

The February 27, 2024, memorandum from the California Community College Chancellor's Office (CCCCO) about validating STEM calculus prerequisites will have an impact on the plan to develop the "Central Valley Way" of complying with AB 1705. To that end, key takeaways from the memo are listed below, followed by a suggestion for both the content of upcoming CVHEC and Dana Center workshops and prep work suggested for campuses.

According to the memo, no more than one transfer-level prerequisite shall be offered prior to calculus. The options for that prerequisite course are limited by the memo and validation criteria as well.

Per AB 1705, as of July 1, 2025, the only students that institutions can require to enroll in a validated STEM calculus prerequisite are those who (a) intend to pursue a STEM degree, and (b) have a high school GPA below 2.6, or (a) intend to pursue a STEM degree, and (c) did not pass high school trigonometry, precalculus, or calculus with a grade of C or better. All discussion below is only about these students.

Institutions will have four options to comply with AB 1705 and must select one by July 1, 2024. The least likely option for schools that are part of CVHEC, based on prior meetings and discussions, is Option B. In order to choose Option B, schools must show that their current prerequisite course meets the three requirements laid out in the law: (1) Students are highly unlikely (less than 15% throughput) to succeed if placed directly into STEM calculus, (2) taking the prerequisite course increases the student's likelihood of passing STEM calculus, and (3) taking the class improves the student's persistence to and completion of calculus 2 (if required for their program). The RP Group did not find any institutions that met all three criteria. The Dana Center suggests that institutions review the reports provided by the RP group and work with their IR departments to check the calculations and results with the institution's data.

Option C is also not a likely path for most institutions, as it requires that institutions first show that the throughput rate for existing prerequisite(s) and calculus 1 course/pathway/sequence is at least 50% over a 2-year period. These schools are then allowed to offer the prerequisite(s) through July 1, 2027, to show that the prerequisite(s) meet the three validation requirements of the law. While this work aligns with the work of the "Validating prerequisites" strand, the options for validation are now precisely described and do not permit several of the strategies under consideration by this strand.

Options A and D both align more closely with the bulk of the work in the central valley.

Option A removes all prerequisites for Calculus 1 and allows institutions to require a corequisite support course of up to two credits. This effort could include parts of the work happening in the "Math support outside the classroom" and "Building an AB 1705 campus team" strands as well as a new "Designing Calculus with Support for 2025" strand.

Option D allows institutions to devise a new single-semester, 4-credit prerequisite course (with a possible 2 units of corequisite support) for STEM calculus. This course can be offered through July 1, 2027, at which point institutions must show that it meets the three requirements of the law. This work aligns with that of the “Designing Precalculus for 2025” strand.

Unfortunately, none of the options allow for validation using a survey or other measures.

In preparing upcoming events, the Dana Center proposes the following pre-work for institutions:

1. Institutions review the individualized report provided by the RP Group. They then work with IR to repeat and confirm the calculations using local data.
2. Institutions will work with IR to calculate the 2-year throughput of the STEM calculus prerequisite(s) and calculus 1 over the course of 2 years. If this is at least 50%, Option C may be available.

The goal of upcoming CVHEC events supported by the Dana Center will be to have several institutions using a similar prerequisite course to enable continuous improvement, trouble shooting, and (potentially) larger sample sizes for evaluating the three requirements before July 1, 2027. Similarly, while not needing to meet the three requirements for the corequisite, institutions can work together to design, implement, and improve the corequisite to support student success.