Considerations for Strengthening Concurrent Support Courses in English and Math

October 2024 | www.rpgroup.org | Multiple Measures Assessment Project

This brief is designed for faculty and administrators interested in evidence-based approaches for strengthening concurrent support implementation. Research widely indicates that underprepared students are more likely to complete English and math requirements for a college degree if they start in transferable, college-level courses and receive concurrent support instead of taking preparatory prerequisite coursework (Boatman, 2012; Cho et al., 2012; Cuellar Mejia et al., 2020; Cuellar Mejia et al., 2023; Jenkins et al., 2010; Logue et al., 2016; Logue et al., 2019; Ran & Lin, 2022). The RP Group's Multiple Measures Assessment Project (MMAP, 2023) recently found that most institutions in the California Community Colleges (CCC) now offer students this option. At the same time, additional data highlight opportunities for improving the effectiveness of this approach across the system (Cuellar Mejia et al., 2023).

This resource summarizes references drawn from a review of national research and interviews with California community college faculty and administrators conducted by MMAP to inform and advance concurrent support implementation.[1] We focus on two models for providing academic assistance to students who enroll in transfer-level English or math courses:

- **Corequisite courses** where students receive extra support alongside their English or math course (Complete College America, n.d.)
- **Enhanced courses** that enroll students "in a single, higher-unit version" of English or math (California Acceleration Project, 2024)

Faculty interviewed by MMAP for this brief emphasized the importance of being responsive in deciding which competencies to reinforce and when to work on them with students—regardless of model. Corequisite instructors report being aware of where students struggle or need more practice with a particular concept and working accordingly with students through the additional support course. Faculty teaching enhanced offerings also described making intentional decisions about integrating support throughout the course, being mindful of what, when, and how the support is delivered. Interviewees also noted the value of integrating college success skills into the support option.

In this brief, we offer the following insights "at a glance":

- Structural considerations for effective concurrent support
- Strategies for improving learning with concurrent support
- Examples of corequisite and enhanced course models at Cabrillo College, Cuyamaca College, College of the Canyons[2]

Multiple Measures Assessment Project (MMAP) Overview

The RP Group launched MMAP in 2014 to support the advancement of developmental education reform in the California Community Colleges. MMAP now supports the California Community Colleges Chancellor's Office with the implementation of AB 705 and AB 1705, which seek to improve equitable placement in and completion of transfer-level English and math courses required for a student's program.

Learn more about this work at www.rpgroup.org/mmap.

Structural Considerations for Effective Concurrent Support

Linked Registration or Enhanced Transfer-Level Course	With an enhanced model, the student registers for one transfer-level English or math course. With a corequisite model, the student registers for two courses. Consider easing potential co-registration issues by pairing specific sections of the corequisite and English or math courses and automatically enrolling students in both classes. Some colleges are moving away from corequisite models and toward enhanced models because their course management system does not handle co-registration.
Mandatory Enrollment	Assembly Bill (AB) 1705 clarifies that colleges may require students to enroll in additional concurrent support that improves their likelihood of completing the transfer-level course.[3] Colleges can increase the likelihood that students receive the academic assistance they need to succeed by automatically placing students with weaker high school preparation into concurrent support.
Faculty Assignment	Effective support is targeted and timely. This is most easily achieved in the enhanced model because the instructor integrates support directly into their course(s). In a corequisite model, alignment is stronger, and student outcomes are better when the same instructor teaches both the transfer-level English or math course along with the corequisite support course.[4] Consider engaging students with one instructor who delivers both the concurrent support and discipline content.
Low-Unit Support	Consider low-unit support of no more than two units. MMAP interviews with both English and math department representatives indicated they explored the benefits and challenges of offering a one-, two-, or three-unit option, with nearly all interviewees opting for two units.[5]
Credit vs. Noncredit	Credit corequisite courses communicate to students the value of the support and indicate that attendance is required and there will be additional time and effort needed to successfully complete the class.[6] However, credit courses do require additional costs for the student. The enhanced model naturally addresses this issue with support embedded in credit courses.
Decoupled Grading	If offering support through a corequisite model, separate the grade for the transfer-level English or math course from that of the support course, and consider a pass/no pass option for the corequisite. Passage of the transfer-level course should be the only requirement for a student to earn the college credit and advance to other courses in the English or math pathway.[7]
Modality	Explore which modality works best in the context of each campus by trying out different approaches to increase student enrollment and favor student scheduling needs over faculty teaching preferences.[8] Colleges may conduct preference surveys and monitor enrollment and success data by modality to determine what modality best meets student demand and improves completion rates.
Counseling/ Advising	Counselors play an essential role in helping students understand the benefits of support courses, and students may not enroll in these offerings without counselor encouragement.[9] Include counselors in the development of concurrent support courses to further facilitate student enrollment in these offerings[10] and provide ongoing professional development on concurrent support options to counseling teams.

Aligned Learning Outcomes	For corequisite models, starting with the student learning outcomes (SLOs) of the English or math course and backward designing the skills and knowledge needed to achieve those outcomes in the support course can create alignment between the two courses. This approach can also help students avoid extra or unnecessary remediation and allow faculty to focus instructional time on teaching core skills that are integral to achieving transfer-level course SLOs.[11]
Active Learning Strategies	The extended time with students available through concurrent support models offers the opportunity to deploy approaches that engage students in active learning, defined simply as "instructional activities involving students in doing things and thinking about what they are doing" (Bonwell & Eison, 1991). These approaches can improve motivation, connection, and learning.[12] Faculty interviewed by MMAP specifically highlighted the following active learning strategies:
	Collaboration. Involving students in teamwork via both small group and whole class activities can allow students to build collective knowledge and facilitate deeper thinking about the material. It can also foster a classroom culture where learning from mistakes is accepted and encouraged because students can look to each other for support.[13]
	Contextualization. Demonstrating links between a concept and how it is used by selecting examples with real-world application (rather than only working in abstract terms) can establish the utility of concepts and make the material easier to grasp.[14]
	Culturally Relevant Teaching. [15] Facilitating connections between coursework and students' lived experiences, cultural assets, and ways of being can foster belonging, engagement, and achievement for groups historically marginalized in higher education. Explore the selection of topics that resonate with students' cultural interests and concerns, allow for student choice of sources/media for assignments, and implement opportunities for community problem solving.
	Flipped Classroom. Engaging students in preparing for and developing skills before class—followed using class time for guided practice with concepts, assignments, and problems—can be particularly useful for students with less preparation.[16]
Embedded Tutoring	Consider embedding tutors in corequisite and enhanced courses to offer more individualized support than can be addressed by the instructor or through collaborative learning. Consider recruiting tutors who have completed the transfer-level course themselves; they can contribute valuable lived experience to their support.[17] Campus learning centers can serve as useful partners in sourcing and preparing these tutors.
Help-Seeking and Growth-Oriented Practices	Normalize that students are expected to get help, ensure they know what resources are available, and refer them to support when needed. Growth-oriented classroom practices that acknowledge common challenges among students emphasize they can grow their abilities. Encouraging help-seeking among students has been shown to lead to better classroom experiences and greater academic success, particularly for students from historically disadvantaged groups.[18] Proactively raising students' awareness of and connecting them to both academic and nonacademic services may also help them avoid prematurely leaving or failing their transfer-level English or math course.[19]

Cabrillo College: Corequisite Support for English Composition

Cabrillo launched corequisite support courses for English Composition (English 1A) in 2019–2020 and has continued to grow and evolve the model based on successes and learning along the way. For example, to increase students' participation, department chair Steve Schlesser shared they reordered their course sections in their class schedule to elevate the corequisite selection for English 1A. "After the first few semesters, we realized that … students were just registering for what came first. So, we re-alphabetized our core sequence to put those [corequisite courses] up top. That forced students to opt out of registering for them instead of having to search for them at the bottom of the list, which has been really helpful."

Cabrillo also proactively reaches out to students who have had unsuccessful transfer-level English outcomes to ensure they know about the corequisite option. Schlesser explains, "We identify students who didn't pass or withdrew or dropped…. We email them right after grades come in and then again a couple of weeks before the start of the semester as a follow-up reminder … letting them know this corequisite support is out there, with links of available classes and times to kind of set them up."

From a teaching and learning perspective, Cabrillo ensures its concurrent support strengthens students' metacognition and affective domain—key aspects of advancing students' success in English Composition and beyond—in addition to leveraging the corequisite for reading and writing development. To this end, instructors work to develop a corequisite classroom that offers students an opportunity for introspection, collaboration, and comfort.

Activities recognize and honor students' cultural identities, and assignments encourage students to draw on their lived experiences. Students also develop personal action plans that encourage self-advocacy and address key concerns (e.g., stress management, time management, social skill development). Daily check-ins by instructors reinforce that students are seen and that their well-being—both inside and outside of class—matters. To that end, current improvement efforts focus on addressing the ongoing effects of the pandemic and integrating embedded tutors.

Cuyamaca College: Corequisite Support for Calculus 1

Motivated by a desire to improve student access to STEM pathways, address equity gaps, and increase throughput, Cuyamaca began offering Calculus 1 with corequisite support in fall 2023. In the first semester, the college experienced a remarkable 83% increase in calculus enrollment. Faculty leaders noted that even if their success rate remains the same (70%), they will double the number of students who complete this essential course.

Cuyamaca's math faculty had a singular goal when designing this corequisite course: help students solve calculus problems. Any algebra and trigonometry addressed in the support course is aligned with this outcome. The department team leading corequisite development took a backward design approach to developing the content, identifying the essential skills students might need to strengthen along the way. Instructor Daniel Curtis shares, "It's not possible to teach all of precalculus in the corequisite, so we strategically select topics and use just-in-time review; the content is not front-loaded."

Cuyamaca's corequisite is two units with pass/no pass grading. It is scheduled back-to-back with the transfer-level math course, taught by the same instructor, and delivered in a hybrid format.

Faculty engage students in active learning throughout the semester and "feed students a little bit of the prerequisite skills … just when they need it." They also implement equity-minded syllabi and grading strategies and purposefully work to integrate support services to help students outside of class.

College of the Canyons (COC): Enhanced Math Courses

Initial attempts to deliver college-level courses with corequisites led COC's Math Department to seek a different approach. Numerous implementation issues—for both students and faculty—left the department wanting. Challenges included linking the parent and corequisite courses in the schedule, student confusion with the registration process, questions about instructor assignment, parent and corequisite course alignment and grading, and the artificial separation between the parent and support course in day-to day delivery.

The department's AB 1705 Coordinator and Statistics Faculty Ambika Silva notes, "Logistics are huge because we're working with some of our lowest-placing students. There were many unnecessary hurdles with a corequisite course, when we could make it easier for students and faculty with one big class." In 2019, the college embraced enhanced offerings for Statistics, Trigonometry, and College Algebra.

Enhanced courses form a natural cohort, with all students receiving the same extended course experience and, at COC, just-in-time support. Most require one additional unit compared to the traditional version. The department delivers all enhanced offerings using a "live" approach, whether they be in person or online. Silva notes the intentionality behind this choice, explaining that "as a department, we talked about it and said for these students, we want to make sure they have as much support [as possible]…. Most students are face-to-face for that reason."

Initial success and increasing student demand have led the discipline to add new course options—and in some cases, a growing number of sections—with embedded support. In particular, the number of Trigonometry sections has increased substantially, with some students being referred for concurrent support and others opting for this experience, making it especially popular. The college rolled out enhanced Precalculus in fall 2024 and plans to launch STEM Calculus I and Business Calculus with embedded support in fall 2025.

COC's Math Department views counselors as a key asset in the promotion of this growing array of enhanced offerings. Departmental leaders have an ongoing dialogue with counselors and meet with them each semester. Faculty report that it gives them opportunities to both share updates with counselors and ask what they can do to support the counselors in their work advising students about these critical course decisions. Faculty equip counselors with resources to advise students on course selection, responding to counselors' concerns about their own level of familiarity with the math needed to succeed. For example, faculty provide counselors sample questions students should be able to answer going into each college-level course. These sample questions allow counselors to have conversations with students about course readiness and facilitate more informed choices.

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End Notes

[1] MMAP conducted exploratory interviews with practitioners from six California community colleges demonstrating (1) higher throughput when implementing corequisite support courses at the transfer-level compared to below transfer-level remediation, (2) especially high throughput when using corequisite support courses relative to other colleges applying the same model (the top 15%), or (3) much higher throughput rates for Hispanic/Latine or African American/Black students in various grade point average bands with corequisite support than without it. MMAP also interviewed faculty leaders at one community college integrating concurrent support into enhanced courses.

[2] Corequisite and their corresponding transfer-level English and math courses may be taught by separate instructors with different students. Colleges often do not change the content of the discipline course but instead add an additional corequisite support course to the existing course. This approach allows for quicker implementation; however, it often results in issues with registration and scheduling and can lead to less integration between the learning outcomes of the discipline course and the support provided in the corequisite course. An enhanced course model embeds support into a newly designed version of the transfer-level course with additional units or contact time. This approach requires colleges to design new curriculum, which can take time, but reduces issues with registration and scheduling and keeps the same instructor with the same students. Either model may exceed the number of transferable units allowed by CSU or UC which is determined by the four-year institution.

[3] AB 1705 requires colleges to provide concurrent support in some form (AB 1705, Section 3(k)(1)). The California Community Colleges Chancellor's Office articulated further guidance that colleges can require students in the lowest placement level to enroll in a corequisite or in a support-enhanced transfer-level course in its AB 1705 Implementation Guide (2023).

[4] For corequisite models, multiple studies suggest that having the same instructor teach the discipline course and their corresponding support course appears to strengthen students' outcomes in both transfer-level English and math (Bahr et al., 2022; Complete College America [CCA], 2021; Ryu et al., 2022). MMAP's interviews also found that the same instructor generally taught the corequisite and transferable English and math courses.

[5] MMAP interviews revealed that it was important for colleges to find the right balance between providing enough time to support students effectively in the English or math course without causing undue burden that would impact their ability to successfully complete other courses. Nearly all opted for a 2-unit option. Additional research conducted by MMAP (2023) found that across the CCC system, most colleges offered 1- to 2-unit corequisites, although some ranged from 0 to 6 units in English and 0 to 4 units in math. Of note, AB 1705 now restricts California community colleges to a maximum of 2 semester units for corequisites or additional course enhancements in calculus. CCA's research on the University System of Georgia (2021) additionally suggested that students benefited most from enrolling in corequisites that required a minimum of two contact hours per week in both English and math.

[6] Colleges interviewed by MMAP that follow a semester schedule established their corequisites as credit-bearing courses.

[7] Regarding grading policies, the Charles A. Dana Center at the University of Texas in Austin (Dana Center) specifically recommends that passage of the college-level course should be the only requirement for a student to earn the college-level credit and advance to other courses in the English or math pathway (Dana Center, 2021; Dana Center, 2022).

[8] Several colleges interviewed by MMAP mentioned that offering the right mix of course modalities means faculty priority and preference regarding the courses they teach must sometimes take a backseat to ensure sections are offered at the right time and in the right modality for students. They also acknowledged that at times, students' preferences may differ from their needs. For example, a student may want to take a class in person, but the online section fits their schedule and has the flexibility they require to stay enrolled in college.

[9] It is important for counseling faculty and other advisors to understand (1) if the student would benefit from concurrent support based on their high school preparation, (2) if the student is required to enroll in concurrent support, and (3) what options exist for this assistance. Without awareness and active advising of students to engage with this support, students may forgo this option (PPIC, 2020). Engaging counselors and advisors at the onset of corequisite or enhanced course development may be one of most effective ways to build awareness and investment in this approach, and increase the likelihood that students are fully and accurately informed of their options, as noted in the Dana Center's *Corequisites Mathematics Toolkit* (2021) and *The Advising Handbook for Corequisite Implementation* (2020), developed by the Nevada System of Higher Education.

[10] Engaging counselors and advisors at the onset of corequisite or enhanced course development may be one of most effective ways to build not only awareness of but also investment in this approach, and it increases the likelihood that students are fully and accurately informed of their options and enroll accordingly (Dana Center, 2021).

[11] This strategy is advocated by the American Mathematical Association of Two-Year Colleges and in the Dana Center's *Corequisite English Design Principles*.

[12] Ample research reinforces the value of active learning in the college context for improved student outcomes. Faculty interviewed my MMAP similarly emphasized that these approaches support deeper learning of discipline material and strengthen community and student belonging. In the case of enhanced courses, the extended class time makes the use of active learning especially important to keep students motivated. Find more information on active learning research and strategies through University of Minnesota's Center for Educational Innovation and Cornell University's Center for Teaching Innovation.

[13] MMAP's interviews and research by others (Osterholtz & Barratt, 2010; Watson et al, 2023) indicates that collaboration can particularly advance outcomes for students with developmental education needs.

[14] MMAP interviews and research conducted by The RP Group (2009) and others (Perin, 2011; Ambrose et al, 2013) underscored the benefits of contextualizing English and math content for underprepared students. In MMAP's interviews, one faculty member shared, "The type of problems we do; they're always going to be something students can relate to.... They are really engaged, and they persist longer when it's a topic that they can resonate with."

[15] Ladson-Billings (1995) introduced the concept of "culturally relevant teaching" with a focus on three goals that teaching must: (1) yield academic success; (2) help students develop positive ethnic and cultural identities while simultaneously helping them achieve academically, and (3) support students' ability "to recognize, understand, and critique current and social inequalities" (Muñiz, 2019). Gay (2010) built on this work, introducing culturally responsive teaching as "using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (p. 31). See additional information in *New America's Culturally Responsive Teaching: A 50-State Survey of Teaching Practices*, and specific classroom strategies from California community colleges at *360 Whiteboards: An Equity Strategy to Improve Outcomes in Calculus* (Lee, 2021) and *Transforming the Research Paper: Using Oral History to Center Students' Voices and Communities* (Moore, 2021).

[16] See more information on the flipped classroom approach from the University of Texas at Austin Center for Teaching and Learning (2024). A faculty member interviewed by MMAP shared, "I always say the best way to learn math is to do it. Flipped classroom allows that. It gets them to work in small groups and work on problem solving in class."

[17] One instructor interviewed by MMAP highlighted the benefits of embedded tutoring, stating, "Sometimes we will have really tough cases where their neighbor explains it to them, I'll explain it to them, but they still need a person to guide them step-by-step on [a problem].... The embedded tutor saves the day there."

[18] In a study of California community college transfer-level English and math classrooms, growth-oriented classroom practices were associated with better classroom experience and greater academic success, with larger effect size for traditionally disadvantaged demographic groups (Emerson et al., 2023).

[19] The Dana Center (2023) developed a series of tools to help colleges engage students enrolled in corequisite courses with academic and nonacademic support, particularly those at risk of dropping out or failing. It states, "Many students are hesitant to seek help—content-related or otherwise—so it is important to normalize help seeking, especially for students who are less prepared for college" (p. 1). This toolkit offers a three-phase process for communicating resources to students.