

It seems that some of the college algebra skills are necessary prerequisites for the stats skills - an obvious example is “absolute value” which is necessary for “confidence intervals” - has this been investigated?

We will defer to math and statistics faculty to determine if changes to the existing statistics outcomes are needed to ensure that college algebra requisite knowledge is not needed for statistics.

Early in the presentation you said math placement measures based upon standard means was not a great indicator of readiness. However, later in the presentation, you said this is how the BOR would decide whether or not a student needs remediation. It seems the thought process/guidance is self-refuting.

The main point was there are concerns about solely relying upon standardized testing. While high school grade performance has proven to be a better predictor than standardized testing, there is still evidence to show that ACT/SAT also helps predict collegiate readiness. Thus, we see value in more of a holistic process that includes multiple measures. As such, we will work on creating measures that allow a student to qualify for enrollment in a general education math course based on a high school performance standard OR an ACT/SAT score.

What does full scale mean and how long?

Full-scale means that 100% of course offerings for underprepared math students will be delivered through providing a corequisite support developmental education section. Institutions will offer at least one section of corequisite support developmental education for each math pathway course that applies to the degree offerings on its campus by Fall 2025. By Fall 2026, institutions will be full-scale corequisite.

To clarify, each gateway course will its own just-in-time corequisite. Is that correct?

Students who are not math college ready will enroll in the gateway math course section and a corequisite support developmental education section. Thus, students will remediate and complete the GE math course in one semester. There are four corequisite support developmental education section options:

(1) Supplemental course section

- A student in a supplemental course section attends a corequisite support developmental education section model in which there are structured courses that run before, after, or on opposite days to the gateway course. The gateway course and the concurrent supplemental course are completed in the same semester.

(2) Mandatory tutoring section

- A student in a mandatory tutoring section attends a corequisite support developmental education section model in which mandatory tutoring in a lab is required for a specified number of hours per week. The gateway course and concurrent mandatory tutoring are completed in the same semester.

(3) Boot camp section

- A student in a boot camp section attends a corequisite support developmental education section model in which the first three to five weeks of the semester are typically developmental content, followed by the college-level content. Classes meet extra hours each week throughout the semester to equal the two classes or class plus lab. The boot camp and gateway course are completed in the same semester.

(4) Compressed course section

- A student in a compressed course section attends a corequisite support developmental education section model in which a developmental class is typically compressed into eight weeks, and then the college-level gateway course is typically compressed into eight weeks, so that both classes are completed in the same semester. Classes meet extra hours each week throughout the semester to

deliver the applicable credit hours of instruction for both the corequisite section and the gateway course within the compressed timeframes.

Has there been any consideration for students that are placed below remediation? Community Colleges serve a large population of students that are below co-requisite placements.

Implementing math pathways in conjunction with corequisite support developmental education has proven to be a game changer for students who begin at lower preparation levels. Multiple systems have made this change and phased out traditional prerequisite remediation. When looking at the ACT math subject score, ACT recommends a 22 as the requisite score to enroll in college algebra. Knowing this coupled with the common perception that corequisite remediation will only benefit students who are slightly below the collegiate level, many would likely conclude that the corequisite model is only effective for students scoring in the 18-21 math ACT range. Data from the University System of Georgia (USG) – which includes research universities, regional universities, and two-year colleges – clearly demonstrate that this perception is not a reality. While these data show that all students benefited significantly from corequisite, the students with the lowest ACT math scores – those scoring a 17 or lower – exhibited the highest gains. Thus, this provides evidence that the corequisite support developmental education model is a proven practice for all students, regardless of academic level.

USG: Percentage of Students Who Completed a General Education Math Course in One Year by ACT Score



If math pathways courses are offered earlier than Fall 25/Spring 26, can we count on those courses transferring as the required math credit if institution that student is transferring to does not yet offer the new pathways courses?

Math pathways will not officially take effect until Fall 2026. While some will adopt early, some likely will not. An Institution that adopts before Fall 2026 is strongly encouraged to reach out to the institution where the student intends to transfer to see if the math course will transfer and apply.

As we design the academic maps due in July, should we use College Algebra or Stats as the gen ed bucket requirements for those next year? Or should we use the breakdown you just explained for them (Social Sciences get stats, Art/Hum get contemporary math, etc.)?

Math pathways will not officially take effect until Fall 2026. As such, the degree maps that are submitted by July 1, 2024, will not be reviewed for math pathways alignment. Once more math pathways are established, more guidance in this space will be provided. An Institution that adopts before Fall 2026 is strongly

encouraged to reach out to the institution where the student intends to transfer to see if the math course will transfer and apply.

We almost have our courses ready to go. When is the best time to launch the corequisite and gateway courses? We don't yet have concrete direction on which areas of study will use which gateway courses and at least one new gateway course (Contemporary Math) is yet recognized as meeting the math degree requirement.

Math pathways and corequisite will not take full effect until Fall 2026. Early adoption will likely vary based on several circumstances. It should be noted that professional development (faculty from other states that have successfully implemented corequisite and math pathways) will be provided next year (Fall 2024), so it may better to go through this process before launching.

To what extent do you see the Math Pathways impacting or undoing the work of KCOG and the TAAC?

We want to build off the solid work that has been done through the KCOG and TACC. At the KCOG this year, the contemporary math outcomes were adjusted to have more specific and measurable student learning outcomes.

Would the corequisite stay on the performance plan permanently?

Probably not. However, more long-term, all state universities are required, and Washburn University and all coordinated institutions are strongly encouraged, to follow the course placement for developmental education and gateway education policies set out in [Chapter III.A.14.c](#). Notwithstanding Chapter III.A.6, no course credit hours for gateway math and English courses or for developmental education courses shall be deemed approved by the Board of Regents for the purposes of determining the amount of an institution's state aid for non-tiered course credit hours, unless the institution delivering the course credit hours abides by all of the conditions detailed within this policy. The gateway and developmental course placement guidance, corequisite support section framework, and funding elements detailed in this policy shall take effect during the Fall 2026 semester and continually apply thereafter.

for students who have already started when these go full scale, will their degrees be then adjusted to the new standard? So perhaps we then advise them to wait on math pathway until the changes go into place?

We will discuss some timing issues with the Math Taskforce and likely within the System Council of Chief Academic Officers. Math pathways won't take effect until Fall 2026. Between now and that time, we strongly encourage the sending institution to contact the receiving institution to learn how math requirements will be applied toward degree requirements.

How will this affect engineering programs whose gateway math course is typically calculus 1?

Not at all. It is understood that some majors will still have the expectation for students to start at calculus I to complete the math and statistics bucket and there will be several subsequent math layers thereafter in the major portion of the degree.

Can you talk a bit more about the quantitative reasoning pathway. The other two are very straightforward. However, this one is not as clear. Is this pathway envisioned as a math course, or a course that could be offered outside of the math department that covers these topics?

The math bucket states math or statistics, so it needs to either be a math or statistics course. This also helps with continuity, clarity, and simplicity in the advising process because the goal is to come together as a system and have common practices, clear trajectories, and shared language.

Could these adoptions happen sooner than the soft launch?

Early adoption will likely vary based on several circumstances. It should be noted that professional development (faculty from other states that have successfully implemented corequisite and math pathways) will be provided next year (Fall 2024), so it may better to go through this process before launching. Additionally, if an institution wishes to implement math pathways early, when working with transfer

students, we highly encourage the sending institution to contact the receiving institution about any math GE requirements.

How will the different math pathways fit for the General Education requirements.

In general, arts and humanities will take contemporary math and social and behavioral will take statistics. More guidance will be released on this as more of the pathways are established. This will not take full effect until Fall 2026.

For a student who DOES need College Algebra but whose skills are pre-algebra level (or lower), what options could be made available to prepare for such a BIG step? Community colleges have many of such students. Thank you.

It is important to emphasize the role that math pathways will play in this process. College algebra will likely only be primarily for STEM and business students. If a student is coming in with very low preparation levels and wishes to pursue a major that requires a college algebra track, the default would be college algebra with corequisite support developmental education. Alternatively, students could utilize adult education programs to acquire more rudimentary mathematical skills if needed.

What would be the cored course/topics/objectives for each gateway course?

This will likely be determined by the institution because much of it will depend on the section model (supplemental course section, mandatory tutoring section, boot camp section, and a compressed course section) that is employed and the number of credit hours (1-3 hours).

What is the high schools' role to implement this?

We will begin working with K-12 more closely to begin exploring different math pathways for the high school math experience.

Is there a timeline for the 4 years to update their degree plans to include the new pathway courses?

Institutions will not be required to be fully compliant with math pathways until Fall 2026; thus, that would be the first year that universities would be required to explicitly list the math pathway courses on a degree map.

If there is an 8-week Intermediate Algebra as a co-req and 8-week College Algebra, how many credit hours are we limited to for each or combined?

This would be delivered through the compressed section model. A student in a compressed course section attends a corequisite support developmental education section model in which a developmental class is typically compressed into eight weeks, and then the college-level gateway course is typically compressed into eight weeks, so that both classes are completed in the same semester. The corequisite support developmental education compressed section would be one to three hours that would not apply toward a degree. The college algebra section would be the standard three-hour course.

Does this plan remove developmental education below Intermediate or the one corequisite option for all students?

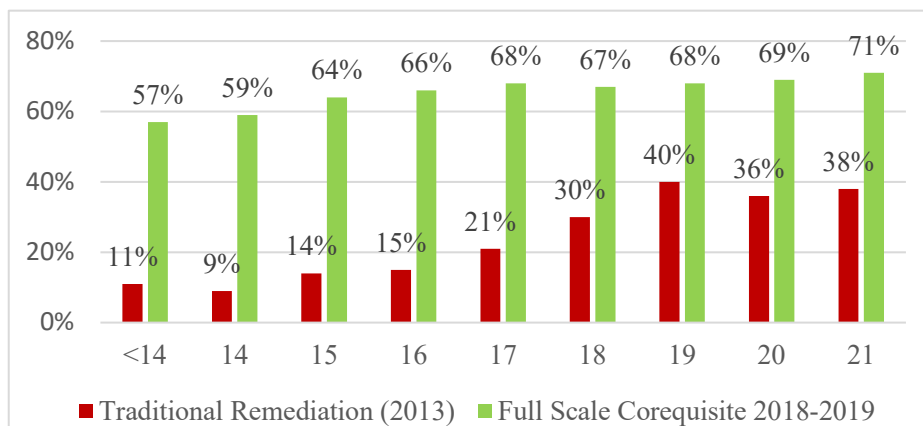
Yes.

Can you speak to how this pathways model is expected to work with those students who have very low math skills (i.e., beginning algebra)?

Implementing math pathways in conjunction with corequisite support developmental education has proven to be a game changer for students who begin at lower preparation levels. Multiple systems have made this change and phased out traditional prerequisite remediation. When looking at the ACT math subject score, ACT recommends a 22 as the requisite score to enroll in college algebra. Knowing this coupled with the common perception that corequisite remediation will only benefit students who are slightly below the collegiate level, many would likely conclude that the corequisite model is only effective for students scoring in the 18-21 math ACT range. Data from the University System of Georgia (USG) – which includes research universities, regional universities, and two-year colleges – clearly demonstrate that this perception is not a reality. While these data show that all students benefited significantly from corequisite, the students with the lowest ACT math scores – those scoring a 17 or lower – exhibited the highest gains. Thus, this provides

evidence that the corequisite support developmental education model is a proven practice for all students, regardless of academic level.

USG: Percentage of Students Who Completed a General Education Math Course in One Year by ACT Score



So, will institutions not be offering stand-alone developmental math courses - only corequisites for gateway courses?

Yes.

Calc I is a requirement for my majors. There are two pathways into Calc at my institution: College Algebra and Trig, OR Pre-Calculus. Most students come in with nothing or College Algebra. If I'm revising our Degree Map, which class should I use for the SysGenEd bucket requirement?

Math pathways work will need to continue before we can address this question. As a reminder, math pathways does not take effect until Fall 2026, so there is time to sort this issue out.

How will Universities fund and staff these remedial courses since we are restricted on funding remedial courses?

Tuition (and possibly fees) can be used. This is a critical support as those who go through traditional remediation have exhibited significantly lower success rates. We anticipate that math pathways and remediation reform coupled with other student success initiatives (degree maps, data analytics, student success playbooks, etc.) will help retain more students at the universities (only specifically stating universities because of the nature of the question). We also anticipate that many students at universities will likely qualify for gateway math courses without support. They will be able to qualify for enrollment through a systemwide course placement measure or an institutionally designated course placement measure.

What about people who change majors from one lane to another?

Some more explicit guidance on this will be addressed. One central question to guide this process is: Does the program have a post requisite course in which specific prerequisite math knowledge is needed? For example, if a student starts out as a music major and completes contemporary math and subsequently changes to engineering, the contemporary math course would obviously not fit within the engineering degree program and the student would be on a calculus track. Conversely, if a student started in engineering and completed calculus I and subsequently changed to music, there would likely not be a course in the music degree that would have contemporary math as a prerequisite. Provided this is the case, the calculus course would satisfy the math general education requirement for music majors and an additional math course would not be needed to complete the music degree.

Will core competency meetings be looking at corequisite gateway course outcomes as well?

While there will be great opportunities for discussion through systemwide professional development, this will likely be determined by the institution because much of it will depend on the section model (supplemental course section, mandatory tutoring section, boot camp section, and a compressed course section) that is employed and the number of credit hours (1-3 hours).

Will there be KBOR course objectives specifically for corequisite support courses?

While there will be great opportunities for discussion through systemwide professional development, this will likely be determined by the institution because much of it will depend on the section model (supplemental course section, mandatory tutoring section, boot camp section, and a compressed course section) that is employed and the number of credit hours (1-3 hours).

Just to specify, can we change the pre-requisite for statistics before F2026?

Yes, many institutions have already done this.

Will a given pathway be able to fulfill the requirement of another if a student decides to change their major?

One central question to guide this process is: Does the program have a course in which prerequisite math knowledge is needed? For example, if a student starts out as a music major and completes contemporary math and subsequently changes to engineering, the contemporary math course would obviously not fit within the engineering degree program and the student would be on a calculus track. Conversely, if a student started in engineering and completed calculus I and subsequently changed to music, there would be a course in the music degree that would have contemporary math as a prerequisite, so the calculus course would satisfy the math general education requirement and an additional math course would not be required to complete the music degree.

What is the status of K-12 statistics education in Kansas?

There is a high school statistics course, but it has typically not been highly utilized. We are hoping that our emphasis on statistics as a math pathway in higher ed will increase demand for the high school course and create more opportunities for high school students to acquire statistics-based skills. We will engage K-12 on this issue more in the near future.

Do we anticipate still needing to or being able to offer pre-requisite math support, or is the goal to no longer teach those at all?

100% corequisite.