Corequisite Mathematics Toolkit

Executive Summary

This toolkit presents nationally agreed-upon design principles for implementing corequisite mathematics and provides comprehensive tools and resources to make these principles actionable. It supports faculty members, advisors and administrators in adopting corequisites that ensure college students — in particular those who are Black, Latinx, Indigenous, first-generation and from low-income communities — are provided the supports they need to be successful.

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Every student deserves a strong start in their first year of college. This toolkit is part of a SSTF three-part series, providing resources to assist postsecondary leaders design and implement reform strategies that support equitable outcomes for students who are marginalized and racially minoritized.

The University of Texas at Austin
Charles A. Dana Center

STRONG START to FINISH

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Why implement corequisites?

A substantial research base shows that enrolling students directly into gateway mathematics and English courses, accompanied by aligned corequisite academic supports, results in dramatic improvements in academic success. In some cases, this corequisite approach results in more equitable outcomes—including more equitable gateway course completion and persistence rates — for students with low socioeconomic status, and students from racially minoritized and low-income communities.

Why focus on racially minoritized students?

Increasingly, postsecondary institutions are recognizing and confronting the systemic inequities in our civic and education systems that have denied social and economic opportunities to generations of individuals from racially minoritized and low-income communities. This critical time calls upon all postsecondary institutions, systems and agencies to reexamine our own policies and practices to ensure more equitable outcomes for these students.

What do we mean by "equity" in this toolkit and how does it apply to the work?

Working for equity means "ensuring equally high outcomes for all, removing the predictability of success or failures that currently correlates with any social or cultural factor, examining biases, and creating inclusive environments," according to the National Equity Project. (n.d.). Equity.

Equity in education refers to achieving parity in student educational outcomes, regardless of race and ethnicity. It moves beyond issues of access and places success outcomes for students of color at center focus, as noted by the Center for Urban Education. (n.d.). Equity and student success.

Equity-mindedness refers to the perspective or mode of thinking exhibited by practitioners who call attention to patterns of inequity in student outcomes. Practitioners who are equity minded understand that structures, policies and practices create inequities; question their own assumptions; recognize stereotypes that harm student success; and continuously reassess their practices to create change. For more information about developing a practice of equity mindedness, visit the Center for Urban Education.

Equitable practices refer to professional development practices for faculty, advisors, staff and administrators, who are working with math pathways. They are practices that result in ensuring high outcomes for all, targeting the removal of the predictability of success or failure that currently correlate with social and cultural factors.

> The Center for Urban Education defines equity-mindedness as "the perspective or mode of thinking exhibited by practitioners who call attention to patterns of inequity in student outcomes." In essence, institutions and practitioners become accountable for the success of their students and see racial gaps as their institutional responsibility.

How this toolkit helps

Implementing corequisite models is complex. Education decision-makers could benefit from sophisticated guidance on how to design corequisites for scale, establish processes for continuous improvement, and build equity into each phase of the work. Policymakers and institutional leaders must carefully consider designing support models with fidelity to the evidence-based best practices that have emerged from early adopters of corequisites. At the same time, they need to adapt these models to fit the particular policy, academic and cultural context of each institution.

This toolkit is intended to help decision-makers do just that. It's designed to help individuals at all levels of an institution—from advisors to faculty to administrators—navigate the policy, design and improvement process for corequisites by articulating a set of design principles, tools and resources derived from rigorous research and the guidance of a national advisory committee of experts.

Each component of the toolkit is built to encourage equity-minded design considerations with the goal of ensuring that students who are Black, Latinx, Indigenous, first-generation and from low-income communities have equitable access to and success in corequisite supports models. In particular, the Measures of Structural Change and Assessment Rubric provide equity check-points as institutional teams work through the design, implementation and continuous improvement processes.

Applying Strong Start to Finish Core Principles

While this toolkit primarily focuses on corequisites, it is essential to note the research also shows that corequisites have the greatest impact on student outcomes when they are integrated with additional reforms, such as multiple measures placement, mathematics pathways, guided pathways and other student supports. The Core Principles for Transforming Remediation Within a Comprehensive Student Success Strategy (2020) lays out this multifaceted approach to reform, and the Corequisite Design Principles resource in this toolkit was designed to be integrated within the "Core Principles" framework.

About This Toolkit

The development of this toolkit was guided by the advice of a national advisory panel made up of experts who have worked deeply with corequisites across a variety of roles and contexts. The panel includes researchers, policymakers, faculty members, equity advocates and curriculum experts who collectively articulated a consensus statement on the foundational core of this toolkit, the "Corequisite Design Principles" document and vetted the associated resources.

About The Authors

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Connie leads the curriculum development team for the Dana Center Mathematics Pathways, a transformative redesign to modernize entry-level college mathematics programs through working with states, systems, universities and colleges. She also supports the development of DCMP's professional learning offerings related to curricular redesign, corequisite supports and pedagogy. In this work, Connie collaborates with faculty to identify best practices and disseminate to the field.

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About The Charles A. Dana Center

The Dana Center works to dismantle barriers in education systems to ensure all students—especially those who have historically been underserved—have equitable access to and success in an excellent math and science education. Our higher education work focuses on strategies and tools that support faculty and institutions in creating more seamless transitions from high school to and through gateway mathematics courses.

About Strong Start to Finish

Strong Start to Finish is a network of policy and research partners, institution and systems leaders, and foundations advancing system reforms in developmental education, so every student can succeed in their first year of college. In particular, we support college success for Black, Brown, Asian American, Indigenous students, adult learners, and students with low incomes, who have been underserved by the education system for too long. We work to scale the use of proven, proactive strategies that remove barriers that typically impede these students from earning essential college credits in English and Math courses in their first year. Education Commission of the States is the host of the Strong Start to Finish network.

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