



TO: Chief Executive Officers
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FROM: John Stanskas, Ph.D., Vice Chancellor of Academic Affairs
Cheryl Aschenbach, President, Academic Senate for the California Community Colleges
Omar Torres, Ed.D., President, California Community Colleges Chief Instructional Officers

RE: Updated Guidance for Placement and Enrollment for Students in STEM Programs

This memo updates guidance on STEM-Calculus placement described in ESLEI 24-15 distributed on February 27, 2024.

Vision 2030: A Roadmap for California Community Colleges prioritizes data-based, student-centered strategies and includes added emphasis on equitably strengthening access, support, and success in STEM. Achieving those goals and strengthening the STEM pathways across California community colleges requires effective implementation of Assembly Bill 1705, which requires math placement, initial math enrollment, and academic support to be data-driven in its design with the goal of producing strong and equitable completion of gateway calculus requirements for STEM programs.

These requirements were detailed in the AB 1705 guidance memo ([December 2022](#)) and in the AB 1705 Implementation Guide ([March 2023](#)). Subsequent guidance was disseminated for the validation of general education and non-STEM transfer-level placement and enrollment practices ([May 2023](#)), which included the certification of local implementation.

In response to meaningful and thoughtful feedback from stakeholders across the system, this guidance memorandum provides additional direction on placement and enrollment options for students majoring in STEM programs that colleges may deploy without additional submission (described in Required Action 2 in previous memos, and described in Education Code §78213, subsections (f) and (i)).

Expanding STEM Pathways for the STEM Workforce

The California Community Colleges are to be commended for the breadth and depth of work that has been accomplished over the past six years to expand students' access to essential gateway and preparatory courses. This work has not been easy, but our institutions have risen to the challenge to reimagine course sequences, course content, and teaching approaches, as well as

academic, social-emotional, and basic needs supports for our students. Your work is to be applauded and congratulated.

Validation of STEM Calculus Pathway Placement and Initial Math Enrollment

Education Code §78213 (i) mandates that students begin in transfer-level English and math coursework that satisfies a requirement for their certificate, degree, or transfer program, with limited exceptions as described in §78213 (j), by July 1, 2023. Education Code §78213 (f)(1) extends this deadline to July 1, 2024 for STEM programs and allows for local validation of preparatory coursework for STEM Calculus 1 that would satisfy the exception described in §78213 (j)(8). If preparatory coursework is not validated, colleges may not require or recommend the courses as of July 1, 2025, as stated in §78213 (f)(2). The guidance in this memorandum seeks to continue to adhere to the legislatively set timelines for STEM programs while affording a period of data-driven innovation as colleges move toward achieving full compliance for STEM programs.

AB 1705 specifies that colleges must examine the impact of placing and enrolling students into transfer-level courses in order to verify the benefit of transfer-level math preparatory courses for STEM Calculus 1 by showing all of the following:

- The student is highly unlikely to succeed in the first STEM calculus course without the additional transfer-level preparation.
- The enrollment will improve the student's probability of completing the first STEM calculus course.
- The enrollment will improve the student's persistence to and completion of the second calculus course in the STEM program, if a second calculus course is required.

To support colleges in their validation efforts, the Chancellor's Office contracted with the RP Group's Multiple Measures Assessment Project team to conduct a statewide analysis and a local analysis for each college to assess:

1. Which students are highly unlikely to succeed when enrolled directly in the first STEM calculus course?
2. Which students are more likely to complete STEM Calculus 1 when they start in a transfer-level preparatory course?
3. Which students are more likely to persist to and complete STEM Calculus 2 when they start in a transfer-level preparatory course before STEM Calculus 1?

Based on feedback from the field, the Chancellor's Office will retain the RP Group to conduct additional research to more thoroughly understand how students access Calculus 1. At this time, the Chancellor's Office provides these updated guidelines.

Guiding Principle of Placement

Honoring our students' high school coursework and prior learning is a guiding principle of equitable placement, and AB 1705 was a response to attempts to extend the mathematics sequence (or otherwise seek to replicate developmental education sequences). To that end, STEM majors who successfully completed prerequisite high school coursework should not have to repeat coursework previously successfully completed. Self-reported high school information where transcript information is not readily available is important to continue to utilize as this process moves forward.

STEM Calculus Pathway Placement Rules

The following STEM Calculus Pathway Placement table amends the previous guidance and provides the next steps toward achieving AB 1705 compliance to align with legislatively set deadlines, while also allowing colleges flexibility in transitioning to new curricular models of learning support for STEM calculus. While colleges are **strongly encouraged** to continue to develop corequisite supports at Calculus and an innovative course prior to Calculus for students that require additional support, these placement rules are designed to provide additional options for students with less mathematics preparation prior to enrollment at a community college.

These placement rules pertain only to students who require STEM Calculus 1 for their program or major. In addition to corequisite support courses for Calculus and innovative courses that colleges are developing, colleges *may* use existing transfer-level courses prior to Calculus using the following matrix. Additionally, STEM students who also need Statistics for their program or major continue to be allowed to begin in that course.

STEM Calculus Pathway Placement	Placement and Enrollment in the STEM Calculus Pathway for STEM Students in Majors that Require STEM Calculus 1
Student successfully completed or demonstrated through CPL: Integrated Math 4, Trigonometry, Precalculus, or equivalent	By July 1, 2025, students pursuing STEM programs must be given access to STEM calculus (with or without concurrent support). Students cannot be denied access to STEM Calculus 1 after July 1, 2025.
Student successfully completed or demonstrated through CPL: Integrated Math 3 or Intermediate Algebra or equivalent	The college may enroll the student in a one semester course prior to Calculus (typically Pre-Calculus) or in Calculus, with or without concurrent support. If such students begin in a prior to Calculus course and successfully complete it, their next course is STEM Calculus 1. Enrollment in the course prior to Calculus should be restricted to students who have not successfully completed Integrated Math 4, Trigonometry, Precalculus, or equivalent.
Student did not successfully complete or demonstrate through CPL: Intermediate Algebra, Integrated Math 3 or equivalent	The college may enroll the student in a two-semester sequence at transfer-level prior to Calculus, with or without concurrent support. Enrollment in the first course in the two-semesters prior to Calculus should be restricted to students who have not successfully completed Intermediate Algebra, Integrated Math 3 or equivalent.

Significant work related to co-requisite support for STEM students has been evaluated by colleges. In addition, community building structures that support students' identities, basic needs, and sense of belonging not only at the college but also in STEM have been explored and utilized to good effect at our colleges. Let's celebrate the progress we have made on those fronts and continue to explore how we support our students holistically as we collectively work to execute on our AB 1705 Implementation Funds. This is a time to use what we have learned and DO BETTER by our students. *When we know better, we do better*, as Dr. Maya Angelou said, and now is the time to see that in action. The Chancellor's Office continues to be here to support you as you support our students by asking colleges to evaluate their STEM pathway programs every two years with questions like, what innovative practice did you try to implement and how did it work?

The Chancellor's Office will continue to rigorously evaluate the effectiveness of the different approaches in students' completion of Calculus, Calculus 2, student performance and persistence in STEM, and their completion of their STEM degrees. As indicated in ESLEI 24-15, any prior to calculus pathway will undergo additional validation by July 1, 2027, and must achieve full validation status in order to continue as a placement and enrollment option beyond July 1, 2027 (i.e., the course will need to meet all three standards described in §78213(f)(1)). As always, we not only continue to welcome but also strongly encourage colleges to submit any evidence they have for effective approaches to improving the rates of students' successful completion of their gateway courses in mathematics.

Resources

- AB 1705 Guidance Memo ([December 2022](#))
- AB 1705 Implementation Guide ([March 2023](#))
- [AB 1705 FAQ](#)

Chancellor's Office Program Contacts

Please direct inquiries regarding this guidance to the Chancellor's Office Educational Services and Support Division at ab1705@cccco.edu.

cc: Dr. Sonya Christian, Chancellor

Dr. Rowena Tomaneng, Deputy Chancellor

Dr. John Hetts, Executive Vice Chancellor, Innovation, Data, Evidence, and Analytics (IDEA) Office
All Chancellor's Office Staff