



March 15, 2024

Regent Richard Leib, Chair
University of California Board of Regents
1111 Franklin Street
Oakland, California 94607

Regent Lark Park, Chair
Academic and Student Affairs Committee
University of California Board of Regents
1111 Franklin Street
Oakland, California 94607

Dear Regents Leib and Park,

I write as the founder and executive director of Just Equations—a California-based policy institute focused on the role of mathematics in education equity—to share concerns about the recent BOARS decision to curtail eligibility for certain data science and statistics courses under Area C of the A-G requirements.

As highlighted in our [February 2024 blog post](#), we are troubled by both the process undertaken and the conclusions reached in the recent Board of Admissions and Relations With Schools (BOARS) work group [report on Area C math requirements](#) under the A-G requirements. The report's recommendations would eliminate opportunities for students to take certain data science and statistics courses while meeting the university's math requirements for admission.

High school data science courses teach core statistics standards along with the use of contemporary computing tools to analyze real-world data. At a time when statistical reasoning and data competency are essential to personal and professional success, education policymakers should be making these courses more, not less, available to students.

The report's narrow analysis—focused solely on the coverage of Algebra II content—may be appropriate for determining whether specific courses should validate Algebra II. However, it doesn't speak to the potential value of these courses as fourth-year math options under Area C. In fact, the report provides no criteria whatsoever for fourth-year math courses. Nevertheless, it reaches the conclusion that the three most popular high school data science courses do not qualify as recommended fourth-year math courses, with minimal explanation.

It is one thing to require Algebra II without exception; it is quite another to insist that data science and statistics courses actually integrate Algebra II content (which appears to be the unstated position of the work group). The report invokes Senate Regulation 424 to justify its rejection of these courses, but the regulation is completely silent about the content of fourth-year math courses.

Furthermore, it is hard to imagine what criteria would disqualify the named courses and not other data science and statistics courses that the work group failed to analyze. For example, it is well established that college statistics courses themselves do not substantially rely on Algebra II content. This is why, starting more than a decade ago, many public colleges and universities stopped requiring Algebra II remediation for students taking statistics courses. As California State University's faculty-led [Quantitative Reasoning Task Force](#) concluded in 2016, "to be successful in [undergraduate] Statistics, a student would need to be proficient in most of the K-8 curriculum as well as in several topics from the Algebra 1 or Integrated Math 1 curriculum."

In addition, data science courses that meet general education math requirements at both UC and CSU (such as [this one](#) at UC Berkeley and [this one at CalPoly San Luis Obispo](#)) similarly don't significantly integrate advanced algebra or rely on algebraic equations, even if they expect students to have taken an Algebra II course.

The courses facing scrutiny were developed with investment from the state of California, the National Science Foundation, and several philanthropic foundations, all of which recognized the need to make mathematics education more relevant and compelling for high school students, as advocated by leading mathematical associations. They were approved because they meet the standards for statistics courses. Moreover, at least two of the courses contain significant content from AP Statistics. It is, thus, baffling that the work group disqualified them, while asserting, absent any analysis, that AP Statistics meets their unstated criteria for a fourth-year math course. [One](#) of the disqualified courses is offered for undergraduate credit at

more than 50 colleges, including two Ivy League schools, four UC campuses, and six CSU campuses. The report's conclusion seem to be based on a cursory review—especially compared to [a more robust crosswalk recently published by Data Science 4 Everyone](#).

Singling out specific courses and exempting others from scrutiny with no stated criteria unreasonably creates a cloud of suspicion around those courses and is already leading some high schools to pre-emptively drop them, even before Fall 2025, when the new policies will take effect. Districts including San Diego Unified are pausing or dismantling their programs due to the confusion and uncertainty of this process. The process indefensibly focuses on course names instead of course content—seemingly allowing courses utilizing the same curricula but named “statistics” untouched. Absent specified criteria, it also leaves the developers of the critiqued courses ill-equipped to update their courses. Lastly, it gives the clear but unjustified impression that unreviewed data science and statistics courses—regardless of whether they were even developed in California—would qualify.

If upheld, this arbitrary conclusion would deny important learning opportunities to California high school students, a completely unacceptable result given that the report took no account for the pressing state and national imperative to advance statistical reasoning and data competency. Nor did it involve any communication with the developers of the courses.

We appreciate the Regents' interest in reviewing this issue at the upcoming board meeting, and we request rigorous scrutiny of the incomplete determination of criteria for fourth-year math courses and the unjustified singling out of named courses absent thorough review.

Sincerely,

A handwritten signature in black ink that reads "Pamela S. Burdman". The signature is written in a cursive, flowing style.

Pamela Burdman
Executive Director, Just Equations

Cc: Katherine Newman, Provost and Executive Vice President of Academic Affairs
Yvette Gullatt, Vice President for Graduate and Undergraduate Affairs, Vice
Provost for Equity, Diversity and Inclusion
Chase Fischerhall, Director of A-G & Transfer Articulation Policies
Monica Lin, Executive Director, University of California Academic Senate
Barbara Knowlton, Chair, Board of Admissions and Relations With Schools