The University of Texas at Austin
Charles A. Dana Center

Launch Years Initiative

ESG Education Strategy Group

Charting the Course

The State of Mathematics Pathways for Student Success

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Contents

Executive Summary

A powerful transformation is underway in mathematics education across America. **A growing number of states are launching initiatives to make high school and postsecondary mathematics more relevant to today's careers and civic demands**, recognizing that the traditional pathway to calculus—while valuable—does not serve all students effectively. Recent research underscores the urgency of this work. According to the 2025 Gallup Math Matters Study, 95 percent of Americans recognize that mathematics skills are important in their work life, and 96 percent believe these skills are essential in their personal life; yet the mathematics experiences available to most students do not provide them with the skills and knowledge most relevant to their futures. The successful delivery of rigorous and relevant mathematics pathways requires coordinated efforts across K–12 and higher education systems to expand availability of rigorous course options that better align with students' career and academic aspirations. This report charts a clear course toward a more aligned mathematics education system—one that better positions all students for long-term success.

Higher education has been at the forefront of transforming mathematics education, with at least two dozen state higher education systems now offering multiple pathways through mathematics instead of only the traditional one-size-fits-all algebra sequence designed as a stepping stone to calculus.[1] These pathways emphasize relevant and rigorous alternatives in areas like statistics, quantitative reasoning, and business mathematics, and research shows they are working; students in pathway-based courses are more likely to pass their college-level mathematics requirements and accumulate more college credits than those in traditional sequences.[2] Yet, alignment across systems remains incomplete.

This misalignment manifests in several ways, often creating unnecessary barriers for students. In half of states, high school graduation requirements remain disconnected from college entrance expectations. Higher education admissions requirements remain a primary driver of high school course-taking patterns. Though there have been significant changes in higher education to provide multiple mathematics pathways to students better aligned with their degree programs, college admissions still send mixed signals—favoring calculus over equally valuable courses like statistics, even though research shows AP Statistics students achieve similar long-term outcomes as those who take AP Calculus.[3,4] Notably, only one-third of bachelor's degree programs actually require calculus.[5] These mixed signals create a perception that calculus represents the most valuable mathematics preparation, while most students would benefit more from the statistics and quantitative reasoning emphasized in alternative pathways.

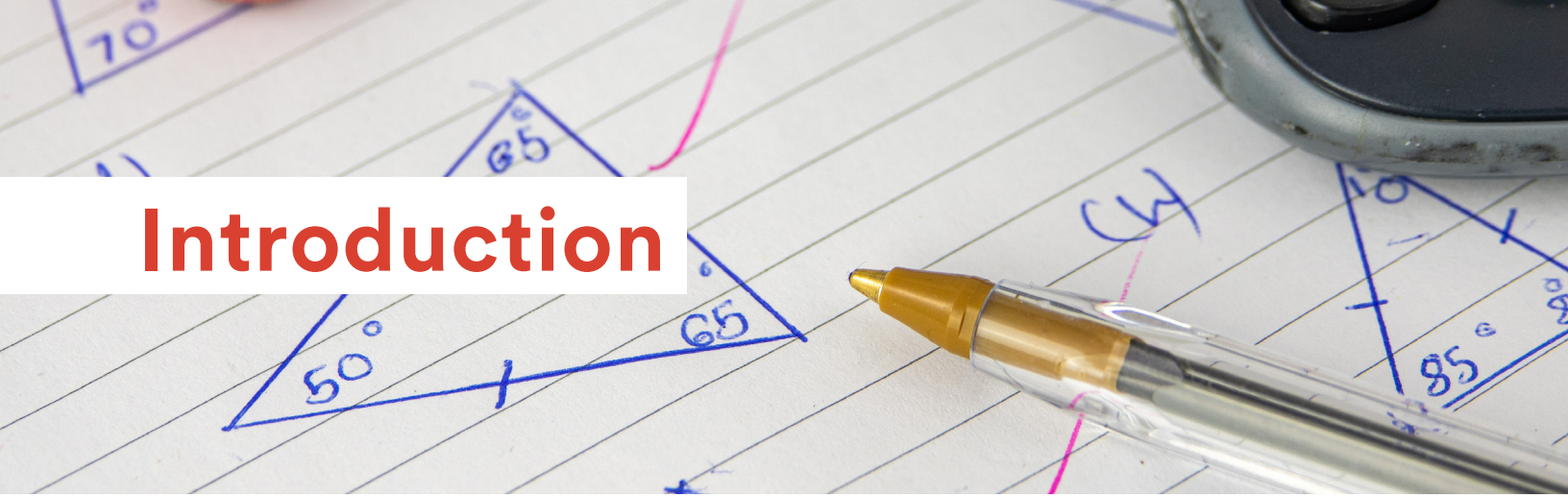
The movement toward multiple, rigorous mathematics pathways is gaining momentum. Thirty-one states have established formal cross-sector partnerships to develop pathways that expand—not limit—students' academic and career opportunities. Establishing teams across K–12 and higher education is a critical first step in implementing mathematics pathways; powerful leaders in both sectors must join efforts, share power, make collective decisions, and sometimes take collective action to lay the groundwork for the success of implementation. These bodies differ in their composition and scope; some are one-time work groups to create the pathways in K–12 and/or higher education, while others provide ongoing guidance and oversight of implementation.

Student choice is a fundamental feature of mathematics pathways. More than half of all states offer high school mathematics courses beyond the typical sequence (Algebra I, Geometry, and Algebra II; or Math I, II and III) and have defined standards for those courses. Statistics, quantitative reasoning, data science, and many other career-relevant mathematics courses are available in thousands of high schools across the country, providing students with an opportunity to better align their interests and course taking. And yet, only 18 states require high school students to complete four credits of mathematics, despite research that shows taking four years of high school mathematics better develops students' mathematics skills and helps them retain and build on their learning, and better prepares them for college-level mathematics and the workforce. Continuous enrollment in math in high school contributes to higher college persistence and attainment.[6,7] Currently, exposure to this expanded set of courses is a choice for a select few, rather than an expectation for all. Furthermore, support systems for teachers, high-quality instructional materials, and comprehensive advising connected to mathematics pathways remain underdeveloped in most states.

While this momentum deserves celebration, significant work remains to ensure improved academic and career outcomes for every student. As states implement mathematics pathways based on their unique contexts and governance structures, the key actions and measurement priorities outlined in this report provide essential indicators to ground and guide this systemic change. Accurately measuring the success of math pathways across the nation is an essential aspect transforming math education; however, only 10 states publicly report data on mathematics course-taking patterns, making it difficult to track and measure progress. Without a deeper commitment to building robust, comprehensive, and accurate longitudinal data systems, it will be difficult to know how well the movement toward multiple mathematics pathways is working. States need to provide significantly more transparent, disaggregated data on mathematics course-taking patterns and sequences, student progression, and access and success outcomes across K–12 and postsecondary education.

This report presents nine key actions that states should take and five essential data points that states should publicly report to show evidence that high school mathematics prepares all students for today's careers and civic demands. The actions span pathway purpose and design; student access and support; and alignment and implementation—with particular emphasis on strengthening connections between K–12 and higher education systems. States that take decisive action to advance these key actions and transparently publicly report this data will not only have the right data and evidence needed to celebrate successes and improve individual student outcomes, but will also strengthen their state's talent pipeline and economic competitiveness.

Multiple mathematics pathways represent a both/and—not either/or—proposition. Students can experience high quality mathematics experiences that are aligned with their interests and that also prepare them to thrive and fully participate in the modern economy. This is not easy work, but it is necessary. Students cannot take or benefit from courses that are not offered in their schools, whether those courses are calculus, statistics, or other advanced mathematics options. Course access remains deeply inequitable across schools: approximately one third of schools with high enrollments of Black and Latino students offer calculus, compared to more than half (54%) of schools with low enrollments of Black and Latino students.[8] States must simultaneously expand access to relevant mathematics courses, while also increasing participation in calculus-based sequences, particularly among historically underrepresented students. States must also keep a keen and continuous eye toward measuring progress and success and understanding how structural and practice changes lead to better outcomes for students. **This comprehensive approach requires unprecedented collaboration across K–12, higher education, and industry to create connected pathways that honor multiple routes to mathematical proficiency and opportunity for students.**



Introduction

The traditional approach to high school mathematics, with its narrow focus on a pathway to calculus, is increasingly misaligned with the mathematical demands of modern careers and civic life.[9] The majority of jobs demand skills in other mathematical domains—from statistical analysis to data modeling.[10,11,12,13] An analysis of the most recent four years of bachelor's degree earner data finds that only one-third of recipients were required to complete calculus as part of their major, with about a quarter requiring STEM Calculus and an additional 10 percent needing Business Calculus.[14] Research suggests that many STEM professionals use mathematical concepts in different forms than taught in college, and that there's a gap between the emphasis in college courses and what's actually used in practice.[15,16]

Nationally, fewer than two-thirds of students enrolled in a four-year institution earn a bachelor's degree in six years.[17] Of community college students aiming for a bachelor's degree, only one-third transfer to four-year institutions, with fewer than half of those completing within six years.[18] Data suggest that mathematics often becomes a roadblock—due to myriad reasons, including misaligned requirements and student apprehension.[19]

The term "pathways" has different meanings across states and parts of the education system. For the purposes of this work, a mathematics pathway is sequence of courses that students take to meet the requirements of their program of study. Mathematics pathways enable students to take different courses relevant to their programs of study and careers.

Misaligned requirements create unnecessary barriers for students; studies demonstrate that when students engage with mathematics opportunities that are relevant to their programs of study, they are more motivated and more likely to succeed in coursework in K–12 and postsecondary.[20,21] These findings suggest the need for broader access to existing advanced courses in high school as well as additional rigorous course options that serve more students' academic and career aspirations.

States have both the responsibility and opportunity to address this critical misalignment between mathematical preparation and higher education. For too many students, mathematics often functions as a gatekeeper rather than a gateway to higher level mathematics and a wider variety of career options. Encouragingly, momentum for reform is emerging across the country. A growing number of states have initiated reforms to reimagine mathematics pathways; however, these efforts vary widely in scope and effectiveness and are frequently hampered by disconnects between K–12 and higher education systems, including a lack of shared vision and misaligned policies.[22] The pace and depth of implementation also remains uneven, and the impact of these initiatives remains unclear due to significant data gaps in student progression through current pathways. The time for coordinated, cross-sector action is now; states that act decisively will position their students and economies for greater success in an increasingly quantitative world. While states implement mathematics pathways in different ways based on their unique

The Launch Years Initiative is led by the Charles A. Dana Center at The University of Texas at Austin and is aimed at improving mathematical learning opportunities for all students in high school and better aligning high school mathematics with students' postsecondary and career aspirations.

contexts and governance structures, research demonstrates that coordinated progress across multiple actions creates the strongest foundation for student success.

This report captures the current state of mathematics pathway reform and highlights the growing momentum across states, while also identifying critical gaps that must be addressed to sustain and accelerate progress. This initial analysis, based on publicly available data, reveals both promising practices and significant opportunities for strengthening mathematics pathways implementation. The research demonstrates the critical role of state leadership and cross-sector collaboration, and highlights the need for more systematic data collection and reporting to effectively monitor progress.

This report presents **nine key actions** that reflect the policies, supports, and conditions states need to implement to create high-quality mathematics pathways from high school through postsecondary education. Additionally, there are **five key data points that are critical for public reporting and showing evidence of mathematics success**. Moving forward, the Launch Years Initiative will track state progress over time.

Key Actions

States need to prioritize nine key policies and practices to effectively implement high-quality mathematics pathways:

PATHWAY PURPOSE & DESIGN

Key Action 1: Expand Opportunities Through Multiple Mathematics Pathways: States establish multiple, rigorous mathematics pathways that expand—not limit—students' academic and career opportunities.

Key Action 2: Modernize Mathematics for Career Readiness and Civic Engagement: States need to ensure mathematics content and pathways reflect both evolving workforce demands and the quantitative skills needed for civic participation, grounded in the belief that every student can succeed in mathematics.

Key Action 3: Align and Accept Pathways: Higher education institutions should explicitly accept multiple mathematics courses for admission and for transfer between two-year and four-year institutions.

ACCESS & SUPPORT

Key Action 4: Remove Placement Barriers: Education leaders implement objective placement criteria that promote broad access to advanced K–12 mathematics opportunities and college-level gateway mathematics courses.

Key Action 5: Support Effective Implementation: States provide resources to support high-quality implementation of all mathematics pathways, particularly in historically underserved communities.

Key Action 6: Guide Informed Student Decisions: Districts, schools, and universities provide students and families comprehensive and responsive advising from middle school through high school and into postsecondary to enable informed decisions about courses and pathways.

ALIGNMENT & IMPLEMENTATION

Key Action 7: Build Cross-Sector Partners: States establish mathematics pathways through formal cross-sector partnerships with clear governance, roles, and shared accountability.

Key Action 8: Strengthen Preparation for Pre-Service and In-Service Educators: States invest in educator preparation programs, professional development, and high-quality instructional materials for all mathematics pathways.

Key Action 9: Capture and Report Progress: States establish comprehensive public reporting systems that provide transparent, disaggregated data on mathematics course-taking patterns and sequences, student progression, and outcomes across K–12 and postsecondary education.

Critical Data Points

On an annual basis, states should publicly report at least five key data points to monitor implementation and identify gaps, including:[23]

- Mathematics **enrollment and success by mathematics course from grade 6 through 12**, with demographic disaggregation and district-level reporting of each course
- Mathematics **enrollment and success in advanced[24] mathematics courses from grade 6 through 12**, with district-level subgroup reporting for each course
- The percentage of high school graduates who have **completed 4 credits/units and/or continuous enrollment in mathematics**
- Mathematics **enrollment and success in any gateway credit-bearing mathematics course taken by first-time first-year students on public postsecondary campuses**, with demographic disaggregation and postsecondary campus-level reporting of each course
- The percentage of first-time first-year students who **complete a STEM degree** within six years

Comprehensive reporting systems for tracking mathematics pathways implementation remain underdeveloped. While these five data points are essential, only 10 states currently provide transparent, disaggregated data on mathematics course-taking patterns, making it difficult to assess and monitor progress. States must prioritize developing robust data collection and reporting systems to effectively track implementation and outcomes.

The nine key actions work in concert with the five data points to create a meaningful framework for state leadership around mathematics pathways implementation success. Implementation approaches will vary based on each state's unique context and governance structures, but states making coordinated progress across multiple actions will build the strongest foundation for student success. The data points serve as both accountability tools and diagnostic instruments, enabling states to identify gaps, track progress, and course-correct as needed. Together, these create a feedback loop that drives continuous improvement and ensures reforms translate into measurable gains in student outcomes.

The push for these actions and publicly reported data draws on research and emphasizes the importance of coordinated state leadership across K–12 and higher education sectors. Throughout, the focus is on ensuring these pathways are mathematically rigorous while expanding—rather than limiting—students' academic and career opportunities.[25] Some states have made notable progress in implementing new mathematics pathways, but significant work remains to ensure all students have access to relevant, rigorous mathematical preparation aligned with their future aspirations.

The success of mathematics pathways initiatives depends on a fundamental commitment: the shared belief that every student can succeed in mathematics when provided appropriate opportunities and support. This is not an aspirational statement, but the essential foundation for all reforms. Research demonstrates that students rise to meet high expectations when supported by educators who believe in their capabilities.[26] Disparities in mathematics achievement do not reflect differences in ability, but systemic barriers and misaligned opportunities for many students. States implementing mathematics pathways must establish this belief in universal mathematical capability as their north star to guide policy decisions. This commitment requires moving beyond surface-level changes to address deeper systemic issues that have limited

mathematics opportunities. Rather than treating mathematics pathways as an isolated effort, states need to take a proactive approach that embeds this work within comprehensive student success initiatives to improve teaching and learning. An integrated approach to policy design and implementation can foster coherence, sustainability, and lasting impact.

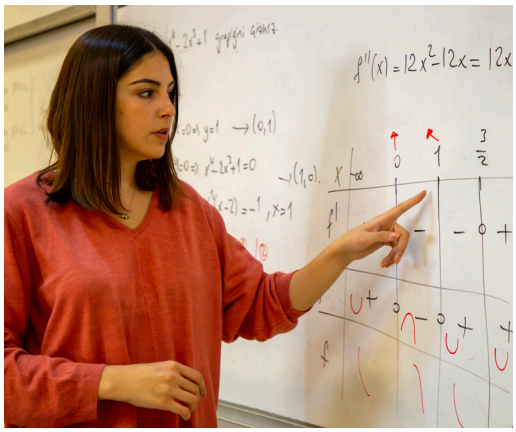
The momentum for mathematics pathways reform reflects a profound shift in how we prepare students for future success. Leading states are demonstrating that it is possible to maintain high expectations while creating multiple routes to mathematical proficiency aligned with various career paths. The nine key actions provide a blueprint for states at any stage of implementation, whether they are just beginning this work or accelerating existing efforts.

Pathway Purpose and Design

Expand Opportunities Through Multiple Mathematics Pathways

States establish multiple, rigorous mathematics pathways that expand—not limit—students' academic and career opportunities.

Only five percent of careers specifically require calculus; the majority of jobs demand skills in other mathematical domains—from statistical analysis to data modeling—making it critical that students' mathematical preparation aligns with both workforce demands and college majors.[27] This includes preparing those students interested in critical STEM fields that are essential for technological innovation, national security, and economic competitiveness. States must therefore pursue the priority of expanding access to multiple mathematics pathways, inclusive of increasing participation and success in courses leading to and through calculus, particularly among historically underrepresented students. Rather than viewing these as competing priorities, states should approach them as complementary imperatives—ensuring all students complete mathematics pathways aligned with their aspirations.



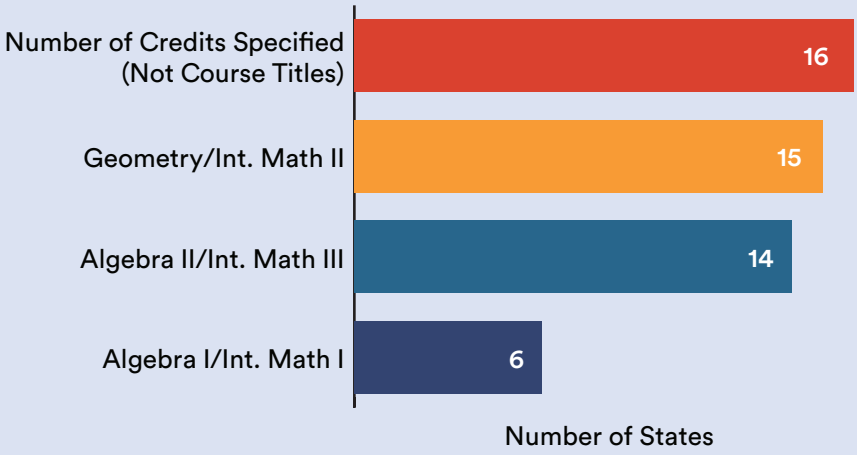
Research indicates that students who completed AP Statistics and those who completed AP Calculus were equally likely to attain a bachelor's degree and exhibited similar long-term earnings.[28] Moreover, AP Statistics students were well-represented in scientifically and mathematically intensive industries. Yet perceptions haven't caught up with this reality: a recent survey of college admissions officers found that 75 percent ranked AP Calculus as carrying the most weight for admissions compared to only 38 percent for AP Statistics.[29] However, enrollment data may suggest that this guidance is evolving: enrollment in AP Statistics has grown in response to expanded access to coursework; enrollment in AP Calculus has remained relatively stable.[30]

States should ensure strong mathematics instruction from early elementary through the middle grades and into high school and postsecondary education. This includes teaching developmentally-appropriate algebraic thinking as early as pre-K, fostering positive mathematics identity, and removing barriers that limit students' belief in their mathematical abilities. To achieve this alignment across the education continuum, both K–12 and postsecondary sectors must take coordinated action. This includes:

- Developing third- and fourth-year high school mathematics courses beyond the traditional sequence (Algebra I, Geometry, and Algebra II; or Math I, II, and III);
- Expecting students to complete four credits/years and/or be continuously enrolled in mathematics; and
- Aligning mathematics high school graduation requirements and college admissions requirements (see Key Action 3).

FIGURE 1

What Is the Highest Level of Math Course Required by States in High School?



Higher education systems and institutions need to expand mathematics pathways by:

- Establishing cross-functional teams to review and update mathematics course offerings;
- Conducting analyses to determine which pathways align with which programs of study; and
- Ensuring adequate educator capacity to teach new pathways.

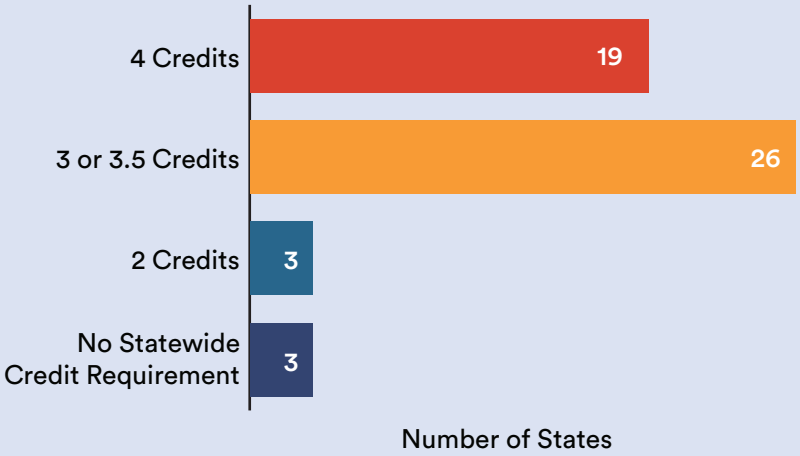
Institutions should document how proposed new pathways provide mathematical rigor while better serving student needs.[31] Higher education mathematics departments should collaborate with academic programs to validate pathway-program alignments and establish clear processes for periodic review and refinement.

While higher education institutions work to expand pathway options, we must also address the significant variation that exists in K–12 graduation requirements across states, including the number of mathematics courses required and the content of required courses. Even when specific courses are required, there is usually flexibility to substitute. A review of high school graduation requirements across 50 states and the District of Columbia (Figure 1) found **13 states** (AL, AZ, AR, DE, GA, MN, MI, NC, OH, RI, OK, TN, UT) and DC expect students to take Algebra II or Integrated Mathematics III.[32] Within these requirements students typically have additional flexibility; at least half of these states (7) specify that students can opt out with parental consent, take an equivalent course, or substitute a career and technical education (CTE) or computer science course. In **Arkansas**, students are expected to complete four credits of math: Algebra I, Geometry, Algebra II or Quantitative Reasoning, and one Arkansas Department of Education-approved Mathematics or Computer Science Flex. *(Additional information on states' mathematics course requirements can be found in Appendix A.)*

Beyond the specific content of the courses students take, research also shows that students who engage in mathematics each year in high school have improved college attendance, persistence, and attainment rates.[33,34,35] **But only 18 states and DC expect students to take four credits of mathematics in high school** (see Figure 2).[36]

FIGURE 2

How Many Math Credits Must Students Complete?



States need to know **what courses districts are offering** and to be sure there are sufficient course offerings to meet learner demand as well as sufficient staffing (particularly in rural settings) to teach these courses. Some states require districts to offer a minimum number of courses beyond the graduation requirements; this is one approach to making certain all students across the state have access to courses. This might be a consistent set of courses in every high school or at the discretion of the local districts. In **Iowa**, high schools are required to "offer-and-teach" certain subjects and regulations specify a minimum number of units for each course. In mathematics, high schools must offer and teach four sequential units and two additional units. The school or district must make students aware of the offering and employ a licensed teacher to teach the course.

KEY ACTION 2

Modernize Mathematics for Career Readiness and Civic Engagement

States need to ensure mathematics content and pathways reflect both evolving workforce demands and the quantitative skills needed for civic participation, grounded in the belief that every student can succeed in mathematics.

Effective mathematics pathways reform requires states to establish formal, continuous feedback systems with industry partners to validate mathematics content against workplace needs, particularly in emerging technological fields. As part of establishing the pathways, states should document how each mathematics pathway connects to specific career clusters and civic competencies, while ensuring high expectations. States must ensure their standards, assessments, instructional materials, and practices emphasize practical applications that reflect evolving needs in data literacy, statistical reasoning, and computational thinking—skills essential for both the workplace and informed citizenship in a data-rich world. From evaluating public policy proposals to understanding health statistics and financial decisions, mathematical and statistical literacy is essential for full participation in democratic society. In **Tennessee**, the State Board of Education, in collaboration with the Tennessee Department of Education and key K–12 education, higher education, and workforce development constituents, recently redesigned the state's Algebra II standards. A comprehensive report[37] details the changes to better align the standards with postsecondary and workforce needs.

Many states allow schools to organize their mathematics courses in either a traditional sequence consisting of Algebra, Geometry, and Algebra II or in an integrated sequence (Mathematics I, II, and III). About half of states focus their standards and graduation requirements on only the traditional or only the integrated sequence.[38] **Half of states have also defined standards on their state department of education websites for additional high school courses.** As new mathematics courses are designed, they must

be reflected in state and district course options, and, where needed, graduation course requirement regulations. For example, the **Ohio** Department of Education and Workforce[39] has developed courses in Mathematics Modeling and Reasoning Application, Data Science Foundations, Discrete Math/Computer Science Application, and Statistics and Probability. Ohio districts can use credit earned in these courses to satisfy the state's Algebra 2/Math 3 curriculum requirement for high school graduation. A variety of instructional resources to support implementation have also been developed, including course descriptions, scope and sequence, professional development opportunities, and course data collection and evaluation guidance.

In high school, states should ensure their systems offer multiple third-year mathematics course options that provide a variety of skills—including statistics, quantitative reasoning, and algebra—and fourth-year courses that prepare students for their college mathematics requirements, allowing students to choose courses aligned with their program of study. In higher education, state systems should ensure course offerings allow students to take the right mathematics course for their program of study or major. For example, the University System of **Georgia**[40] now offers seven entry-level mathematics courses to choose from depending on a student's degree program. Traditionally, the default for non-STEM majors has been College Algebra. Non-STEM majors in Georgia now have a choice of taking Quantitative Reasoning, Introduction to Mathematical Modeling, College Algebra, or Elementary Statistics. Student choice is a major advantage of modern math pathways. Clear program maps[41] guide students as to where to begin their mathematics pathway based on their intended major.

KEY ACTION 3

Align and Accept Pathways

Higher education institutions should explicitly accept multiple mathematics courses for admission and for transfer between two-year and four-year institutions.

Higher education admissions requirements are a primary driver of high school course-taking patterns; university admissions offices should expand the mathematics courses they recognize to admit students and deem them ready for college-level mathematics to reflect the variety of mathematical preparation needed across different fields of study. Since admissions requirements, course prerequisites, and major requirements are often set by different governance structures within institutions and systems, implementing mathematics pathways requires coordinated conversations and decision-making across these various entities.

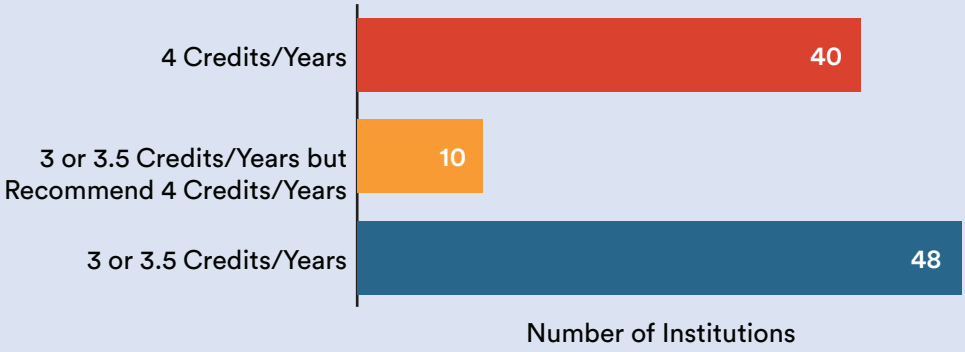
Since specific degree programs may require particular mathematics sequences (such as calculus for STEM fields or statistics for social sciences), mathematics admissions requirements should align with students' intended field of study. Additionally, admissions *practices* should align; for example, calculus may be used by selective institutions as a proxy for college preparation, even if it is not explicitly required. A recent Just Equations survey of university admissions officers found greater weight placed on calculus and precalculus than on statistics courses.[42] No admissions or other requirements for navigating postsecondary education should be hidden from students and their families.

Students should have as seamless a transition between K–12 and higher education as possible. The findings of a 2024 unpublished review of publicly posted admissions requirements in mathematics at 98 broad access, public four-year postsecondary institutions across the U.S. (~2 per state) are detailed in Figure 3. The research reveals that alignment exists in less than half of states between K–12 exit and higher education entrance, whether because of the number of courses required or because of the content of those courses.[43]

FIGURE 3

How Many Years of High School Mathematics Do Public Four-Year Institutions Require for Admission?

Among 98 broad access, public four-year postsecondary institutions across the U.S.



Beyond the number of credits/years of mathematics required at least two-thirds (69) require Algebra II or equivalent, advanced algebra, two years of algebra (see Figure 4 below). Importantly, just 20 of these 69 institutions that require Algebra II are located in states that expect high school students to complete an Algebra II course. This sends a mixed signal—and may result in gaps in students' readiness—when high schools communicate a set of course expectations than higher education requires. Fewer than 18 of the 98 institutions explicitly referenced statistics as coursework counting toward mathematics requirements.

In **nine states** (DE, FL, MS, NV, NM, NY, ND, SD, WI), no postsecondary institution in the sample specifically requires Algebra II for admission. In the other 41 states, at least one of the reviewed postsecondary institution admissions requirements reference Algebra II as a requirement for admission.

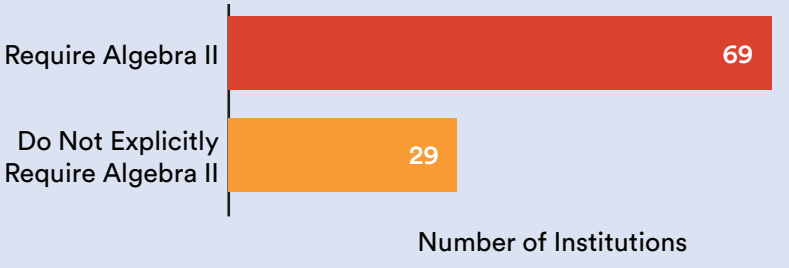
Certain postsecondary programs may have higher requirements for admission, but postsecondary entrance requirements should be tightly aligned with high school graduation requirements. Transparency about what is required of students in high school and what is required for admission into postsecondary sends clear signals to students and their families. High school graduation requirements and postsecondary admissions requirements serve as important guideposts for students and families as to what courses students need to take to successfully transition across systems. A misalignment (or lack of specificity) between high school graduation requirements and postsecondary admissions requirements creates confusion.

Institutions and systems need clear protocols to validate mathematics pathways. This likely includes: creating formal processes for higher education mathematics departments to work with high school academic programs to review and approve pathway alignments; developing mechanisms to assess whether pathways adequately prepare students for subsequent coursework; establishing regular review cycles to ensure continued alignment as programs evolve; and maintaining documentation of processes and outcomes to enhance the likelihood of sustaining the systemic reforms. Systems should facilitate this work across institutions to support transfer and applicability.

FIGURE 4

How Many Institutions Require Algebra II?

Among 98 broad access, public four-year postsecondary institutions across the U.S.



Access and Support

Remove Placement Barriers

Education leaders implement objective placement criteria that promote broad access to advanced K–12 mathematics opportunities and college-level gateway mathematics courses.

Access to advanced mathematics courses in high school is highly inequitable across student groups.[44] Historical practices of using acceleration in mathematics courses beginning in middle school as a mechanism for tracking and sorting students have systematically excluded many learners.[45,46,47,48,49] The same is true of college remedial mathematics sequences that delay students' progress into credit-bearing mathematics courses that count toward their major.

States must implement policies that dismantle tracking systems and eliminate subjective placement criteria that have traditionally excluded students from advanced coursework or accelerated coursework in K–12.[50] Research demonstrates that systems that channel students into tracks disproportionately place students of color and low-income students into lower-level mathematics courses, even when controlling for prior achievement, leading to reduced college readiness and fewer postsecondary opportunities.[51,52] Automatic enrollment policies, based on clear performance metrics, have been shown to increase participation in advanced mathematics among traditionally excluded student groups.[53,54] These policies should be coupled with robust support systems and proactive identification of students ready for advanced work. Reform efforts should also include strategies for enhancing the mathematics learning of students whose mathematics experiences and success may fall outside of the range of automatic enrollment criteria. Multiple measures and multiple opportunities for acceleration are especially important, as students may demonstrate they are ready for advanced work at different times and in multiple ways.

Dual enrollment mathematics courses represent a critical structural mechanism for expanding access to high-quality mathematics, particularly for students in schools with limited advanced course offerings. Research[55] demonstrates that dual enrollment increases college enrollment rates and credit accumulation, with students who participate showing higher rates of postsecondary success. For mathematics specifically, dual enrollment can provide students with early exposure to college-level quantitative reasoning, statistics, and other pathway courses that may not be available in their high schools. According to a U.S. Department of Education Office for Civil Rights report, Black students represented 15 percent of total high school enrollment, but accounted for 6 percent of students enrolled in AP mathematics (Calculus AB and BC and Statistics).[56] Latino students represented 27 percent of total high school enrollment, but accounted for 19 percent of students enrolled in AP mathematics. A Community College Research Center analysis finds Black and Hispanic students were underrepresented in dual enrollment across subjects, including mathematics in 2022-23.[57] States should ensure students have access to and are being guided into dual credit statistics, quantitative reasoning, and other mathematics courses aligned with their interests and programs of study.

Beyond dual enrollment opportunities, states must implement systematic policy changes to ensure equitable access to advanced mathematics courses. Automatic enrollment policies represent one of the most effective

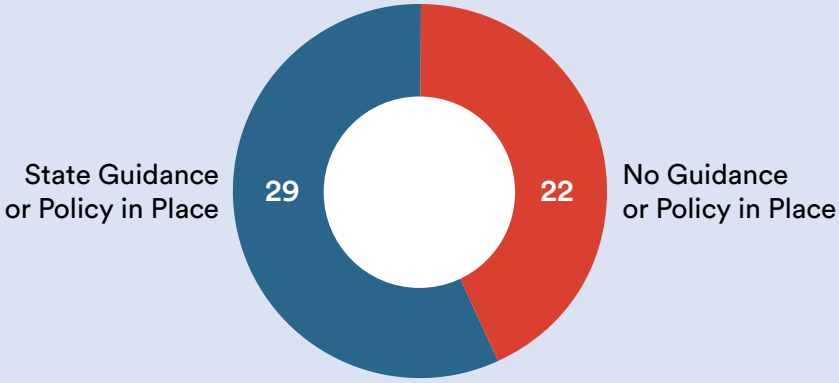
structural interventions for dismantling tracking systems that have historically excluded students from advanced coursework**. At least 11 states** (CO, IL, IN, KY, MD, NC, NV, TN, TX, VA, WA) **have adopted automatic enrollment policies specific to K–12 mathematics coursework**, recognizing that objective placement criteria based on clear performance metrics dramatically increase participation among traditionally excluded student groups**.** For example, **North Carolina** law requires that for those advanced courses offered in mathematics in grades six and higher, any student scoring at the highest level on the end-of-grade or end-of-course test for the mathematics course in which the student was most recently enrolled shall be enrolled in the advanced course for the next mathematics course. The legislation also specifically outlines that a student in seventh grade scoring at the highest level on the seventh-grade mathematics end-of-grade test shall be enrolled in a high school level mathematics course in eighth grade. Required annual public reporting to NC General Assembly on Advanced Courses in Mathematics[58] includes data on the number of eligible students who score at the highest level on an approved mathematics assessment in the previous school year and whether they are placed in an advanced mathematics course.

Postsecondary institutions should establish transparent course registration processes and implement consistent initial placement policies based on clear performance metrics. This includes reviewing data on placement accuracy and student outcomes; implementing multiple measures for placement decisions; and providing clear information to students about placement processes. Regular audits of enrollment patterns should examine disparities by school size, geographic location, and student demographics.

Research from the Center for the Analysis of Postsecondary Readiness further strengthens the evidence that using multiple measures to place students into postsecondary coursework improves academic performance when it allows students to bypass a remedial course they otherwise would have been required to take.[59] If students are underprepared for credit-bearing coursework, institutions should implement corequisite models and other evidence-based approaches that support student success in college-level coursework rather than enrolling students in remedial mathematics courses.[60,61] For example, in states including **California** and **Georgia**, students' gateway course success rates have more than tripled since the implementation of corequisite coursework.[62,63] According to Dana Center research,[64] at least **29 state systems have created policies or offer guidance around corequisite courses** (see Figure 5).[65] But state approaches vary: some states mandate that students take corequisites while others only require schools to offer them. And still other states recommend and offer guidance and support on corequisite implementation. Additional research is needed to understand the nuances of corequisite mathematics implementation across the nation.

FIGURE 5

How Many States Have Corequisite Guidance or Policy in Place?



Support Effective Implementation

States provide resources to support high-quality implementation of all mathematics pathways, particularly in historically underserved communities.

Support for implementing multiple high school mathematics pathways is still largely underdeveloped in states. Systemic supports and infrastructure enable effective mathematics pathways implementation across both K–12 and postsecondary education systems. New course pathways require significant investment in materials, aligned professional learning, appropriate technology systems to support new course delivery models, and data systems to track implementation progress. States should conduct systematic audits to align current resources with pathway goals and identify strategic funding priorities. Resource allocation should address both initial implementation needs and ongoing support to maintain quality and prevent disparities across schools, districts, and higher education. This includes ensuring adequate staffing, technology infrastructure, and supplemental learning supports across all school settings.

States can encourage or create regional implementation networks that connect districts facing similar challenges and support mathematics implementation specialists and coaches. This regional approach is particularly vital for rural communities, where resource-sharing arrangements and collaborative partnerships can help smaller districts collectively offer advanced mathematics opportunities. States can collaborate with regional education service agencies and system offices to expand access and support.

Postsecondary institutions and systems can provide structured support for redesigning gateway mathematics courses, implementing corequisite models, and ensuring consistent pathway quality across campuses and systems. This includes developing infrastructure for coordinating implementation across multiple institutions and creating mechanisms to monitor effectiveness. Success requires close coordination between academic affairs and student services to align scheduling, advising, and support services, with comprehensive training for advisors on pathway options and sequencing.

Both K–12 and higher education institutions need strategic approaches to expand access in rural and remote communities where staffing or resource constraints may limit course offerings.[66] While high-quality virtual and hybrid learning options can help address these gaps, establishing clear quality control measures and support systems helps to ensure online options maintain standards. This includes training for K–12 educators and higher education faculty leading virtual and hybrid mathematics instruction to ensure effective delivery across all learning modalities. Systems should facilitate cross-institution collaboration and resource sharing to support implementation, particularly for smaller districts and higher education institutions with limited resources. The **Georgia** Department of Education[67] has developed a robust set of mathematics instructional resources to support implementation, including curriculum maps, instructional units and learning plans, and a video series demonstrating standards in the classroom.

In **Pennsylvania**, the state released Using Data to Inform Secondary Math Pathways: A five-step process for data-informed course placement.[68] This guide was created to provide local education agencies, district, school, and mathematics content and teacher leaders with a structured, data-informed process to assist in the design and/or re-design of specific components of the secondary mathematics program within an LEA/district. Key components include establishing and prepping secondary mathematics pathways committees, mapping current systems of pathways, inventorying and analyzing data, and analyzing and defining a decision protocol for course placement. The resource also includes case studies to test decision-making protocols for each of the course/pathway decision points.

Guide Informed Student Decisions

Districts, schools, and universities provide students and families comprehensive and responsive advising from middle school through high school and into postsecondary to enable informed decisions about courses and pathways.

While some course assignments in K–12 and higher education are determined through placement policies, students increasingly have opportunities to make choices about their mathematics courses as they progress. College students tend to have better academic outcomes when placed directly into credit-bearing courses rather than developmental courses, suggesting the importance of both placement policies and student choices that maximize access to challenging coursework.[69] Comprehensive advising systems connecting mathematics pathways to career and college outcomes remain rare, creating significant opportunities for states to strengthen cross-sector coordination.

Course selection decisions made with incomplete information can limit future opportunities. A 2023 Just Equations report revealed a wide discrepancy in awareness of students about the role calculus plays in college admission. Forty percent of first-generation students believed that students who take calculus are more likely to be admitted to highly selective colleges, compared to 60 percent of non-first-generation students.[70] Students and families need complete information about how course selections shape future opportunities, including how different pathways connect to emerging career fields and other postsecondary possibilities. They also need to be aware of options for expanding access to courses, such as dual enrollment opportunities and online or hybrid options.

States should bring together K–12 counselors, college advisors, and career counselors to develop shared understanding of pathway options and their alignment to programs of study. These cross-sector advising teams should create clear communications tools and participate in joint professional development to ensure consistent student guidance. Currently, most states lack formal mechanisms for coordinating advising across K–12 and higher education sectors, making the development of these partnerships an essential priority for comprehensive pathway implementation.

School leaders, teachers, faculty, and counselors play a critical role in helping students make informed decisions about their mathematics pathways, but many lack the data needed to provide effective guidance. To properly advise students about course selection and pathway options, educators need access to disaggregated student-level data that shows how different mathematics pathways connect to postsecondary success. This includes data on which pathways lead to successful college transitions, completion of gateway mathematics courses, and progress toward degrees in different fields of study. The 2023 American Mathematics Educator Study (AMES) found that only 23 to 39 percent of surveyed principals report having access to data related to postsecondary advising, college applications and enrollment, and FAFSA completion that could support students' postsecondary transitions. Roughly one-third of principals reported that they did not have access to *any* of the data sources that could support the postsecondary transitions asked about.[71] Additionally, counselors and career advisors need appropriate professional learning and guidance so that they can impart guidance about the opportunities in diverse mathematics pathways and have the key messages/talking points that align to student-centered counseling.

The **Arkansas** Career Coach Program[72] is a statewide program that combines direct student support through career coaches in schools with comprehensive data tracking systems to monitor program effectiveness. As of academic year 2024, the Arkansas Career Coach Program includes 120 career coaches serving over 60,000 students in 108 districts in partnership with 23 community colleges and one university. As part of this effort, they have developed a statewide data system and associated metrics that guide the work of practitioners on the ground and provide critical infrastructure to effectively monitor student progress. A data dashboard provides an overview of student progress and the data system allows career coaches to run reports and add narratives, making it a useful tool for real time advising, while also providing critical statewide aggregate data that decision makers use to inform policy shifts and improve programmatic outcomes.

In higher education, the **University System of Georgia** has recently implemented its Pathways initiative. Georgia College & State University, the University System of Georgia's designated public liberal arts university, produced guidance on mathematics placement[73] and the relationship between introductory college coursework and high school courses for STEM and non-STEM majors.

Alignment and Implementation

Build Cross-Sector Partners

States establish mathematics pathways through formal cross-sector partnerships with clear governance, roles, and shared accountability.

Success requires sustained coordination across K–12, higher education, and workforce sectors through formal structures that include articulation agreements, shared funding commitments, and clear accountability measures. This can also be strengthened through mathematics task forces or similar bodies. Without these structures, systems misalignment creates barriers for students transitioning between sectors.

Effective task forces include broad representation from mathematics faculty, academic leadership, student affairs, institutional research, K–12, and workforce partners. Working groups can focus on specific elements like course redesign, placement processes, and advising protocols. Regular convenings allow constituents to share implementation challenges and successful practices. And when these cross-sector working groups are formalized and well-defined, their work is more likely to be sustained and survive leadership turnover.

There are at least **31 states** with formalized government bodies, task forces, or working groups that are leading their mathematics pathways work.[74] Many of the working group's efforts remain in early stages or lack the sustained governance structures necessary for long-term impact. It is unclear from publicly available information to what extent some states' work is active; some reports or public links have not been updated in recent years. For some states, these task forces are not an ongoing venture, but rather a one-time investment into mathematics pathways work.

Strengthen Preparation for Pre-Service and In-Service Educators

States invest in educator preparation programs, professional development, and high-quality instructional materials for all mathematics pathways.

Implementation requires significant expansion in content knowledge and pedagogical approaches for both pre- and in-service educators. Educator preparation programs and professional learning strategies must be updated and aligned to prepare educators for both modernized traditional sequences and new pathways, including relevant coursework and clinical experiences. States also need ongoing professional learning systems that support in-service teachers in building both mathematical content knowledge and pedagogical expertise through a variety of in-person, synchronous, and asynchronous options. This can be accomplished through teacher leader networks that facilitate peer learning and mentoring, intensive institutes for educators teaching new courses, and ongoing coaching support. Postsecondary faculty also need to develop new pedagogical approaches for teaching gateway mathematics courses and implementing corequisite models effectively. This may include creating faculty learning communities to share effective practices across institutions and providing professional development on evidence-based teaching strategies and the use of technology to support student success. Professional learning for both sectors should emphasize mathematical concepts and evidence-based effective teaching strategies for engaging diverse learners.

Regular evaluation of these programs helps ensure they are effectively preparing educators at both levels to implement high-quality mathematics instruction across all pathways. Postsecondary faculty preparation for gateway course redesign and corequisite instruction represents an equally critical need that requires coordinated attention as pathway initiatives mature. Finally, states must recruit and prepare educators who reflect the backgrounds of students they serve and recognize the value of diverse educators, especially in the STEM fields.[75,76]

Our scan of state education agency websites found that state guidance and instructional supports for mathematics coursework is limited nationally, ranging from simple course titles and a brief description to course-specific standards, model curricula, curriculum maps, lesson plans, and student tutorials in a small number of states. A few states also support teachers' instruction of these math courses with resources like asynchronous modules and videos.

In **Utah**, any local education agency (LEA)/school that would like to offer an alternative course to Secondary Mathematics III tied to the state's Introduction to Statistics standards is invited to participate in a Data Science Course pilot.[77] In 2025-27, teachers and teacher lead teams will plan, select curriculum, engage in pedagogy training and then teach a full-year data science course that juniors and seniors have the option of enrolling in.

In **Washington**, teachers new to Modern Algebra 2[78] attend a four-day Summer Institute and participate in a combination of virtual and in-person communities of practice that provide ongoing professional development to deepen their understanding of the content and its implementation. Teachers then engage in a combination of virtual and in-person sessions throughout the year. Teacher participation in the professional learning activities is mandatory and supported by funding available from the Office of Superintendent of Public Instruction, up to $2,000 per new teacher and $1,000 per returning teacher.

There has been increased attention to providing educators and students access to high-quality instructional materials in states.[79] States have developed various approaches to evaluate and signal the quality of instructional materials, including creating comprehensive review processes with educator-led panels, developing detailed evaluation rubrics aligned to standards, and establishing tiered rating systems that identify top-quality materials. Efforts to evaluate materials and signal quality have gained momentum with attention to date focused on K-8 and traditional course sequences in high school; however, this has not yet translated to a variety of high school mathematics courses. **Louisiana** pioneered a coherent review process with a tiered rating system that has achieved near-universal adoption of high-quality materials across the state's classrooms, resulting in improved student outcomes.[80] **New Mexico** employs trained teacher reviewers to conduct rigorous evaluations, producing a state-approved list with specialized attention to cultural and linguistic responsiveness.[81] **Rhode Island's** 2019 legislation mandates high-quality curriculum adoption by specific deadlines and provides districts with implementation frameworks and cohort support. States can build from this foundation and extend the work into signaling high-quality instructional materials for multiple high school mathematics pathway courses.[82]

Capture and Report Progress

States establish comprehensive public reporting systems that provide transparent, disaggregated data on mathematics course-taking patterns and sequences, student progression, and outcomes across K–12 and postsecondary education.

Public reporting systems should be built on robust longitudinal data infrastructure that connects K–12, postsecondary, and workforce data to enable tracking of long-term student outcomes.

Without basic information about student course participation and performance, states cannot make effective policy decisions or improve outcomes. Without detailed course-taking data, schools risk overlooking systematic barriers that prevent certain student groups from accessing advanced coursework, particularly in historically underserved communities. Only about two-thirds of high school principals report having access to disaggregated data on student course enrollment.[83] Improving how information is shared with families—particularly regarding mathematics course pathways, available course options and placements, and postsecondary opportunities—could help address perceived barriers tied to family awareness or preferences.

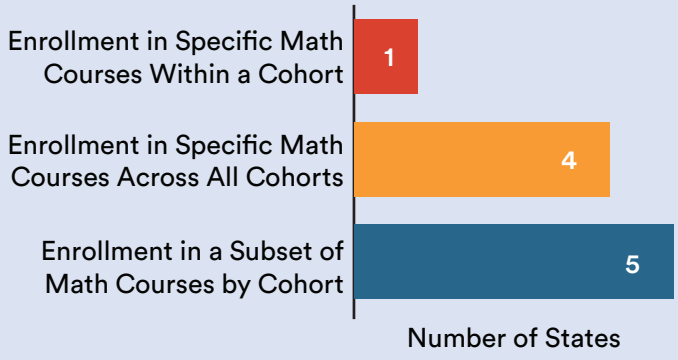
States at different stages of data system development can take meaningful steps toward comprehensive reporting of mathematics pathways data. Those without longitudinal data systems can begin by establishing consistent reporting requirements for key transition points in mathematics education, particularly 8th grade completion, 9th grade placement, and gateway course completion. State education agencies can build capacity by first focusing on course enrollment and completion data with basic demographic disaggregation, then gradually expanding to track student progression through mathematics sequences. While developing more robust data infrastructure, states can work with a representative sample of districts to pilot more detailed data collection and reporting frameworks.

Districts can implement regular data reviews to examine student course-taking patterns, success rates, and progression through mathematics sequences. These reviews should occur frequently enough to allow for targeted and timely interventions and to inform planning for the following school year. States should support this local improvement work by providing districts with tools for monitoring implementation milestones, analyzing student outcomes, and identifying effective practices.

For K–12, public reporting should encompass all mathematics courses and clearly show which students are taking and succeeding at which courses at each grade level. Postsecondary reporting should identify the gateway mathematics courses that serve as entry points to degree programs as well as the proposition of students who complete these courses in their first year. According to the Dana Center, **16 states** (AZ, CT, FL, HI, IA, IL, IN, MA, MN, OR, TX, UT, VT, WA, WI, WV) report data on the percentage of students who complete their designated introductory college mathematics course within one year of enrollment.[84]

FIGURE 6

How Many States Publicly Report Math Course Taking?



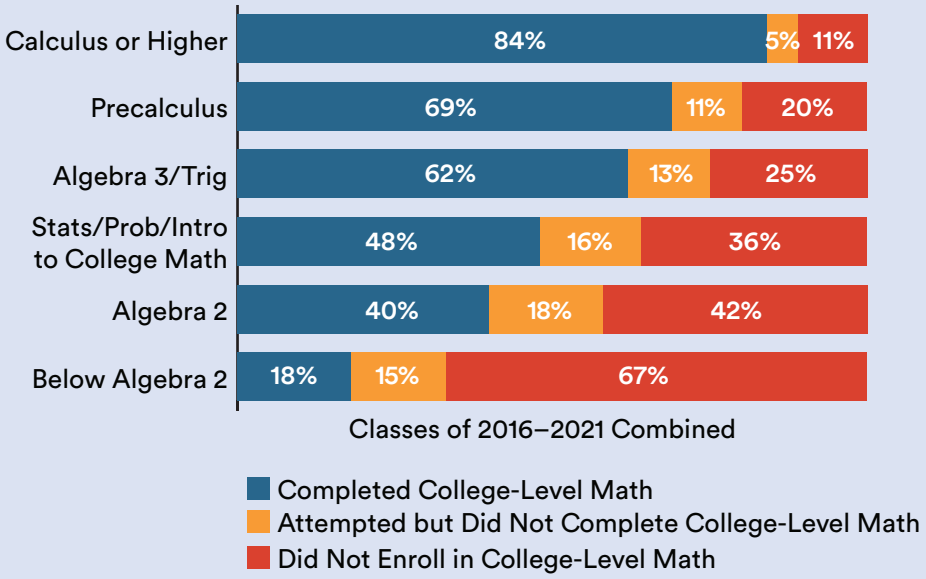
Because states and districts offer so many choices and pathways to students (see Key Action 1) states should ask themselves, "to what extent is there publicly reported data on which mathematics courses students are taking in K–12, including those taken for college credit (i.e., dual credit, AP, IB)? Beyond individual course data, what information is available on the mathematics course sequences students are enrolled in?"

Ten states (AR, FL, HI, ID, IL, NJ, NC, OH, TX, VT) **publicly report some indicator of middle school and/or high school mathematics course taking**, although the substance of what is reported varies (see Figures 6 and 7). Of these ten states, **one state** (NJ) reports on which students in which grade are enrolled in which mathematics course. **Four states** (AR, FL, TX, VT) report enrollment in any mathematics course offered in the state. And **five of these states** (HI, ID, IL, NC, OH) provide data on key courses of interest (e.g., Algebra I, Algebra II, Mathematics 3) at key points in time (e.g., Students in Grade 8 who completed Pre-Algebra or higher).[85] Reporting on student achievement in courses often lacks consistency in how student groups are measured.[86]

Mathematics course-taking data is rarely reported in states as completion of specific course sequences. **Hawai'i's** reporting is noteworthy for its data story on mathematics course sequences in K–12 to and through postsecondary. The Hawai'i Data eXchange Partnership (DXP)[87], a partnership of five state agencies, has created a data story that illustrates the mathematics journey of Hawai'i public school students as they move through high school and into the University of Hawai'i (UH) system. The story illustrates when students complete Algebra I, the average Number of Math Courses Taken After Algebra I, the highest level of mathematics completed, College-Level Math Completion by Highest High School Math, and finally College Completion by College-Level Math Completion. All data is disaggregated by student groups and in some cases reported over time to help tell a story about whether outcomes are improving over time. The early high school data also use the ninth grade cohort. The DXP helps readers understand what the data means, why it matters, and also raises questions for further analysis.

FIGURE 7

What Percentage of Students Completed College-Level Math, by Highest High School Math Course?



The **Florida** Pathways Institute Key Performance Indicator Dashboard[88] provides all 28 Florida College System institutions with data on student progression and student success, including cohort-specific data on attempting and passing at least one gateway mathematics course[89] within the first full academic year.

Higher education systems (or institutions, where appropriate) should clearly document and publicly report mathematics requirements for entering and completing each degree program and field of study. They should ensure alignment across departments. Higher education systems should regularly review whether students in different majors and programs are enrolling in mathematics pathways that best support their academic and career goals. This analysis should include evaluating advising practices to ensure students are not placed into traditional algebra-calculus sequences when other pathways are more appropriate. For example, tracking whether social science majors are predominantly taking statistics-based pathways versus traditional algebra sequences, or whether STEM-interested students have access to early calculus preparation (and are not diverted off the STEM path).

The longitudinal data system should capture critical transitions between K–12 and postsecondary education to identify barriers and measure pathway effectiveness. This includes analyzing how different course-taking patterns relate to postsecondary success and career outcomes. States and districts can use this data to inform pathway design and implementation, providing the public with clear, actionable information about opportunities and outcomes.

Conclusion

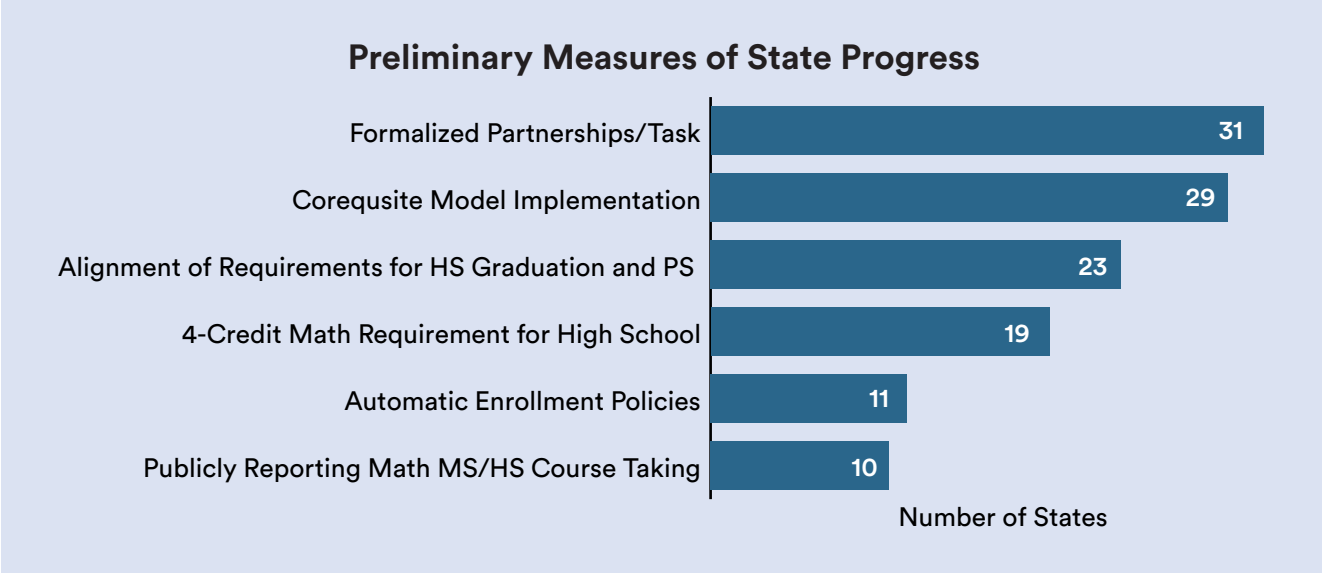
This initial landscape analysis, based on publicly available data, reveals both promising practices and significant gaps in our understanding of mathematics pathways implementation. The research demonstrates the critical role of state leadership and highlights the need for more systematic data collection and reporting to effectively monitor progress. **Importantly, what states currently make publicly available may not fully reflect their progress to date, highlighting the need for a more structured approach to data collection and reporting.**

Mathematics education reform requires coordinated effort across K–12, higher education, and workforce sectors. The key actions and data points outlined in this report provide a roadmap for states at varying implementation stages. By establishing multiple rigorous pathways, aligning requirements across systems, removing placement barriers, and tracking outcomes through transparent data reporting and analysis, states can transform mathematics from a gatekeeper to a gateway for student success.

Many states have established foundations for mathematics pathway reform. Sustaining and accelerating this momentum will improve individual student outcomes while strengthening state talent pipelines and economic competitiveness. **The Launch Years Initiative will continue monitoring state progress through multiple means of data collection, identifying promising practices, and supporting evidence-based reforms to help ensure all students have access to mathematics education that expands—rather than limits—their future opportunities.**

Appendix A: Preliminary Overview of State Progress

The following chart and table (see next page) provide an overview of state progress across a subset of the key actions where publicly available data exists. This preliminary assessment focuses on specific, measurable indicators rather than the full scope of the nine key actions, providing a baseline for tracking state progress over time. Future reports will expand this tracking as more comprehensive data becomes available.



STATE	PATHWAY PURPOSE AND DESIGN		ACCESS AND SUPPORT		ALIGNMENT AND IMPLEMENTATION	
	Four-credit requirement for high school graduation	Alignment of requirements for high school graduation and admissions	Automatic enrollment policies	Corequisite model implementation	Publicly reporting mathematics MS/HS course taking	Formalized partnerships/task forces
Alabama	x	x				
Alaska		x				
Arizona	x	x				
Arkansas	x	x		x	x	x
California				x		x
Colorado			x	x		x
Connecticut		x				x
DC	x	x				
Delaware	x	x				
Florida	x	x			x	x
Georgia	x			x		x
Hawai'i		x		x	x	x
Idaho				x	x	x
Illinois			x	x	x	
Indiana			x			x
Iowa		x		x		x
Kansas		x				x
Kentucky	x	x	x	x		
Louisiana	x	x		x		
Maine						x
Maryland	x		x	x		x
Massachusetts				x		x
Michigan	x	x		x		x
Minnesota		x				x
Mississippi	x	x				
Missouri				x		
Montana				x		x
Nebraska						
Nevada			x	x		x
New Hampshire						x
New Jersey					x	
New Mexico	x	x				x
New York		x		x		
North Carolina	x	x	x	x	x	x
North Dakota						
Ohio	x	x		x	x	x
Oklahoma				x		x
Oregon		x		x		x
Pennsylvania				x		x
Rhode Island	x					x
South Carolina	x					
South Dakota		x		x		
Tennessee	x	x	x	x		
Texas			x	x	x	x
Utah						x
Vermont					x	
Virginia			x			x
Washington			x	x		x
West Virginia	x			x		
Wisconsin				x		x
Wyoming				x		
SUBTOTAL	**19**	**23**	**11**	**29**	**10**	**31**

Preliminary data drawn from 2024 desk research designed to illustrate the current state. The authors anticipate updating this chart through a survey of the state progress in subsequent years.

Appendix B: Additional Information and Supporting Data

Additional information and supporting data specific to states' high school graduation can be found below. These expanded data complement the information shared as part of Key Action 1.

Thirteen states and DC expect students to take Algebra II or Integrated Mathematics III.[90] For the remaining **37 states**[91]: six states specify mathematics coursework through Algebra I/Integrated Mathematics I; 15 states specify mathematics coursework through Geometry/Integrated Mathematics II; 16 states specify a number of mathematics credits (or years) to be taken, and sometimes reference concepts, but do not specify coursework titles.[92]

Across all 50 states and DC, no state requires students to complete a probability and statistics or data analysis course prior to graduation, though **12 states** specifically reference these courses as options for students to count toward mathematics requirements. Beginning in the 2026-27 school year for those entering high school, **New Hampshire** students will be required to earn a half credit in statistics or data analysis as part of their mathematics graduation requirements. **Oregon** requires three Algebra I and above courses aligned to the state's adopted Algebra, Geometry, and Data Reasoning standards.

Students' pathways through mathematics course sequences can vary dramatically, especially after the first two years of high school mathematics. Students in most states have multiple options for fulfilling their mathematics credit requirements through a combination of traditional mathematics courses, CTE offerings, computer science courses, financial literacy coursework, and other approved alternatives, with districts having the discretion to determine what counts based on state standards. Importantly, in some states, CTE offerings and financial literacy count toward high school graduation but may not meet higher education admission requirements.

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23 Data should be disaggregated by racial and ethnic subgroups and available at the district and school level. Defining the business rules for each of these measures (e.g., what constitutes advanced mathematics, gateway courses, who the denominator includes, timeline for data collection, etc.) is necessary but outside the scope of this report.

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91 AK, CA, CO, CT, FL, HI, ID, IL, IN, IA, KS, KY, LA, ME, MD, MA, MS, MO, MT, NE, NV, NH, NJ, NM, NY, ND, OR, PA, SC, SD, TX, VT, VA, WA, WV, WI, WY

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