report explore outcomes aggregated across 21 campuses for academic courses only, campus-specific analyses that examine the availability of the additional supports and the impact on different groups of students will be essential for having a more complete picture of the student experience.

Methodology

The findings in this report are based on WestEd researchers' analyses of data, provided by the CSU Chancellor's Office, on course enrollment for the cohorts of first-year students entering the CSU system in 2017 and in 2018. Although data for the 2019 cohort are included in some places as well, the report does not include the 2019 cohort in comparisons of outcomes data. The impact of having to shift to virtual learning, in response to the COVID-19 pandemic, in March 2020 compromises the outcomes data for the 2019/20 academic year for the purposes of understanding the impact of EO 1110. Therefore, the study focuses on comparing outcomes for the 2017 cohort against outcomes for the 2018 cohort, but not for the 2019 cohort.

The main analytic sample for this study consists of 58,758 students in the 2017 cohort and 59,790 students in the 2018 cohort — those who were entering the CSU system as first-year students in the fall and were enrolled in any of the CSU campuses except Cal Poly San Luis Obispo or CSU San Bernardino. Those two campuses were excluded from the most recent analysis in this series (Bracco et al., 2020) as well, because they have a winter term, and patterns of credit accumulation at campuses with winter terms are not directly comparable to patterns at the other CSU campuses.

Overall credits attempted and accumulated are based on data provided by the CSU Chancellor's Office for all courses taken by entering first-year students during the 2017/18 or 2018/19 academic year. Two campuses, CSU Pomona and CSU East Bay, converted from a quarter system to a semester system between 2017 and 2018. In order to keep the cohorts comparable to those used in the study's most recent report (Bracco et al., 2020), those campuses are included in this analysis. Annual estimates of units attempted and earned for students enrolled at those campuses in 2017 were scaled to 2/3 to allow comparisons with the other campuses. Retention figures are based on data provided by the CSU Chancellor's Office that indicate that a student is "retained" if they enroll in at least one baccalaureate-

granting unit in the subsequent semester. Retention in this report is measured between students' first and second semesters, their second and third semesters, and their third and fourth semesters.

To an extent, this report might be considered to make an "apples to oranges" comparison, which may be inevitable for any policy change that applies to all students simultaneously. Because the report compares outcomes for students who entered the CSU system before EO 1110 implementation against outcomes for students who entered after implementation, placement categories are *necessarily* different for the 2017 cohort than for the 2018 and 2019 cohorts.

The WC or QR placement categories for students entering the CSU system in fall 2017 were as follows:

- **GE already met**: Has fulfilled the GE Subarea A2 or B4 requirement

- **College ready**: Placement in a GE Subarea A2 or B4 course

- **Not college ready**: Placement in a developmental WC or QR course

The WC or QR placement categories for students entering in fall 2018 or fall 2019 were as follows:

I. **GE already met**: Has fulfilled the GE Subarea A2 or B4 requirement

II. **College ready**: Placement in a GE Subarea A2 or B4 course

III. **College ready with support recommended**: Recommend placement in a supported GE Subarea A2 or B4 course

IV. **College ready with support required**: Require placement in a supported GE Subarea A2 or B4 course or the first term of an applicable stretch course

For the purpose of the analyses in this report, students designated as "GE already met" in 2017 are treated the same as students designated as "Category I" in 2018 or 2019 because both of these designations are for students who had already met the A2 and/or B4 GE requirements. Students designated as "college ready" in 2017 are treated as comparable to those designated as "Category II" in the 2018 and 2019 cohorts because both of these designations indicate students who were able to enroll directly in the GE WC and QR courses upon first enrolling in the CSU system, without the need for developmental coursework or additional supports. Similarly, students designated as "not college ready" in 2017 are reasonably comparable to students designated as "Category III" or "Category IV" in 2018 and 2019.

For several of the analyses, this report focuses on QR placement status as the student characteristic of comparison, because there is a greater distribution of students across the different placement categories in QR than in WC.

The appendix to this report displays the frequencies and percentages of students represented in the figures in the body of the report; for continuous variables, such as average units earned, tables in the appendix also provide the mean, median, and mode. Notes under the report's figures include references to the corresponding appendix table(s).

Cohort Demographics

The demographics for all three cohorts look very similar in terms of distribution by gender, race/ethnicity, and declared major (Box 1).

The study found only a few minor differences in demographics across the three cohorts:

- There were about 1,000 more students in the 2018 cohort than in 2017 or 2019.

- There was a slight increase in the percentage of Hispanic/Latino students in 2019 (53%, versus 51% in the prior two years).

- There was a slight decrease in the percentage of students who did not declare a major upon entry in 2019 (12%, compared to 15% in the prior two years).

Box 1. Cohort demographics at a glance, 2017–2019

Entering Year	2017	2018	2019
Gender			
Female	58.2%	57.8%	58.3%
Male	41.8%	42.2%	41.7%
Race/Ethnicity[1]			
Hispanic/Latino	50.8%	51.2%	52.9%
White	19.0%	18.6%	17.9%
Asian	17.0%	17.8%	17.5%
Multiple/Unknown	8.3%	7.4%	6.7%
Black/African American	4.4%	4.4%	4.5%
Other	0.5%	0.5%	0.5%
Declared Majors			
Not STEM	32.4%	33.3%	35.3%
STEM (excludes health-related STEM)	32.2%	32.0%	32.0%
Undeclared	15.4%	14.5%	12.3%
Business	13.2%	13.1%	13.5%
Health-related STEM	6.8%	7.1%	6.9%

Notes: Percentages are based on 58,758 first-year students entering CSU in fall 2017, 59,790 first-year students entering CSU in fall 2018, and 58,542 first-year students (of whom 39 did not indicate either male or female for gender) entering CSU in fall 2019. The cohorts represented in this box, and subsequently throughout this report, exclude students at the two campuses that were on a quarter system in both 2017 and 2018: Cal Poly San Luis Obispo and CSU San Bernardino. White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. The numbers of students by demographic categories are provided in Tables 1–3 in the appendix.

[1] This analysis uses the IPEDS Race/Ethnicity reporting categories. The CSU uses a slightly different method to report race/ethnicity, in which any students who are non-U.S. citizens with an "F," "J," or "other" visa, or who are non-U.S. citizens with no visa or undetermined status, are put into their own category as International Students/Non-Resident Alien Students

Placement Status

In order to meet the requirements for graduation, all CSU students must complete a series of GE requirements, including in WC (designated as the A2 requirement) and in QR (designated as the B4 requirement). With the adoption of EO 1110, the CSU Board of Trustees called for the elimination of the English Placement Test (EPT) and the Entry-Level Mathematics (ELM) exam as the means of determining placement into entry-level WC and QR courses, respectively. In lieu of relying on these tests, the new policy asks that campuses use a series of "multiple measures" (a combination of high school grades and test scores) to determine whether students would enter the university system in one of four different placement categories (see Box 2). Prior to EO 1110, students were designated to be in one of three categories with regard to their placement: "GE already met," "college ready," or "not college ready." Students in the "not college ready" category were generally assigned to developmental courses that did not include baccalaureate-level credit.

Box 2. California State University course placement categories, based on multiple measures

---

Category I: Has fulfilled the General Education (GE) Subarea A2 or B4 requirement

- Student has met the CSU GE Breadth Subarea A2 and/or B4 requirement via Advanced Placement I (AP) examination, International Baccalaureate (IB) examination, or transferable course

Category II: Placement in a General Education Subarea A2 or B4 course

- Student has met examination standards and/or multiple measures–informed standards

Category III: Recommend placement in a supported General Education Subarea A2 or B4 course

- Based on new multiple measures, student needs additional academic support
- Participation in the Early Start Program[2] is recommended and may be highly advisable for some students, particularly STEM majors

Category IV: Require placement in a supported General Education Subarea A2 or B4 course or the first term of an applicable stretch course

- Based on new multiple measures, student needs additional academic support
- Participation in the Early Start Program is required

Notes: Placement categories for WC and QR courses are determined by a combination of student grades and test scores. For a detailed description of the ways in which a student can be placed into the different categories, see http://csustudentsuccess.org/multiple-measures.

---

[2] The Early Start program provides incoming first-year students the opportunity to enroll in WC or QR courses, with additional supports provided, in the summer prior to the term for which they have been admitted.

Written Communication Placement

In all three cohorts, the vast majority of students were designated, upon entry into the CSU system, as ready to enroll in a WC GE course without need for additional remediation or supports.

Figure 1 illustrates the differences in WC placement status for students entering the CSU system in 2017, 2018, and 2019. Prior to EO 1110 implementation, many CSU campuses had already stopped using the EPT and discontinued offering developmental writing courses. In lieu of using the EPT, many campuses allowed students to use a process called "directed self-placement," whereby students could reflect on their own writing readiness and choose whether to take a one- or two-semester version of the WC GE course.

- The percentage of students entering the CSU system having already met the WC GE requirement increased from 13 percent for the 2017 cohort to 17 percent in 2019.

- The percentage of incoming students who were eligible to enroll immediately in a WC GE course without needing remediation or supports also increased, with 69 percent designated as GE-ready in 2017, 74 percent designated as Category II in 2018, and 73 percent designated as Category II in 2019.

- In all three cohorts, a large majority of students entered the CSU system either having already met the WC GE requirement or able to enroll directly in a WC GE course. This percentage increased from 84 percent in 2017 to 90 percent in 2019.

- Whereas 18 percent of incoming students in 2017 were designated as "not college ready" in WC based on placement test results, 12 percent of incoming students in 2018, after the switch to multiple measures, were designated as needing additional support in WC (with 7% in Category IV), and just 10 percent in 2019 were designated as needing additional support (with 6% in Category IV).

Figure 1. WC placement status of entering first-year students, 2017–2019
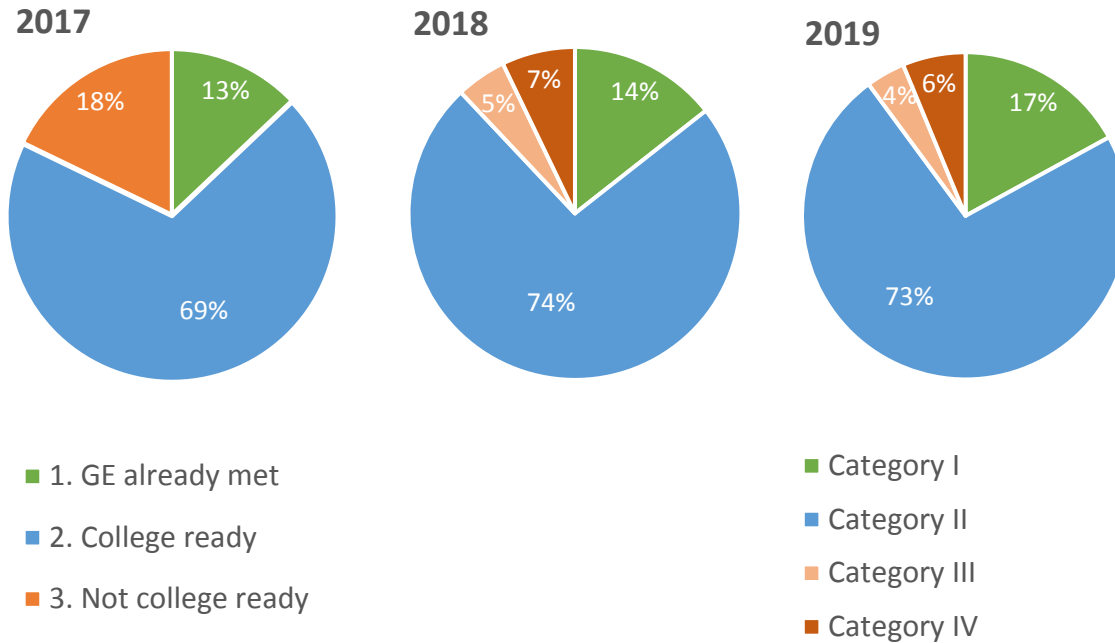
2017

- 13%
- 18%
- 69%

2018

- 14%
- 7%
- 5%
- 74%

2019

- 17%
- 6%
- 4%
- 73%

■ 1. GE already met

■ 2. College ready

■ 3. Not college ready

■ Category I

■ Category II

■ Category III

■ Category IV

Notes: Percentages are based on the cohorts of 58,758 first-year students entering the CSU system in fall 2017, 59,790 first-year students entering the CSU system in fall 2018, and 58,542 first-year students entering the CSU system in fall 2019. The distribution of students by placement status (GE already met or Category I, college ready or Category II, not college ready or Category III or IV) was significantly different across the three cohorts (χ^2 (4, N = 117,090) = 1857.4, *p* < .001), and follow-up pairwise comparisons using a Bonferroni correction found all differences between the 2017 and 2019 cohorts statistically significant. The numbers of students by WC placement categories are provided in Tables 4–5 in the appendix.

Mathematics/QR Placement

In all three cohort years, more than a quarter of the students were designated as needing additional supports in mathematics; however, in 2017, those students were directed into noncredit developmental courses, whereas in 2018 and 2019, similar percentages of students were placed into baccalaureate-level courses that included additional supports, consistent with the policy intent of EO 1110.

Figure 2 compares the QR placement statuses for students in the 2017, 2018, and 2019 cohorts. Although many campuses, prior to EO 1110, had already stopped using a placement test for WC, most had continued to use a test (the ELM) for QR placement. Placement of students entering the CSU system in 2017, therefore, was based primarily on their performance on the ELM (unless students were exempt from that exam, based on prior test scores). For the 2018 and 2019 cohorts, QR placement was determined by multiple measures.

- The percentage of incoming students designated as having already met the QR GE requirement increased over the three years (from 10% in 2017 to 14% in 2019).

- The percentage of students designated as eligible to enroll directly in a QR GE course without needing remediation (2017 cohort) or additional supports (2018 and 2019 cohorts) decreased from 62 percent in 2017 to 59 percent in 2019.

- For QR placement, there was a slight decrease in the percentage of students designated as not college ready (from 28% in 2017 to 26% in 2019).

Figure 2. QR placement status of entering first-year students, 2017–2019
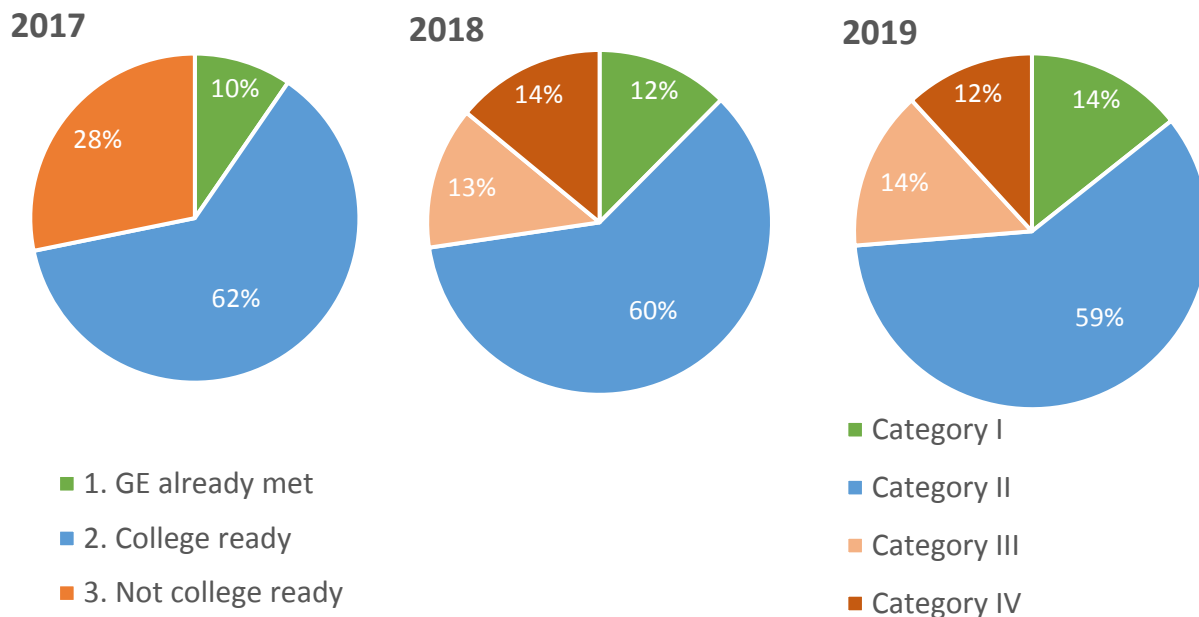
2017

10%
28%
62%

2018

14% 12%
13%
60%

2019

12% 14%
14%
59%

- Category I
- Category II
- Category III
- Category IV

- 1. GE already met
- 2. College ready
- 3. Not college ready

Notes: Percentages are based on the cohorts of 58,758 first-year students entering the CSU system in fall 2017, 59,790 first-year students entering the CSU system in fall 2018, and 58,542 first-year students entering the CSU system in fall 2019. The distribution of students by placement status (GE already met or Category I, college ready or Category II, not college ready or Category III or IV) was significantly different across the three cohorts (χ^2 (4, N = 117090) = 633.26, p < .001), and follow-up pairwise comparisons using a Bonferroni correction found all differences between the 2017 and 2019 cohorts statistically significant. Percentages do not add up to 100% because of rounding. The numbers of students by QR placement category are provided in Tables 6–7 in the appendix.

Ethnicity Distribution by Placement Category

As noted in the prior report from WestEd's EO 1110 studies (Bracco et al., 2020), which reviewed outcomes for students in the 2018 cohort, researchers found that the QR placement category was highly correlated with race/ethnicity. (QR placement status was chosen for this and other analyses of differences across placement categories because there is a greater distribution of students among the four categories in QR than in WC.) A very similar pattern exists with regard to placement status in all three cohorts: Hispanic/Latino and Black/African American students were overrepresented in the designations of "not college ready" (2017) or Category III/Category IV (2018 and 2019), relative to their

representation in the population as a whole (Figure 3). So, even though students from these two underserved groups are now eligible to enroll in baccalaureate-level courses, they are still entering the CSU system designated as needing greater support in their entry-level QR courses than their White or Asian counterparts.

Figure 3. Number and percentage of students in each cohort, by race/ethnicity and by QR placement category, 2017–2019

Notes: Percentages are based on the cohorts of 58,758 first-year students entering the CSU system in fall 2017, 59,790 first-year students entering the CSU system in fall 2018, and 58,542 first-year students entering the CSU system in fall 2019. White, Asian, and Black/African American categories refer to Non-Hispanic students. Other and Multiple/Unknown categories are removed from the figure for readability. The numbers of students by race/ethnicity and by QR placement category for all cohorts are provided in Table 8 in the appendix.

Credit Accumulation

A primary rationale behind EO 1110 is that students admitted into the CSU system should be immediately eligible for baccalaureate-level courses and should not have to spend time and money on developmental courses that do not provide credits toward the completion of a degree. Whereas in 2017 and earlier, students designated as "not college ready" (particularly in QR) were directed into at least one semester of developmental education, the adoption of EO 1110 meant that students entering the CSU system in 2018 and after did not have to enroll in noncredit courses.

The impact of this change in policy is clear in the increased number of baccalaureate credits attempted and earned by students in QR placement categories III and IV in 2018, compared to those in the "not college ready" category in 2017.

- For both cohorts (2017 and 2018), the average numbers of credits attempted and earned decreased with each designated level of math preparation, and the difference between attempted and earned credits increased with lower levels of math readiness.[3]

- The average numbers of baccalaureate credits earned in the first year were similar across both cohorts for students who entered the CSU system having already met the GE requirement. In addition, the students designated as "college ready" in 2017 earned a similar number of credits in their first year to the students in Category II in 2018.

- In contrast, students in categories III and IV for QR placement attempted and earned, on average, more credits in 2018 than students who were classified as "not college ready" in 2017. Students in Category III for QR earned, on average, 4.4 more units (or more than one class) than those in the "not college ready" category in the 2017 cohort. This finding is not surprising, given that students designated as "not college ready" in 2017 typically had to enroll in noncredit developmental courses, reducing the number of baccalaureate-level units available to them.

- However, the students in the 2017 cohort in the "not college ready" category had a gap between baccalaureate units attempted and earned in their first year that was smaller (3.1 units) than those of the students in the 2018 cohort in Category III (3.7 units) or Category IV (5.4 units).

The CSU considers a student who earns 15 or more units per semester, and 30 or more units per academic year, to be "on track" to graduate in four years. Although both the 2017 and 2018 cohorts in this study had average credit accumulation below that threshold in all QR placement categories, the averages for these cohorts include students who may not have enrolled in a second semester. A review of the mode shows that the most frequent outcome for units earned by students in the "GE already met" and "college ready" categories in 2017 was 30 units, the same as the most frequent outcome for

---

[3] For each cohort, differences in average number of credits attempted and earned by placement category and differences in average number of credits earned by placement category are statistically significant.

students in categories I and II in 2018. By contrast, the most frequent outcome for units earned by students in the "not college ready" category in 2017 was 21 units, and the most frequent outcome for units earned by students in categories III and IV in 2018 was 27 units (Figure 4).

Figure 4. Average baccalaureate units attempted and earned during the first year of college, by QR placement status, 2017 and 2018 cohorts
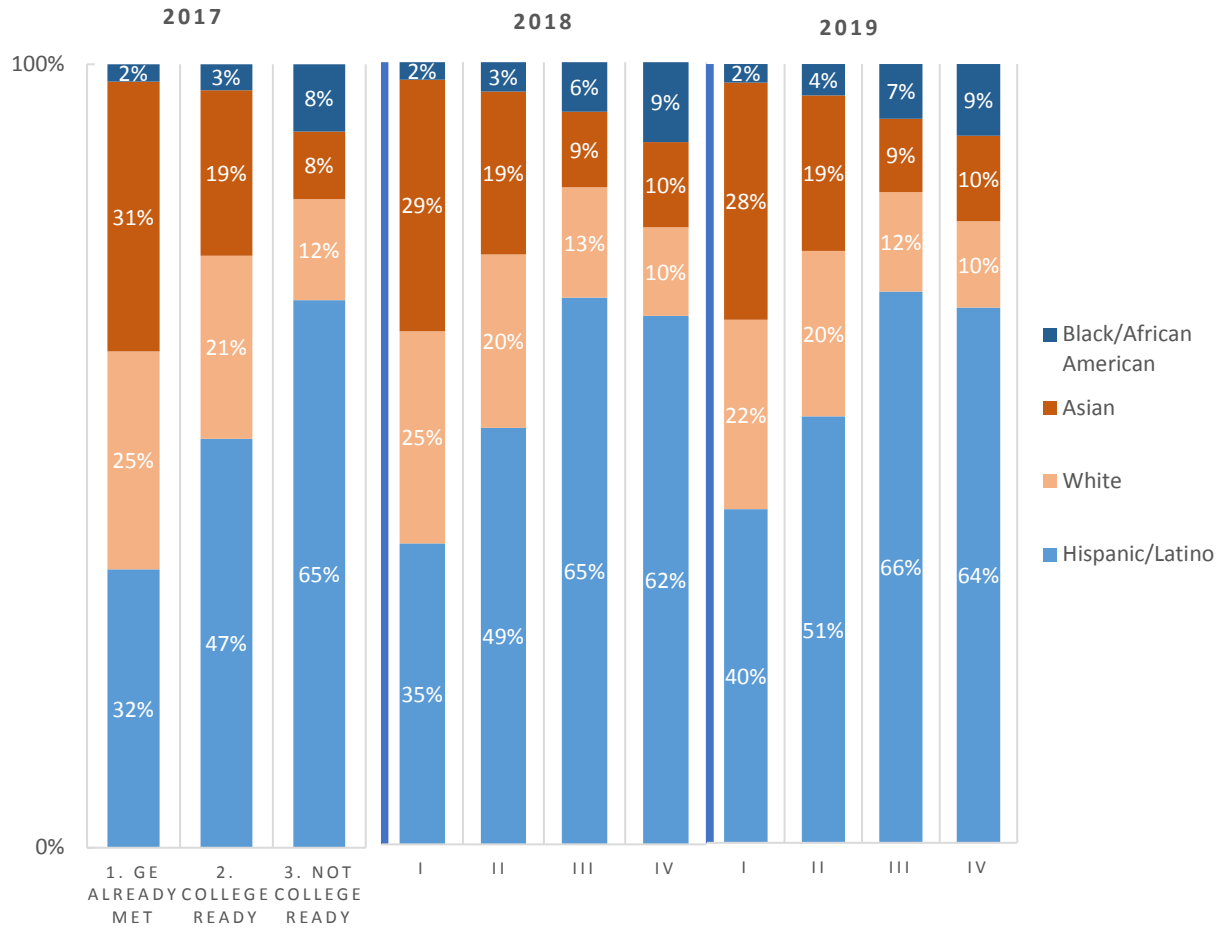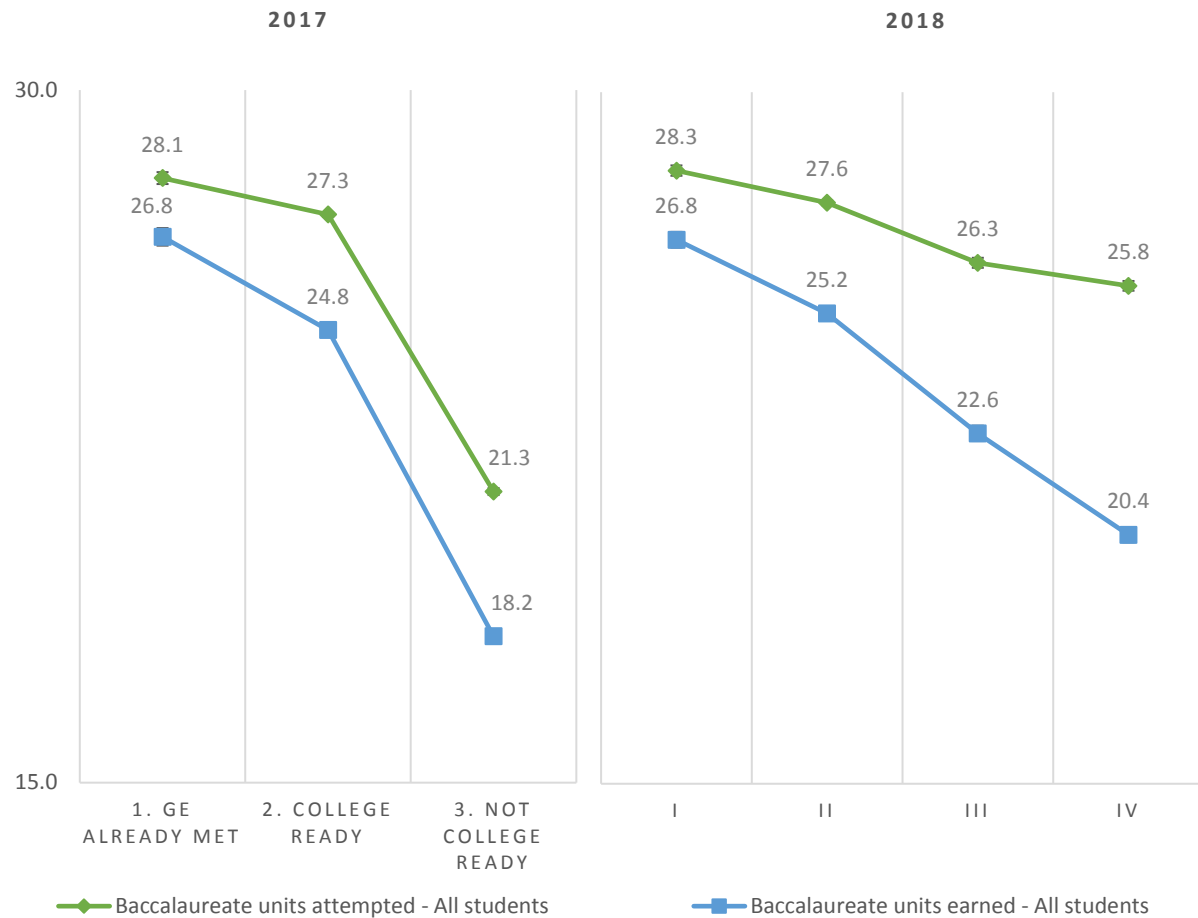

Notes: "All students" refers to the cohorts of 58,758 first-year students entering the CSU system in fall 2017 and 59,790 first-year students entering the CSU system in fall 2018. Least Squares Means were computed using SAS GLM Procedure, and the pairwise comparisons were adjusted for multiple comparisons using a Bonferroni correction. For both cohorts, all pairwise comparisons were statistically significant at the 5% level. The detailed distributions of average baccalaureate units attempted and earned by QR placement for the 2017 and 2018 cohorts are provided in Tables 9–11 in the appendix.

Although the new policy does seem to have enabled students in placement categories III and IV to earn more baccalaureate units than would have been possible under the prior policy, which directed such students into developmental education, the persistent downward trend in units earned across all four categories, along with the widening gap between units attempted and units earned, remains a concern. These conditions are particularly clear when disaggregating by race/ethnicity in examining the credits attempted and earned.

Across both cohorts and for all placement categories, Black/African American students and Hispanic/Latino students earned fewer baccalaureate units in their first year than their White and Asian counterparts.

The average numbers of baccalaureate units earned by White and Asian students were significantly higher than the average numbers of units earned by Black/African American students and Hispanic/Latino students for each placement category (Figure 5). For the less well-prepared students, however, there was an increase in credits accumulated by students in all race/ethnicity groups. For example, Black/African American and Hispanic/Latino students in QR placement Category IV earned more credits (2.4 and 2.0, respectively) than did the students in the 2017 cohort in those race/ethnicity groups who were in the "not college ready" category.

Figure 5. Average baccalaureate units earned during the first year of college, by race/ethnicity and by QR placement status, 2017 and 2018 cohorts
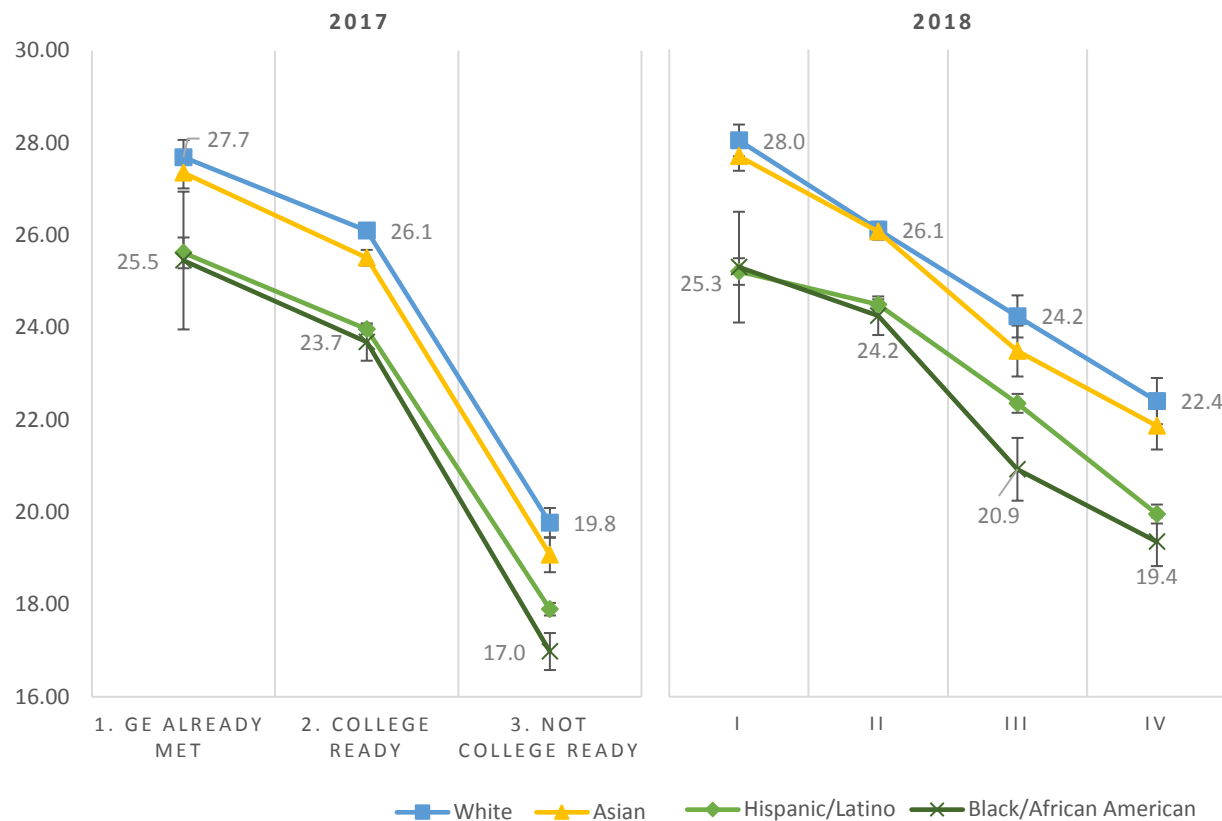
Notes: Percentages are based on the cohorts of 58,758 first-year students entering the CSU system in fall 2017 and 59,790 first-year students entering the CSU system in fall 2018. Least Squares Means were computed using SAS GLM Procedure, and the pairwise comparisons were adjusted for multiple comparisons using a Bonferroni correction. The error bars on the graph indicate the 95 percent confidence limits interval. White, Asian, and Black/African American categories refer to Non-Hispanic students. Other and Multiple/Unknown categories are a part of the model but are removed from the figure for readability. The detailed distribution of baccalaureate units attempted and earned by QR placement and race/ethnicity for the 2017 cohort is provided in Tables 12–14 in the appendix.

A2 and B4 Completion in CSU Students' First Year

One of the main priorities in the EO 1110 policy was to encourage more students to complete their GE requirements in WC and QR during their first year of college. Prior to the policy change, many students designated as "not college ready," particularly in QR, did not have the option of enrolling in a B4 GE course in their first year because they were required to take one or more semesters of developmental education. Many campuses, prior to EO 1110 implementation, had already eliminated the developmental courses in WC and were offering students a self-placement process as an option for them to determine whether to complete their A2 requirement in a traditional one-semester course or in a two-semester course in which the content of the A2 course is stretched over two semesters (known as a "stretch course"), allowing for a greater amount of in-depth time to be spent on writing, editing, and feedback.

Eliminating the developmental education requirement opened up options for more students to enroll in GE courses. As noted in the research team's previous report from WestEd's EO 1110 studies (Bracco et al., 2020), CSU campuses redesigned QR courses to provide additional supports to students in placement categories III and IV, through either a corequisite support model or a two-semester sequence similar to what had already been in place for WC courses.

Although the percentages of students completing the A2 requirement in their first year were similar across the 2017 and 2018 cohorts (Figure 6), the change in policy led to a significant increase in the percentage of students completing the B4 requirement in their first year (Figure 7).

- The percentage of students in the 2018 cohort who were designated as college ready (Category II) in WC and completed the A2 requirement in their first year was similar to the percentage of students in the 2017 cohort who were "college ready" and completed the requirement in their first year.

- A majority of students completed their A2 requirement during their first year, regardless of entering placement status; overall, 68 percent of the students designated as "not college ready" in 2017, 70 percent of students designated as Category III in 2018, and 60 percent of those designated as Category IV in 2018 completed the A2 requirement in their first year.

- There are significant differences across the two cohorts in terms of completion of the B4 requirement:

  – The percentage of students designated as college ready in QR who completed the B4 requirement in their first year increased from 69 percent in the 2017 cohort to 76 percent in the 2018 cohort.

- In the 2017 cohort, 64 percent of the students designated as not college ready in QR did not attempt a B4 course in their first year, compared to just 25 percent of the students in the 2018 cohort in Category IV.

- The percentage of students designated as needing additional support who completed the B4 requirement in their first year more than doubled in the first year of implementation of the new policy. For example, whereas only 25 percent of the students in the 2017 cohort who were designated as "not college ready" completed the B4 requirement in their first year, 59 percent of the students in the 2018 cohort who were designated as Category III, and 49 percent of those designated as Category IV, completed the requirement.

These differences are not surprising, given that, prior to the new policy, it was much more difficult for students to enroll in a GE course in their first year if they had been designated as needing developmental coursework.

Figure 6. A2 completion during the first year of college, by placement category, 2017 and 2018 cohorts
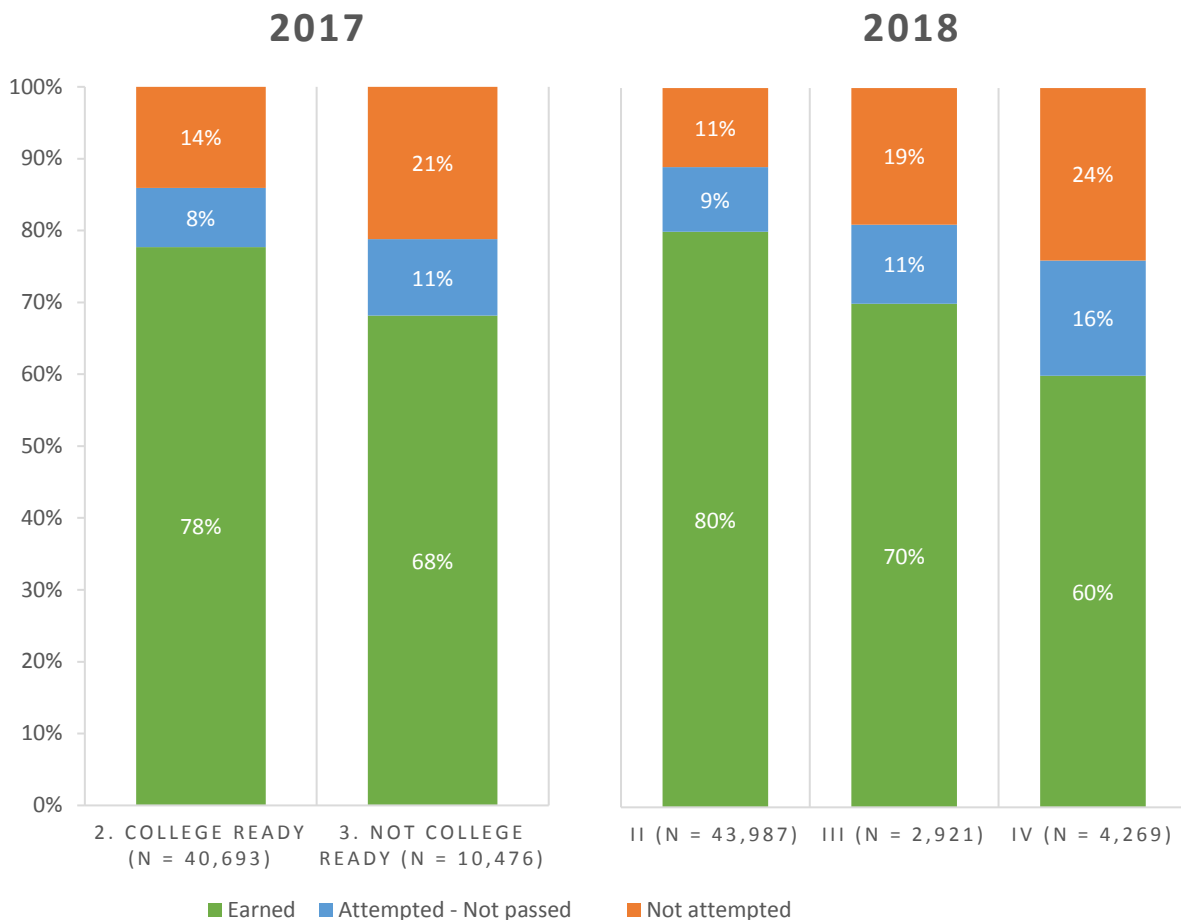
Note: The numbers of students by completion category for both cohorts are provided in Tables 15–16 in the appendix.

Figure 7. B4 completion during the first year of college, by placement category, 2017 and 2018 cohorts
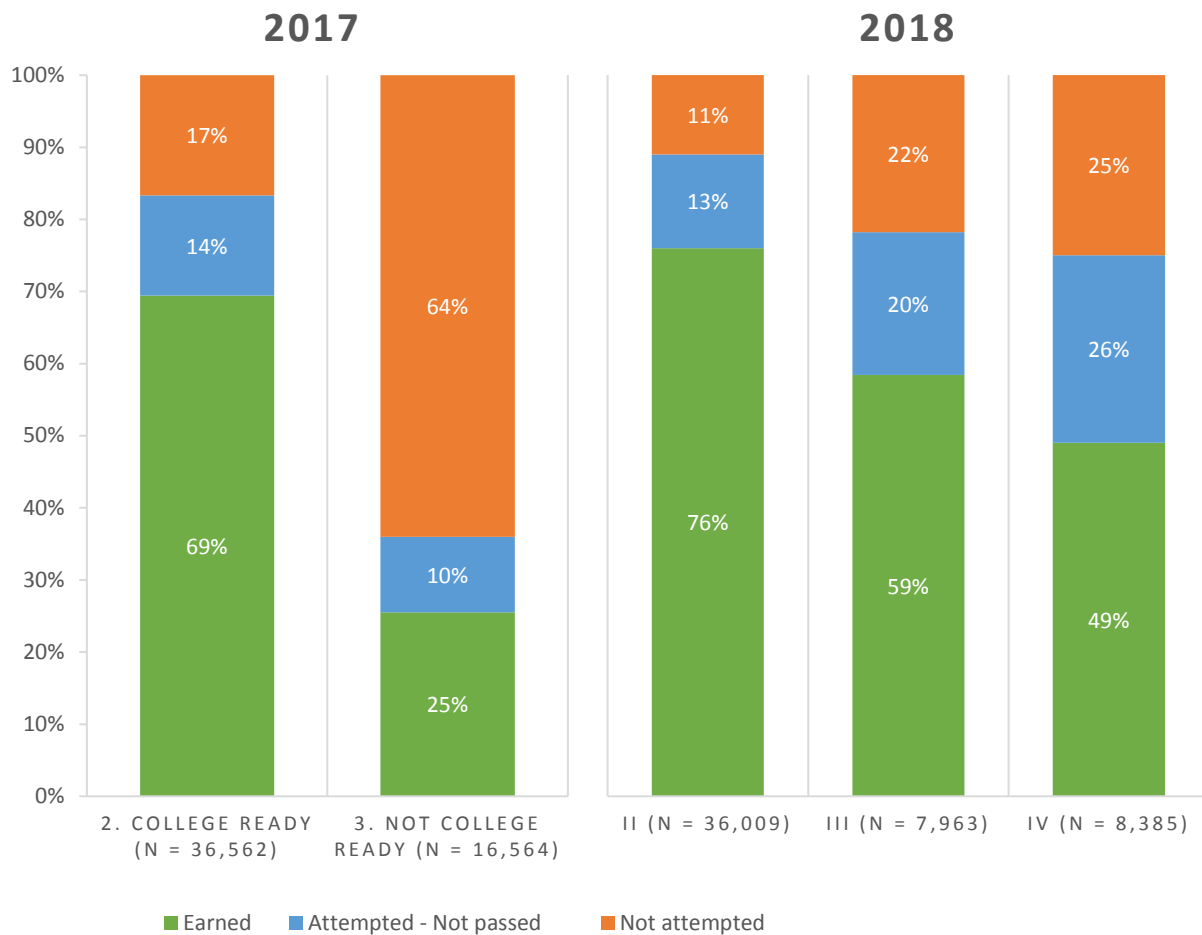
2017

	Earned	Attempted - Not passed	Not attempted
2. College Ready (N = 36,562)	69%	14%	17%
3. Not College Ready (N = 16,564)	25%	10%	64%

2018

	Earned	Attempted - Not passed	Not attempted
II (N = 36,009)	76%	13%	11%
III (N = 7,963)	59%	20%	22%
IV (N = 8,385)	49%	26%	25%

■ Earned   ■ Attempted - Not passed   ■ Not attempted

Note: The numbers of students by completion category for both cohorts are provided in Tables 17–18 in the appendix.

Although the increase in completion of the B4 requirement in students' first year is generally positive in terms of achieving the goals of EO 1110, further analysis of the student progression in future mathematics courses will be important, particularly for students in STEM fields. For example, a campus-level analysis extended further into the future could examine whether students who are successful in the B4 course continue to have success in subsequent math courses in their pathway, particularly if the subsequent courses do not have the same level of additional supports as is provided in the GE course.

Retention

Retention is an important measure of the impact of the EO 1110 policy, especially because it is a critical measure of the broader CSU goals set out in GI 2025, as previously noted. Researchers for this study examined the retention, or continued enrollment, of students in their second, third, and fourth semesters, for both the 2017 and 2018 cohorts. Students were considered to be retained if they were enrolled in at least one baccalaureate-level course in the subsequent semester.

The decline in retention over each subsequent semester was similar for the 2017 and 2018 cohorts (Figure 8).

- Retention for students in all QR placement categories dropped off with each semester; the steepest drop was between the students' second and third semesters (between their first and second years).

- Retention rates for students who had already met the GE requirement (2017) or were placed in Category I (2018) in QR were very similar — from 97 percent in their second semester to 89 percent in their fourth semester.

- Students designated as "college ready" (2017) or in Category II (2018) in QR also had fairly similar retention patterns, from 95 percent retention in their second semester to 80 percent in their fourth semester.

- Although students placed in Category III in QR in 2018 had retention rates that were higher than those of students designated as "not college ready" in QR in 2017, students in Category IV were retained at lower rates than the "not college ready" members of the 2017 cohort over their third and fourth semesters.

- Taken together, the students in categories III and IV in 2018 had the same retention rate as students who were designated as "not college ready" in 2017. By their second semester, retention rates for these students had dropped to 75 percent, and dropped again, to 70 percent, by their third semester.

Figure 8. Retention rates by QR placement status, 2017 and 2018 cohorts
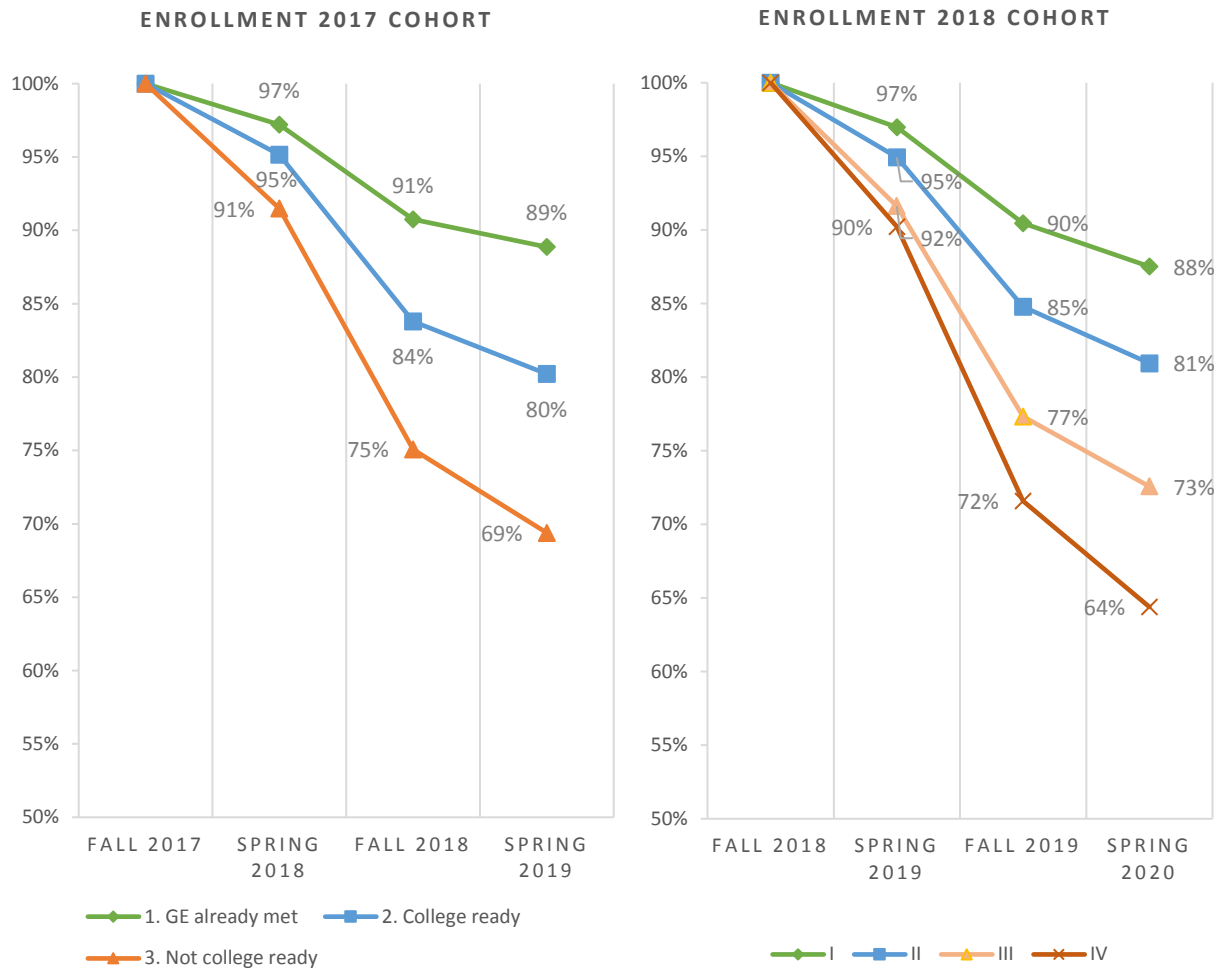
ENROLLMENT 2017 COHORT

ENROLLMENT 2018 COHORT

— 1. GE already met   — 2. College ready
— 3. Not college ready

— I   — II   — III   — IV

Although every racial/ethnic group had a decline in retention rates over each subsequent semester in both cohorts, the retention rates for Black/African American students and Hispanic/Latino students dropped more precipitously from their second to third semester (from their first to second year) than was the case for their White and Asian counterparts.

Figure 9 shows the retention rates for students in different racial/ethnic groups over the three semesters for both cohorts. The retention rates by race/ethnicity across the two cohorts are remarkably similar. Differences between racial/ethnic groups increase with each semester. For example, for the 2017 cohort in spring 2018, only Asian students had a retention rate significantly higher than other students, while differences between the other groups were not significant. By fall 2018, however, while retention for Asian students stayed significantly higher than for any other group, White students had a significantly higher retention rate than Black/African American or Hispanic/Latino students. By spring

2019, the differences in retention rates between all the major racial/ethnic groups are statistically significant. The overall pattern was similar for the 2018 cohort.

Figure 9. Retention rates by race/ethnicity, 2017 and 2018 cohorts
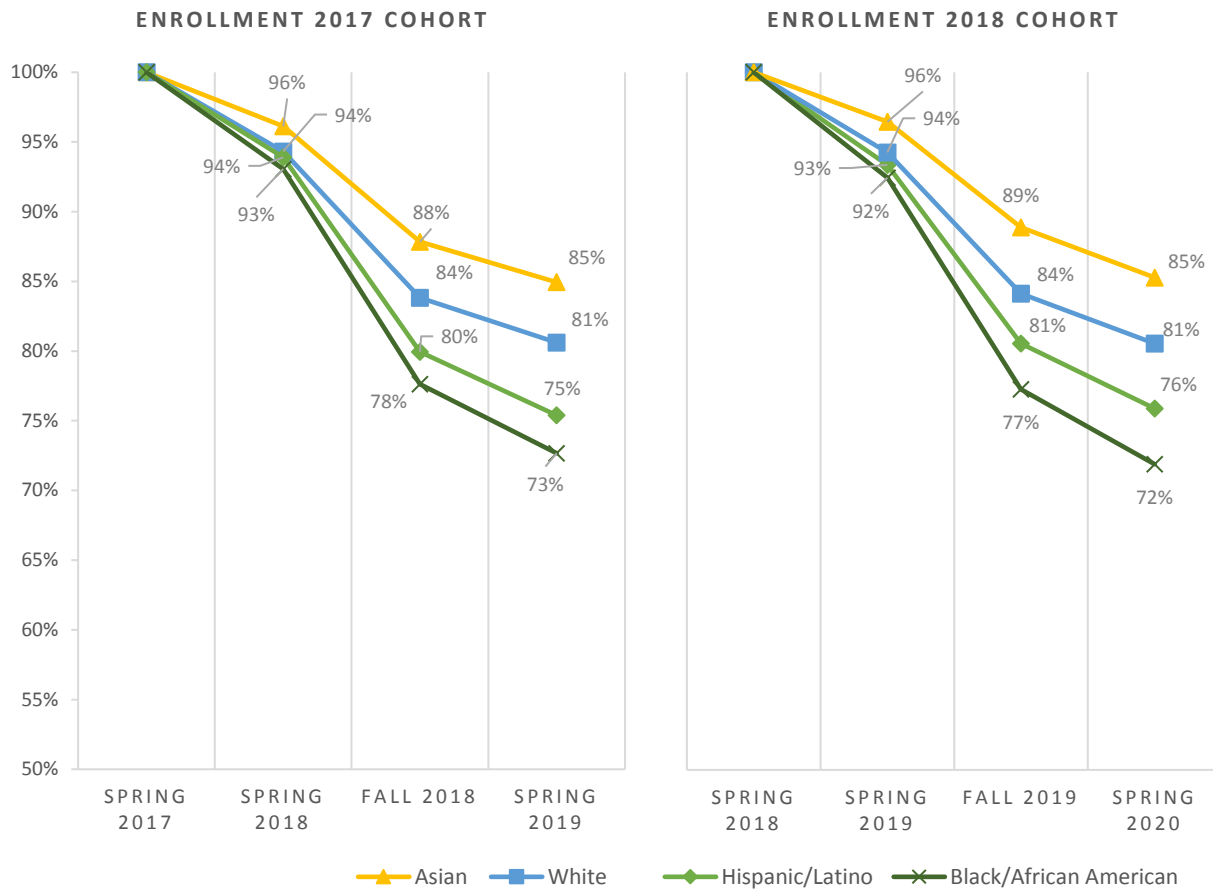
Notes: Percentages are based on the cohorts of 58,758 first-year students entering the CSU system in fall 2017 and 59,790 first-year students entering the CSU system in fall 2018. Least Squares Means were computed using SAS GLM Procedure, and the pairwise comparisons were adjusted for multiple comparisons using a Bonferroni correction. 2017 and 2018 cohort retention through first four semesters by race/ethnicity. White, Asian, and Black/African American categories refer to Non-Hispanic students. Other and Multiple/Unknown are a part of the model but are removed from the figure for readability. The numbers of students retained by race/ethnicity for each period for the 2017 and 2018 cohorts are provided in Tables 25–30 in the appendix.

The declines in retention over each subsequent semester are similar for all declared majors across both cohorts.

The retention rates follow very similar patterns for students in most declared majors, across both cohorts (Figure 10). The main significant difference in retention is for students who did not declare a major upon entry; these students were retained at slightly lower rates than were students who entered with a declared major. Diagnosing the relationship between major declaration and retention is worth further investigation. Given that there are differences in retention for students who enter the university undeclared, it may be helpful for campus teams to redouble their advising and other supports for undeclared students.

Figure 10. Retention rates by declared major, 2017 and 2018 cohorts
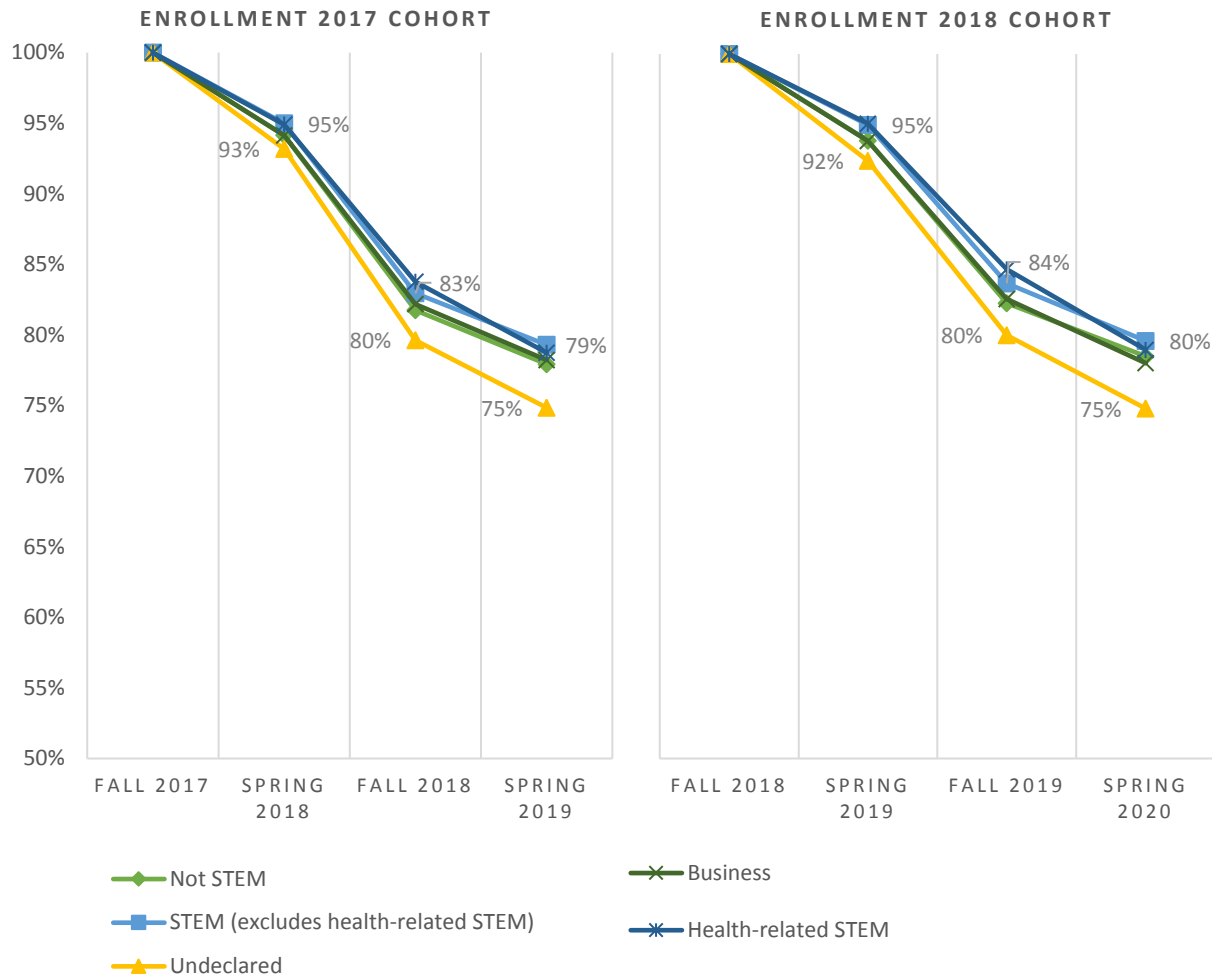
ENROLLMENT 2017 COHORT

ENROLLMENT 2018 COHORT

Legend:
- Not STEM
- STEM (excludes health-related STEM)
- Undeclared
- Business
- Health-related STEM

Notes: Percentages are based on the cohorts of 58,758 first-year students entering the CSU system in fall 2017 and 59,790 first-year students entering the CSU system in fall 2018. Least Squares Means were computed using SAS GLM Procedure, and the pairwise comparisons were adjusted for multiple comparisons using a Bonferroni correction. The numbers of students retained by major for each period for the 2017 and 2018 cohorts are provided in Tables 31–36 in the appendix.

Conclusion

Although the analysis of credit accumulation and GE completion in students' first year seems to show that the EO 1110 policy initially had a positive impact, the retention numbers demonstrate that students still need more support to stay on track toward successful completion of their degrees. The findings illuminate ongoing concerns within the CSU system around the differential progress by Black/African American and Hispanic/Latino students, compared to their White and Asian counterparts. Accordingly, completion of the A2 and B4 requirements appears to be necessary but not sufficient for long-term retention. In researchers' discussions with CSU faculty throughout the past two years, the faculty have emphasized that even though providing support for students to complete those entry-level courses in their first year is important, there are many other factors that impact student success.

Understanding how best to support students, particularly those who enter the CSU system in need of additional supports, will be of increasing importance given the likely disproportionate impact of the disruptions caused by the current pandemic. Even with the best implementation of supports for students, education pathways have been disrupted so much by the pandemic that students from the lowest-income backgrounds are likely to continue being impacted disproportionately. The move to remote learning will have implications for retention and academic progression in ways that need to be studied more closely.

Although the analyses presented in this report illustrate systemwide patterns in credit accumulation, GE completion, and retention, they are unable to capture the nuances and differences among the CSU system's 23 campuses. As noted in the prior report in this series (Bracco et al., 2020), a systemwide analysis of data does not account for campus-level differences in implementation. Accordingly, a campus-level interpretation could look first at whether the differences by race/ethnicity that exist systemwide are reflected on an individual campus. Campus faculty and institutional researchers could then disentangle some of the reasons for the differences across ethnic groups or across placement categories and try to determine how best to address those differences within their unique contexts.

References

Bailey, T. (2017, May/June). Community colleges and student success: Models for comprehensive reform. *EDUCAUSE Review*, *52*(3), 33–42.

Barnett, E., & Kopko, E. (2020). *What really works in student success* (CCRC Working Paper No. 121). Community College Research Center, Teachers College, Columbia University. https://ccrc.tc.columbia.edu/media/k2/attachments/what-works-student-success.pdf

Bracco, K. R., Finkelstein, N., & Barrat, V. (2020). *Student progress under California State University's Executive Order 1110: A systemwide analysis of outcomes in 2018/19.* WestEd. https://www.wested.org/resources/california-state-universitys-executive-order-1110/

Bracco, K. R., Schrager, C., Calisi, G., Gutierrez, P., Salciccioli, M., & Finkelstein, N. (2019). *College-ready in the California State University system: Campus experiences implementing EO 1110.* WestEd. https://www.wested.org/resources/college-ready-csu-system/

Bickerstaff, S., & Edgecombe, N. (2019). *Teaching matters and so does curriculum: How CUNY Start reshaped instruction for students referred to developmental mathematics* (CCRC Working Paper No. 1110). https://ccrc.tc.columbia.edu/media/k2/attachments/cuny-start-math-instruction.pdf

Community College Research Center (CCRC). (2013). *What we know about non-academic student supports*. https://ccrc.tc.columbia.edu/media/k2/attachments/what-we-know-about-nonacademic-student-supports.pdf

Georgia State University. (2018). *Georgia State University: Complete College Georgia*. https://success.gsu.edu/download/2018-status-report-georgia-state-university-complete-college-georgia/?wpdmdl=6472128&refresh=5f60c0a8897e41600176296

Kurzweil, M., & Wu, D. (2015). *Building a pathway to student success at Georgia State University.* Ithaka S+R. http://www.sr.ithaka.org/publications/building-a-pathway-to-student-success-at-georgia-state-university

Moore, C., Schrager, C., & Bracco, K. R. (2017). *From scatterplot to roadmap: New efforts to improve student success in the California State University*. https://edinsightscenter.org/Portals/0/ReportPDFs/CSU_Mapping_Report.pdf

Scrivener, S., Gupta, H., Weiss, M., Cohen, B., Cormier, M. S., & Brathwaite, J. (2018). *Becoming college-ready: Early findings from a CUNY Start evaluation.* MDRC. https://files.eric.ed.gov/fulltext/ED586380.pdf

Webber, A. J. (2018). *Starting to succeed: The impact of CUNY Start on academic momentum.* The City University of New York. https://www.cuny.edu/wp-content/uploads/sites/4/media-assets/gateway_brief_final.pdf

Appendix

The tables in this appendix provide additional detail on each of the findings that are represented in the main report. The cohorts reported in this analysis include first-time enrolled students on 21 campuses of the California State University (CSU) system, and exclude the two campuses that were on the quarter system in both 2017 and 2018: Cal Poly San Luis Obispo (SLO) and CSU San Bernardino (CSUSB). This analysis uses the IPEDS Race/Ethnicity reporting categories. CSU uses a slightly different method to report race/ethnicity, in which any students who are non-U.S. citizens with an "F," "J," or "other" visa, or who are non-U.S. citizens with no visa or undetermined status, are put into their own category as International Students/Non-Resident Alien Students.

Table 1. Numbers and percentages of first-time enrolled first-year students by gender (2017–2019 cohorts)

Gender	2017 Cohort		2018 Cohort		2019 Cohort	
	N	%	N	%	N	%
Female	34,213	58.2%	34,582	57.8%	34,093	58.3%
Male	24,545	41.8%	25,208	42.2%	24,410	41.7%
Total	58,758	100.0%	59,790	100.0%	58,503	100.0%

Notes: N is number of students and % is percent. Variables described in Table 1 are represented in Box 1. Cohort numbers presented in this table and in all subsequent appendix tables do not include students from SLO and CSUSB. In the 2019 cohort, 39 students did not list their gender as either male or female.

Table 2. Numbers and percentages of first-time enrolled first-year students by race/ethnicity (2017–2019 cohorts)

Race/ethnicity	2017 Cohort		2018 Cohort		2019 Cohort	
	N	%	N	%	N	%
Hispanic/Latino	29,877	50.8%	30,630	51.2%	30,989	52.9%
White	11,151	19.0%	11,116	18.6%	10,461	17.9%
Asian	9,986	17.0%	10,654	17.8%	10,257	17.5%
Multiple/Unknown	4,864	8.3%	4,419	7.4%	3,896	6.7%
Black/African American	2,565	4.4%	2,645	4.4%	2,626	4.5%
Other	315	0.5%	326	0.5%	313	0.5%
Total	58,758	100%	59,790	100%	58,542	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. N is number of students and % is percent. Variables described in Table 2 are represented in Box 1.

Table 3. Numbers and percentages of first-time enrolled first-year students by declared major (2017–2019 cohorts)

Concentration group	2017 Cohort		2018 Cohort		2019 Cohort	
	N	%	N	%	N	%
Not STEM	19,014	32.4%	19,903	33.3%	20,678	35.3%
STEM (excludes health-related STEM)	18,938	32.2%	19,135	32.0%	18,706	32.0%
Undeclared	9,057	15.4%	8,675	14.5%	7,224	12.3%
Business	7,755	13.2%	7,857	13.1%	7,908	13.5%
Health-related STEM	3,994	6.8%	4,220	7.1%	4,026	6.9%
Total	58,758	100%	59,790	100%	58,542	100%

Notes: N is number of students and % is percent. Variables described in Table 3 are represented in Box 1.

Table 4. Number and percentage of students in 2017 cohort by WC placement categories

WC placement	Number of students	Percent
GE already met	7,589	13%
College ready	40,693	69%
Not college ready	10,476	18%
Total	58,758	100%

Note: Variables described in Table 4 are represented in Figure 1.

Table 5. Numbers and percentages of students in 2018 and 2019 cohorts by WC placement categories

WC placement	2018 Cohort		2019 Cohort	
	N	%	N	%
Category I	8,613	14%	9,966	17%
Category II	43,987	74%	42,659	73%
Category III	2,921	5%	2,263	4%
Category IV	4,269	7%	3,654	6%
Total	59,790	100%	58,542	100%

Notes: N is number of students and % is percent. Variables described in Table 5 are represented in Figure 1.

Table 6. Number and percentage of students in 2017 cohort by QR placement category

QR placement	Number of students	Percent
GE already met	5,632	10%
College ready	36,562	62%
Not college ready	16,564	28%
Total	58,758	100%

Note: Variables described in Table 6 are represented in Figure 2.

Table 7. Numbers and percentages of students in 2018 and 2019 cohorts by QR placement category

QR placement	2018 Cohort		2019 Cohort	
	N	%	N	%
Category I	7,433	12%	8,390	14%
Category II	36,009	60%	34,765	59%
Category III	7,963	13%	8,467	14%
Category IV	8,385	14%	6,920	12%
Total	59,790	100%	58,542	100%

Notes: N is number of students and % is percent. Variables described in Table 7 are represented in Figure 2.

Table 8. Numbers and percentages of students in cohorts by race/ethnicity and QR placement category (2017–2019 cohorts)

2017 Cohort

Race/ethnicity	QR placement						Total students
	GE already met		College ready		Not college ready		
	N	%	N	%	N	%	
Hispanic/Latino	1,802	32%	17,267	47%	10,808	65%	29,877
White	1,424	25%	7,793	21%	1,934	12%	11,151
Asian	1,748	31%	6,842	19%	1,396	8%	9,986
Multiple/Unknown	555	10%	3,219	9%	1,090	7%	4,864
Black/African American	90	2%	1,228	3%	1,247	8%	2,565
Other	13	0%	213	1%	89	1%	315
Total	5,632	100%	36,562	100%	16,564	100%	58,758

2018 Cohort

| Race/ethnicity | QR placement | | | | | | | | Total students |
| | Category I | | Category II | | Category III | | Category IV | | |
	N	%	N	%	N	%	N	%	
Hispanic/Latino	2,614	35%	17,674	49%	5,177	65%	5,165	62%	30,630
White	1,841	25%	7,364	20%	1,044	13%	867	10%	11,116
Asian	2,185	29%	6,923	19%	715	9%	831	10%	10,654
Multiple/Unknown	609	8%	2,620	7%	512	6%	678	8%	4,419
Black/African American	151	2%	1,242	3%	470	6%	782	9%	2,645
Other	33	0%	186	1%	45	1%	62	1%	326
Total	7,433	100%	36,009	100%	7,963	100%	8,385	100%	59,790

2019 Cohort

| Race/ethnicity | QR placement | | | | | | | | Total students |
| | Category I | | Category II | | Category III | | Category IV | | |
	N	%	N	%	N	%	N	%	
Hispanic/Latino	3,316	40%	17,670	51%	5,575	66%	4,428	64%	30,989
White	1,881	22%	6,858	20%	1,008	12%	714	10%	10,461
Asian	2,358	28%	6,450	19%	742	9%	707	10%	10,257
Multiple/Unknown	626	7%	2,320	7%	532	6%	418	6%	3,896
Black/African American	184	2%	1,295	4%	553	7%	594	9%	2,626
Other	25	0%	172	1%	57	1%	59	1%	320
Total	8,390	100%	34,765	100%	8,467	100%	6,920	100%	58,542

**Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. N is number of students and % is percent.
Variables described in Table 8 are represented in Figure 3.**

Table 9. Numbers of students and average baccalaureate units attempted by QR placement category (2017 and 2018 cohorts)

2017 Freshman Cohort							
QR placement	Number of students	Min	Mean	Median	Mode	Std Dev	Max
GE already met	5,632	0	28.1	29	30	4.5	48
College ready	36,562	0	27.3	28	30	4.8	47
Not college ready	16,564	0	21.3	22	21	5.4	44
Total	58,758	0	25.6	28	30	4.9	48

2018 Freshman Cohort							
QR placement	Number of students	Min	Mean	Median	Mode	Std Dev	Max
I: Has fulfilled the GE Subarea B4 requirement	7,433	0	28.3	29	30	4.4	44
II: Placement in a GE Subarea B4 course	36,009	0	27.6	28	30	4.7	46
III: Recommend placement in a supported GE Subarea B4 course	7,963	0	26.3	27	27	5.4	46
IV: Require placement in a supported GE Subarea B4 course or the first term of an applicable stretch course	8,385	0	25.8	27	27	5.7	52
Total	59,790	0	27.2	28	30	5.0	52

Note: Variables described in Table 9 are represented in Figure 4.

Table 10. Numbers of students and average baccalaureate units earned by QR placement category (2017 and 2018 cohorts)

2017 Freshman Cohort							
QR placement	Number of students	Min	Mean	Median	Mode	Std Dev	Max
GE already met	5,632	0	26.8	28	30	6.1	48
College ready	36,562	0	24.8	27	30	7.3	46
Not college ready	16,564	0	18.2	20	21	7.5	44
Total	58,758	0	23.3	27	30	7.0	48

2018 Freshman Cohort							
QR placement	Number of students	Min	Mean	Median	Mode	Std Dev	Max
I: Has fulfilled the GE Subarea B4 requirement	7,433	0	26.8	28	30	6.3	44
II: Placement in a GE Subarea B4 course	36,009	0	25.2	27	30	7.3	45
III: Recommend placement in a supported GE Subarea B4 course	7,963	0	22.6	25	27	8.2	41
IV: Require placement in a supported GE Subarea B4 course or the first term of an applicable stretch course	8,385	0	20.4	23	27	9.0	52
Total	59,790	0	24.4	27	30	7.8	52

Note: Variables described in Table 10 are represented in Figure 4.

Table 11. Comparison of average baccalaureate units attempted and earned by QR placement category (2017 and 2018 cohorts)

2017 Freshman Cohort				
QR placement	Number of students	Baccalaureate units attempted in year one	Baccalaureate units earned in year one	Ratio
		Mean	Mean	
GE already met	5,632	28.1	26.8	95%
College ready	36,562	27.3	24.8	91%
Not college ready	16,564	21.3	18.2	85%
Total	58,758	25.6	23.3	91%

2018 Freshman Cohort				
QR placement	Number of students	Baccalaureate units attempted in year one	Baccalaureate units earned in year one	Ratio
		Mean	Mean	
I: Has fulfilled the GE Subarea B4 requirement	7,433	28.3	26.8	95%
II: Placement in a GE Subarea B4 course	36,009	27.6	25.2	91%
III: Recommend placement in a supported GE Subarea B4 course	7,963	26.3	22.6	86%
IV: Require placement in a supported GE Subarea B4 course or the first term of an applicable stretch course	8,385	25.8	20.4	79%
Total	59,790	27.2	24.4	89%

Note: Variables described in Table 11 are represented in Figure 4.

Table 12. Numbers of students and average baccalaureate units attempted by race/ethnicity and QR placement category (2017 and 2018 cohorts)

2017 Freshman Cohort								
QR placement	Race/Ethnicity	Number of students	Min	Mean	Median	Mode	Std Dev	Max
GE already met	Hispanic/Latino	1,802	0	27.4	28	27	4.4	47
	White	1,424	0	28.8	30	30	4.7	47
	Asian	1,748	7	28.2	29	30	4.3	48
	Multiple/Unknown	555	1	28.3	29	30	4.6	39
	Black/African American	90	8	28.0	29	31	5.2	39
	Other	13	6	25.0	26	25	8.0	40
College ready	Hispanic/Latino	17,267	0	26.9	27	30	4.7	43
	White	7,793	0	27.9	29	30	4.9	47
	Asian	6,842	0	27.6	28	30	4.6	43
	Multiple/Unknown	3,219	0	27.4	28	30	5.1	42
	Black/African American	1,228	6	27.2	28	27	4.7	41
	Other	213	3	27.4	28	27	4.8	39
Not college ready	Hispanic/Latino	10,808	0	21.2	22	21	5.3	44
	White	1,934	0	22.1	23	24	5.6	37
	Asian	1,396	0	21.9	23	24	5.1	34
	Multiple/Unknown	1,090	0	21.6	22	24	5.6	38
	Black/African American	1,247	0	20.5	21	21	5.7	33
	Other	89	3	20.7	22	22	6.4	31
Total		58,758	0	25.4	28	30	3.1	48

2018 Freshman Cohort								
QR placement	Race/ethnicity	Number of students	Min	Mean	Median	Mode	Std Dev	Max
I: Has fulfilled the GE Subarea B4 requirement	Hispanic/Latino	2,614	3	27.5	28	30	4.5	44
	White	1,841	0	29	30	30	4.4	43
	Asian	2,185	0	28.5	29	30	4.2	42
	Multiple/Unknown	609	6	28.8	30	30	4.4	40
	Black/African American	151	12	27.9	28	30	4.7	40
	Other	33	12	28.5	29	31	3.8	33
II: Placement in a GE Subarea B4 course	Hispanic/Latino	17,674	0	27.2	28	30	4.7	45
	White	7,364	0	28.8	29	30	5	43
	Asian	6,923	0	28.8	29	30	4.4	46
	Multiple/Unknown	2,620	0	27.7	29	30	4.9	40
	Black/African American	1,242	0	27.4	28	30	5	42
	Other	186	0	27.7	28	30	4.7	38
III: Recommend placement in a supported GE Subarea B4 course	Hispanic/Latino	5,177	0	26.2	27	27	5.3	41
	White	1,044	0	26.8	28	30	5.3	46
	Asian	715	0	26.7	28	30	5.4	44
	Multiple/Unknown	512	0	26.3	28	30	5.9	36
	Black/African American	470	6	25.7	27	30	5.7	38
	Other	45	9	25.6	27	27	6.8	34
IV: Require placement in a supported GE Subarea B4 course or the first term of an applicable stretch course	Hispanic/Latino	5,165	0	25.7	27	27	5.6	44
	White	867	0	26.3	28	30	5.7	52
	Asian	831	0	26.3	27	27	5.4	39
	Multiple/Unknown	678	0	26.1	27	28	5.7	45
	Black/African American	782	0	25.6	27	27	5.8	46
	Other	62	0	24.7	26	24	7.1	35
Total		59,790	0	27.2	28	30	5.0	52

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Variables described in Table 12 are represented in Figure 5.

Table 13. Numbers of students and average baccalaureate units earned in academic year by race/ethnicity and QR placement category (2017 and 2018 cohorts)

QR placement	Race/Ethnicity	Number of students	Min	Mean	Median	Mode	Std Dev	Max
2017 Freshman Cohort								
GE already met	Hispanic/Latino	1,802	0	25.6	27	27	6.4	47
	White	1,424	0	27.7	29	30	6.1	47
	Asian	1,748	0	27.4	28	30	5.3	48
	Multiple/Unknown	555	0	27.1	29	30	6.3	39
	Black/African American	90	0	25.5	28	31	8.5	39
	Other	13	6	24.8	26	25	8.4	40
College ready	Hispanic/Latino	17,267	0	24.0	26	30	7.4	42
	White	7,793	0	26.1	28	30	7.0	46
	Asian	6,842	0	25.5	27	30	6.8	43
	Multiple/Unknown	3,219	0	25.1	27	30	7.6	41
	Black/African American	1,228	0	23.7	26	27	8.0	40
	Other	213	0	24.3	26	29	7.8	39
Not college ready	Hispanic/Latino	10,808	0	17.9	19	21	7.5	44
	White	1,934	0	19.8	21	24	7.5	37
	Asian	1,396	0	19.1	21	24	7.3	34
	Multiple/Unknown	1,090	0	18.3	20	24	7.9	38
	Black/African American	1,247	0	17.0	19	21	7.9	33
	Other	89	0	17.2	19	22	8.3	31
Total		58,758	0	23.1	26	30	3.8	48

2018 Freshman Cohort								
QR placement	Race/ethnicity	Number of students	Min	Mean	Median	Mode	Std Dev	Max
I: Has fulfilled the GE Subarea B4 requirement	Hispanic/Latino	2,614	0	25.2	27	30	7.1	44
	White	1,841	0	28	29	30	5.6	43
	Asian	2,185	0	27.7	29	30	5.2	42
	Multiple/Unknown	609	0	27.3	29	31	6	40
	Black/African American	151	0	25.3	27	30	7	36
	Other	33	0	27.7	29	31	5.7	32
II: Placement in a GE Subarea B4 course	Hispanic/Latino	17,674	0	24.5	27	30	7.5	45
	White	7,364	0	26.1	28	30	7	43
	Asian	6,923	0	26.1	28	30	6.6	45
	Multiple/Unknown	2,620	0	25.3	27	30	7.4	40
	Black/African American	1,242	0	24.2	27	30	8	42
	Other	186	0	24.7	27	30	7.9	38
III: Recommend placement in a supported GE Subarea B4 course	Hispanic/Latino	5,177	0	22.3	25	27	8.2	40
	White	1,044	0	24.2	27	27	7.6	40
	Asian	715	0	23.5	26	30	8.1	41
	Multiple/Unknown	512	0	22.9	25	30	8.5	35
	Black/African American	470	0	20.9	24	26	9.1	36
	Other	45	0	21.4	24	21	9.6	34
IV: Require placement in a supported GE Subarea B4 course or the first term of an applicable stretch course	Hispanic/Latino	5,165	0	20	22	27	9.1	41
	White	867	0	22.4	25	27	8.5	52
	Asian	831	0	21.9	24	30	8.5	39
	Multiple/Unknown	678	0	20.8	24	28	9.1	43
	Black/African American	782	0	19.4	21	27	9.3	40
	Other	62	0	20.1	23	24	8.6	32
Total		59,790	0	24.4	27	30	7.8	52

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Variables described in Table 13 are represented in Figure 5.

Table 14. Comparison of average baccalaureate units attempted and earned by race/ethnicity and QR placement (2017 and 2018 cohorts)

2017 Freshman Cohort					
QR placement	Race/Ethnicity	Number of students	Average baccalaureate units attempted	Average baccalaureate units earned	Ratio
			Mean	Mean	
GE already met	Hispanic/Latino	1,802	27.42	25.62	93%
	White	1,424	28.75	27.69	96%
	Asian	1,748	28.22	27.35	97%
	Multiple/Unknown	555	28.32	27.09	96%
	Black/African American	90	27.95	25.45	91%
	Other	13	25.00	24.77	99%
College ready	Hispanic/Latino	17,267	26.90	23.96	89%
	White	7,793	27.91	26.10	94%
	Asian	6,842	27.59	25.51	92%
	Multiple/Unknown	3,219	27.41	25.08	91%
	Black/African American	1,228	27.18	23.69	87%
	Other	213	27.41	24.32	89%
Not college ready	Hispanic/Latino	10,808	21.16	17.90	85%
	White	1,934	22.09	19.77	89%
	Asian	1,396	21.86	19.08	87%
	Multiple/Unknown	1,090	21.61	18.29	85%
	Black/African American	1,247	20.51	16.98	83%
	Other	89	20.65	17.21	83%
Total		58,758	25.44	23.10	91%

2018 Freshman Cohort					
QR placement	Race/ethnicity	Number of students	Average baccalaureate units attempted	Average baccalaureate units earned	Ratio
			Mean	Mean	
I: Has fulfilled the GE Subarea B4 requirement	Hispanic/Latino	2,614	27.5	25.2	92%
	White	1,841	29.0	28.0	97%
	Asian	2,185	28.5	27.7	97%
	Multiple/Unknown	609	28.8	27.3	95%
	Black/African American	151	27.9	25.3	91%
	Other	33	28.5	27.7	97%
II: Placement in a GE Subarea B4 course	Hispanic/Latino	17,674	27.2	24.5	90%
	White	7,364	28.0	26.1	93%
	Asian	6,923	28.0	26.1	93%
	Multiple/Unknown	2,620	27.7	25.3	91%
	Black/African American	1,242	27.4	24.2	88%
	Other	186	27.7	24.7	89%
III: Recommend placement in a supported GE Subarea B4 course	Hispanic/Latino	5,177	26.2	22.3	85%
	White	1,044	26.8	24.2	90%
	Asian	715	26.7	23.5	88%
	Multiple/Unknown	512	26.3	22.9	87%
	Black/African American	470	25.7	20.9	82%
	Other	45	25.6	21.4	84%
IV: Require placement in a supported GE Subarea B4 course or the first term of an applicable stretch course	Hispanic/Latino	5,165	25.7	20.0	78%
	White	867	26.3	22.4	85%
	Asian	831	26.3	21.9	83%
	Multiple/Unknown	678	26.1	20.8	80%
	Black/African American	782	25.6	19.4	76%
	Other	62	24.7	20.1	81%
Total		59,790	27.2	24.4	89%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Variables described in Table 14 are represented in Figure 5.

Table 15. Completion of A2 requirement in first year (2017 and 2018 cohorts)

2017 Freshman Cohort		
	Number of students	Percent
Not attempted	7,941	14%
Attempted – Not passed	4,475	8%
Completed	46,342	79%
Total	58,758	100%

2018 Freshman Cohort		
	Number of students	Percent
Not attempted	6,422	11%
Attempted – Not passed	4,813	8%
Completed	48,555	81%
Total	59,790	100%

Note: Variables described in Table 15 are represented in Figure 6.

Table 16. Completion of A2 requirement in first year by placement category (2017 and 2018 cohorts)

2017 Cohort	Not attempted		Attempted – Not passed		Completed		Total
	N	%	N	%	N	%	N
College ready	5,720	14%	3,359	8%	31,614	78%	40,693
Not college ready	2,221	21%	1,116	11%	7,139	68%	10,476
Total	7,941		4,475		38,753		51,169

2018 Cohort	Not attempted		Attempted – Not passed		Completed		Total
	N	%	N	%	N	%	N
II	4,860	11%	3,821	9%	35,306	80%	43,987
III	543	19%	320	11%	2,058	70%	2,921
IV	1,019	24%	672	16%	2,578	60%	4,269
Total	6,422		4,813		39,942		51,177

Notes: N is number of students and % is percent. Variables described in Table 16 are represented in Figure 6. Totals in this table do not include students designated as having already met the A2 requirement at entry.

Table 17. Completion of B4 requirement in first year (2017 and 2018 cohorts)

2017 Freshman Cohort		
	Number of students	Percent
Not attempted	16,691	28%
Attempted – Not passed	6,826	12%
Completed	35,241	60%
Total	58,758	100%

2018 Freshman Cohort		
	Number of students	Percent
Not attempted	7,692	13%
Attempted – Not passed	8,582	14%
Completed	43,516	73%
Total	59,790	100%

Note: Variables described in Table 17 are represented in Figure 7.

Table 18. Completion of B4 requirement in first year by placement category (2017 and 2018 cohorts)

2017 Cohort	Not attempted		Attempted – Not passed		Completed		Total
	N	%	N	%	N	%	N
College ready	6,088	17%	5,087	14%	25,387	69%	36,562
Not college ready	10,603	64%	1,739	10%	4,222	25%	16,564
Total	16,691		6,826		29,609		53,126

2018 Cohort	Not attempted		Attempted – Not passed		Completed		Total
	N	%	N	%	N	%	N
II	3,856	11%	4,858	13%	27,295	76%	36,009
III	1,716	22%	1,565	20%	4,682	59%	7,963
IV	2,120	25%	2,159	26%	4,106	49%	8,385
Total	7,692		8,582		36,083		52,357

Notes: N is number of students and % is percent. Variables described in Table 18 are represented in Figure 7. Totals in this table do not include students designated as having already met the B4 requirement at entry.

Table 19. Retention: Number and percent of 2017 cohort not enrolled/enrolled in spring 2018, by QR placement

QR placement	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
GE already met	157	3%	5,475	97%	5,632	100%
College ready	1,772	5%	34,790	95%	36,562	100%
Not college ready	1,410	9%	15,154	91%	16,564	100%
Total	3,339	6%	55,419	94%	58,758	100%

Notes: Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 19 are represented in Figure 8.

Table 20. Retention: Number and percent of 2017 cohort not enrolled/enrolled in fall 2018, by QR placement

QR placement	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
GE already met	521	9%	5,111	91%	5,632	100%
College ready	5,925	16%	30,637	84%	36,562	100%
Not college ready	4,129	25%	12,435	75%	16,564	100%
Total	10,575	18%	48,183	82%	58,758	100%

Notes: Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 20 are represented in Figure 8.

Table 21. Retention: Number and percent of 2017 cohort not enrolled/enrolled in spring 2019, by QR placement

QR placement	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
GE already met	627	11%	5,005	89%	5,632	100%
College ready	7,234	20%	29,328	80%	36,562	100%
Not college ready	5,071	31%	11,493	69%	16,564	100%
Total	12,932	22%	45,826	78%	58,758	100%

Notes: Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 21 are represented in Figure 8.

Table 22. Retention: Number and percent of 2018 cohort not enrolled/enrolled in spring 2019, by QR placement

QR placement	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
I: Has fulfilled the GE Subarea A2 or B4 requirement	225	3%	7,208	97%	7,433	100%
II: Placement in a GE Subarea A2 or B4 course	1,826	5%	34,183	95%	36,009	100%
III: Recommend placement in a supported GE Subarea A2 or B4 course	668	8%	7,295	92%	7,963	100%
IV: Require placement in a supported GE Subarea A2 or B4 course or the first term of an applicable stretch course	821	10%	7,564	90%	8,385	100%
Total	3,540	6%	56,250	94%	59,790	100%

Notes: Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 22 are represented in Figure 8.

Table 23. Retention: Number and percent of 2018 cohort not enrolled/enrolled in fall 2019, by QR placement

QR placement	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
I: Has fulfilled the GE Subarea A2 or B4 requirement	709	10%	6,724	90%	7,433	100%
II: Placement in a GE Subarea A2 or B4 course	5,480	15%	30,529	85%	36,009	100%
III: Recommend placement in a supported GE Subarea A2 or B4 course	1,806	23%	6,157	77%	7,963	100%
IV: Require placement in a supported GE Subarea A2 or B4 course or the first term of an applicable stretch course	2,383	28%	6,002	72%	8,385	100%
Total	10,378	17%	49,412	83%	59,790	100%

Notes: Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 23 are represented in Figure 8.

Table 24. Retention: Number and percent of 2018 cohort not enrolled/enrolled in spring 2020, by QR placement

QR placement	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
I: Has fulfilled the GE Subarea A2 or B4 requirement	928	12%	6,505	88%	7,433	100%
II: Placement in a GE Subarea A2 or B4 course	6,861	19%	29,148	81%	36,009	100%
III: Recommend placement in a supported GE Subarea A2 or B4 course	2,184	27%	5,779	73%	7,963	100%
IV: Require placement in a supported GE Subarea A2 or B4 course or the first term of an applicable stretch course	2,986	36%	5,399	64%	8,385	100%
Total	12,959	22%	46,831	78%	59,790	100%

Notes: Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 24 are represented in Figure 8.

Table 25. Retention: Number and percent of 2017 cohort not enrolled/enrolled in spring 2018, by race/ethnicity

Race/ethnicity	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Hispanic/Latino	1,824	6%	28,053	94%	29,877	100%
White	633	6%	10,518	94%	11,151	100%
Asian	387	4%	9,599	96%	9,986	100%
Multiple/Unknown	293	6%	4,571	94%	4,864	100%
Black/African American	178	7%	2,387	93%	2,565	100%
Other	24	8%	291	92%	315	100%
Total	3,339	6%	55,419	94%	58,758	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 25 are represented in Figure 9.

Table 26. Retention: Number and percent of 2017 cohort not enrolled/enrolled in fall 2018, by race/ethnicity

Race/ethnicity	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Hispanic/Latino	5,992	20%	23,885	80%	29,877	100%
White	1,803	16%	9,348	84%	11,151	100%
Asian	1,215	12%	8,771	88%	9,986	100%
Multiple/Unknown	912	19%	3,952	81%	4,864	100%
Black/African American	574	22%	1,991	78%	2,565	100%
Other	79	25%	236	75%	315	100%
Total	10,575	18%	48,183	82%	58,758	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 26 are represented in Figure 9.

Table 27. Retention: Number and percent of 2017 cohort not enrolled/enrolled in spring 2019, by race/ethnicity

Race/ethnicity	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Hispanic/Latino	7,352	25%	22,525	75%	29,877	100%
White	2,162	19%	8,989	81%	11,151	100%
Asian	1,504	15%	8,482	85%	9,986	100%
Multiple/Unknown	1,115	23%	3,749	77%	4,864	100%
Black/African American	701	27%	1,864	73%	2,565	100%
Other	98	31%	217	69%	315	100%
Total	12,932	22%	45,826	78%	58,758	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 27 are represented in Figure 9.

Table 28. Retention: Number and percent of 2018 cohort not enrolled/enrolled in spring 2019, by race/ethnicity

Race/ethnicity	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Hispanic/Latino	2,033	7%	28,597	93%	30,630	100%
White	639	6%	10,477	94%	11,116	100%
Asian	379	4%	10,275	96%	10,654	100%
Multiple/Unknown	268	6%	4,151	94%	4,419	100%
Black/African American	200	8%	2,445	92%	2,645	100%
Other	21	6%	305	94%	326	100%
Total	3,540	6%	56,250	94%	59,790	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 28 are represented in Figure 9.

Table 29. Retention: Number and percent of 2018 cohort not enrolled/enrolled in fall 2019, by race/ethnicity

Race/ethnicity	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Hispanic/Latino	5,955	19%	24,675	81%	30,630	100%
White	1,764	16%	9,352	84%	11,116	100%
Asian	1,185	11%	9,469	89%	10,654	100%
Multiple/Unknown	812	18%	3,607	82%	4,419	100%
Black/African American	601	23%	2,044	77%	2,645	100%
Other	61	19%	265	81%	326	100%
Total	10,378	17%	49,412	83%	59,790	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 29 are represented in Figure 9.

Table 30. Retention: Number and percent of 2018 cohort not enrolled/enrolled in spring 2020, by race/ethnicity

Race/ethnicity	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Hispanic/Latino	7,381	24%	23,249	76%	30,630	100%
White	2,161	19%	8,955	81%	11,116	100%
Asian	1,567	15%	9,087	85%	10,654	100%
Multiple/Unknown	1,026	23%	3,393	77%	4,419	100%
Black/African American	743	28%	1,902	72%	2,645	100%
Other	81	25%	245	75%	326	100%
Total	12,959	22%	46,831	78%	59,790	100%

Notes: White, Asian, Black/African American, and Other categories refer to Non-Hispanic students. Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 30 are represented in Figure 9.

Table 31. Retention: Number and percent of 2017 cohort not enrolled/enrolled in spring 2018, by declared major

Declared major	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Not STEM	1,113	6%	17,901	94%	19,014	100%
STEM (excludes health-related STEM)	950	5%	17,988	95%	18,938	100%
Undeclared	617	7%	8,440	93%	9,057	100%
Business	455	6%	7,300	94%	7,755	100%
Health-related STEM	204	5%	3,790	95%	3,994	100%
Total	3,339	6%	55,419	94%	58,758	100%

Notes: Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 31 are represented in Figure 10.

Table 32. Retention: Number and percent of 2017 cohort not enrolled/enrolled in fall 2018, by declared major

Declared major	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Not STEM	3,470	18%	15,544	82%	19,014	100%
STEM (excludes health-related STEM)	3,230	17%	15,708	83%	18,938	100%
Undeclared	1,845	20%	7,212	80%	9,057	100%
Business	1,382	18%	6,373	82%	7,755	100%
Health-related STEM	648	16%	3,346	84%	3,994	100%
Total	10,575	18%	48,183	82%	58,758	100%

Notes: Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 32 are represented in Figure 10.

Table 33. Retention: Number and percent of 2017 cohort not enrolled/enrolled in spring 2019, by declared major

Declared major	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Not STEM	4,196	22%	14,818	78%	19,014	100%
STEM (excludes health-related STEM)	3,920	21%	15,018	79%	18,938	100%
Undeclared	2,278	25%	6,779	75%	9,057	100%
Business	1,689	22%	6,066	78%	7,755	100%
Health-related STEM	846	21%	3,145	79%	3,994	100%
Total	12,929	22%	45,826	78%	58,758	100%

Notes: Numbers refer to all 58,758 first-year students entering the CSU system in fall 2017. Variables described in Table 33 are represented in Figure 10.

Table 34. Retention: Number and percent of 2018 cohort not enrolled/enrolled in spring 2019, by declared major

Declared major	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Not STEM	1,226	6%	18,677	94%	19,903	100%
STEM (excludes health-related STEM)	962	5%	18,173	95%	19,135	100%
Undeclared	658	8%	8,017	92%	8,675	100%
Business	485	6%	7,372	94%	7,857	100%
Health-related STEM	209	5%	4,011	95%	4,220	100%
Total	3,540	6%	56,250	94%	59,790	100%

Notes: Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 34 are represented in Figure 10.

Table 35. Retention: Number and percent of 2018 cohort not enrolled/enrolled in fall 2019, by declared major

Declared major	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Not STEM	3,521	18%	16,382	82%	19,903	100%
STEM (excludes health-related STEM)	3,115	16%	16,020	84%	19,135	100%
Undeclared	1,731	20%	6,944	80%	8,675	100%
Business	1,366	17%	6,491	83%	7,857	100%
Health-related STEM	645	15%	3,575	85%	4,220	100%
Total	10,378	17%	49,412	83%	59,790	100%

Notes: Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 35 are represented in Figure 10.

Table 36. Retention: Number and percent of 2018 cohort not enrolled/enrolled in spring 2020, by declared major

Declared major	Not enrolled		Enrolled		Total	
	N	%	N	%	N	%
Not STEM	4,270	21%	15,633	79%	19,903	100%
STEM (excludes health-related STEM)	3,896	20%	15,239	80%	19,135	100%
Undeclared	2,183	25%	6,492	75%	8,675	100%
Business	1,724	22%	6,133	78%	7,857	100%
Health-related STEM	886	21%	3,334	79%	4,220	100%
Total	12,959	22%	46,831	78%	59,790	100%

Notes: Numbers refer to all 59,790 first-year students entering the CSU system in fall 2018. Variables described in Table 36 are represented in Figure 10.