

12th Grade Course-taking and the Distribution of Opportunity for College Readiness in Mathematics

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Research suggests that preparation in high school is a key predictor of college success. In fact, student completion of rigorous high school mathematics courses is associated with a greater likelihood of attending and completing college, and higher earnings. Yet, in 2018, only 13 percent of California high school students were considered prepared for college-level math based on their performance on the Smarter Balanced Assessments. Importantly, not all students have equal access to college preparatory classes in high school, resulting in persistent disparities in enrollment and success in advanced math courses in secondary school. This research summary documents the various math courses in which California public high school seniors enroll, and how math course-taking varies by student background and by school of attendance. It provides an important starting point for examining how disparities in access to advanced math courses and successful performance in those classes may limit students' postsecondary success.

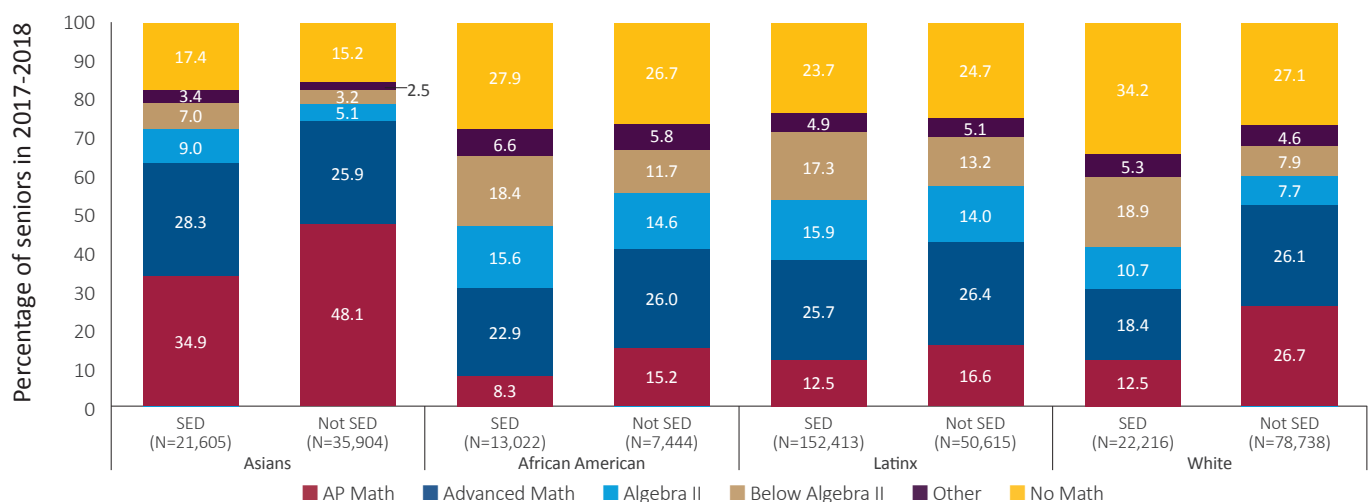
Approximately 75 percent of all California high school seniors were enrolled in a math class in 2016, 2017, and 2018. However, only 47 percent of seniors were enrolled in an advanced math or Advanced Placement (AP) class above Algebra II.

- Asian, White, and non-socioeconomically disadvantaged (SED) students were enrolled in advanced math courses at substantially higher rates than African American, Latinx, and SED students.
- Nearly 40 percent of schools had no seniors enrolled in advanced math courses; however, two-thirds of these schools were alternative schools. Schools serving large proportions of socioeconomically disadvantaged (SED) students had a smaller percentage of students in advanced courses compared to schools with fewer SED students.

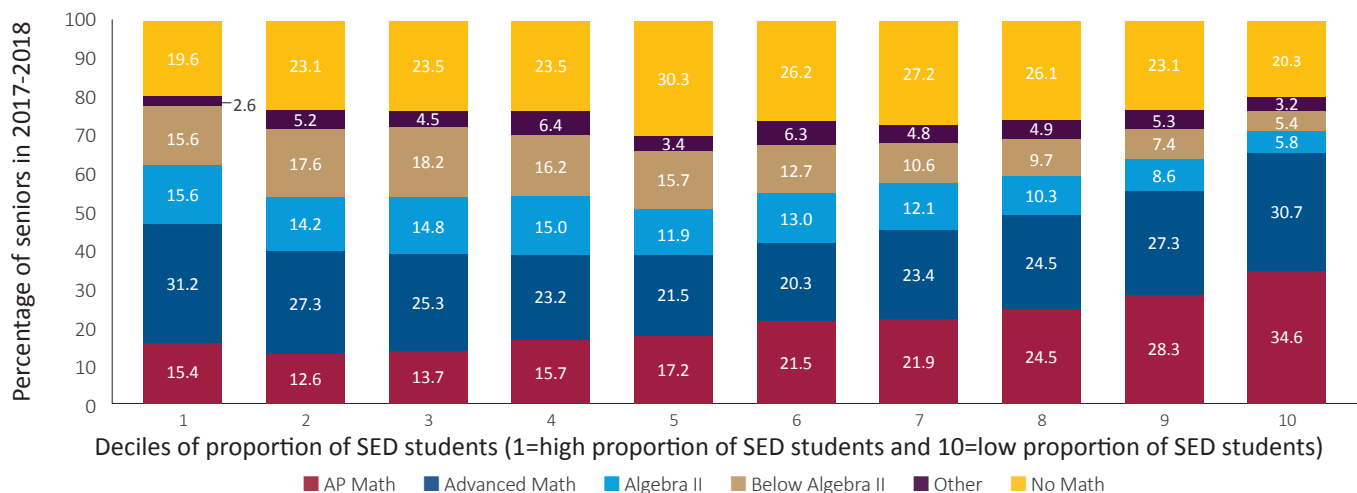
Math course-taking by California 12th graders 2015-2018

| | Percentage of Students | | |
|------------------|------------------------|-----------|-----------|
| | 2015-2016 | 2016-2017 | 2017-2018 |
| AP Math | 20.1 | 22.2 | 20.6 |
| Advanced Math | 22.5 | 25.5 | 25.5 |
| Algebra II | 12.7 | 11.8 | 12.1 |
| Below Algebra II | 14.0 | 10.6 | 12.9 |
| Other | 4.2 | 4.4 | 4.7 |
| No Math | 26.5 | 25.5 | 24.3 |
| N | 389, 027 | 387, 819 | 397, 485 |

12th grade math course-taking by race and socioeconomically disadvantaged (SED) status in 2017-2018



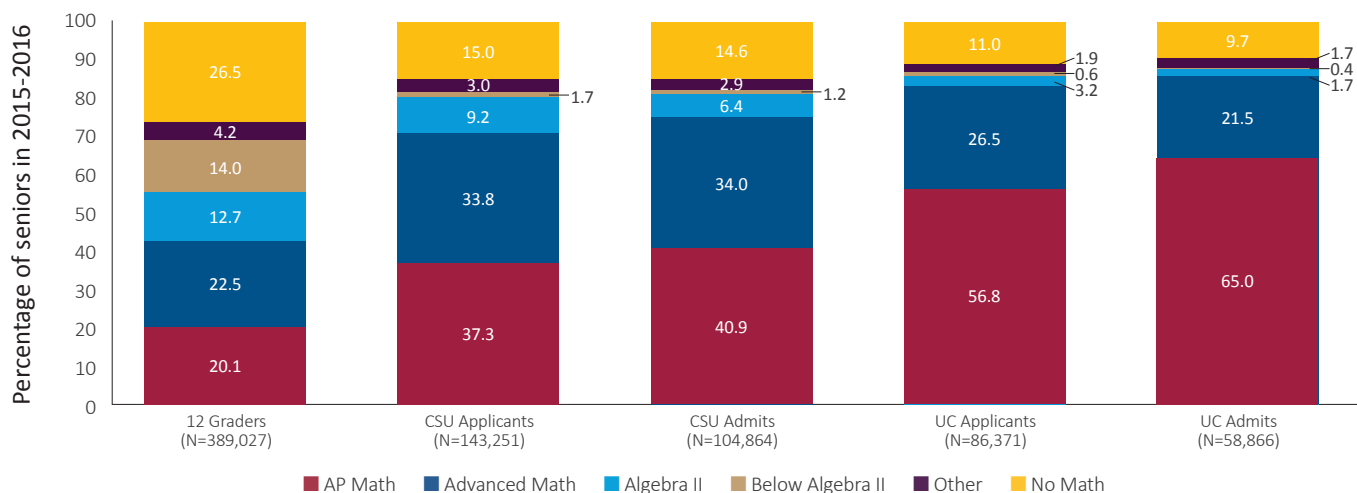
Differences in 12th grade math course-taking by deciles of proportion of socioeconomically disadvantaged (SED) students in 2017-2018



A significantly larger proportion of students who applied and were admitted to California State University (CSU) and University of California (UC) took advanced math courses in 12th grade compared to the overall population of 12th graders.

- Over 70 percent of seniors satisfy the *conditionally ready* recommendations from the college readiness signal on the state’s 11th grade assessment by enrolling in an AP or other advanced math course above Algebra II in 12th grade.
- Latinx, African American, and SED students who applied and were admitted to either the CSU or UC systems were underrepresented in advanced math courses compared to White, Asian, and non-SED students.

12th grade math course-taking among high school seniors in 2015-2016 who apply and are admitted to CSU or UC



Our findings demonstrate that although a majority of college-bound students enrolled in math in their senior year of high school, advanced math pathways were not equally accessed. Disparities in enrollment patterns by race/ethnicity and school characteristics likely contribute to disparities in postsecondary access and success.

The full report is available on the PACE website:

<https://edpolicyinca.org/publications/12th-grade-course-taking-and-distribution-opportunity-college-readiness-mathematics>

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