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Measuring

Success of

Corequisite

Support

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Measuring Success of Corequisite Support

When analyzing the impact of corequisite support, it is important to understand how comparisons should be made to identify the impact of this model. This is particularly important in the first year of implementation when data on pass rates differ from prior terms. Specifically, a flat or even decreased pass rate in the college-level course from one semester to another may be worrying. In fact, this data may point to an overall increase of student success, which can seem counterintuitive. However, if departments measure coreq students' successful completion of a college-level course within a semester or year compared to the same measure for students who in the past were assigned to traditional prerequisite remediation, the impact of corequisite instruction becomes clearer. The sample data in the model shown below will illustrate this point.



You can learn more about how Complete College America has led the national conversation around corequisite support by clicking (or ctrl-click) on any of the linked publications above.

This toolkit provides mathematical models to demonstrate how to accurately measure success of corequisite support as well as templates for data comparisons from your own campus. If you are interested in having a conversation or facilitated training about this toolkit, please contact us at coreq@completecollege.org and reference the Measuring Corequisite Success in your email.

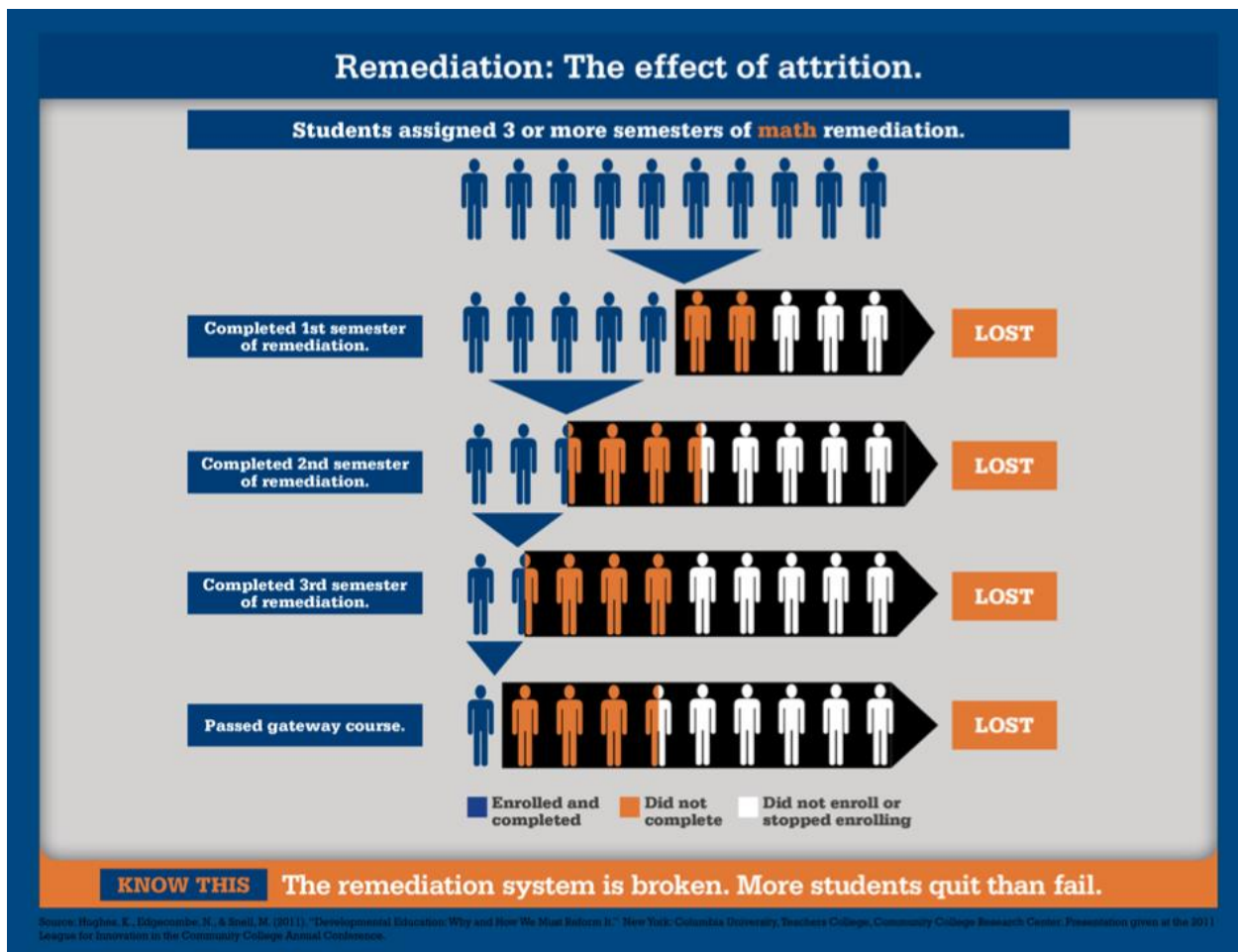
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Background on Attrition in Remediation

First, let's review the impact of attrition. When departments analyze successful completion, often the measure excludes students who leave without a grade. Traditional prerequisite remediation delivered over multiple semesters "sheds" many students, who encounter life circumstances that pull them out of remediation.

In this theoretical example, out of 100 students* placed into three semesters of remediation, *only 10* would be expected to enroll in *and pass* the college-level course: in this case, 35 did not earn college-level course credit due to failing the course, while 55 students left at some point for other reasons. The number of lost students is greater than the combined total of students who *passed or failed*.

To measure impact of any instructional model, departments must account for three groups: students who were assigned prerequisite remediation and left at any point in the sequence, those who stayed and failed, *as well as* those who finished with college-level credit.



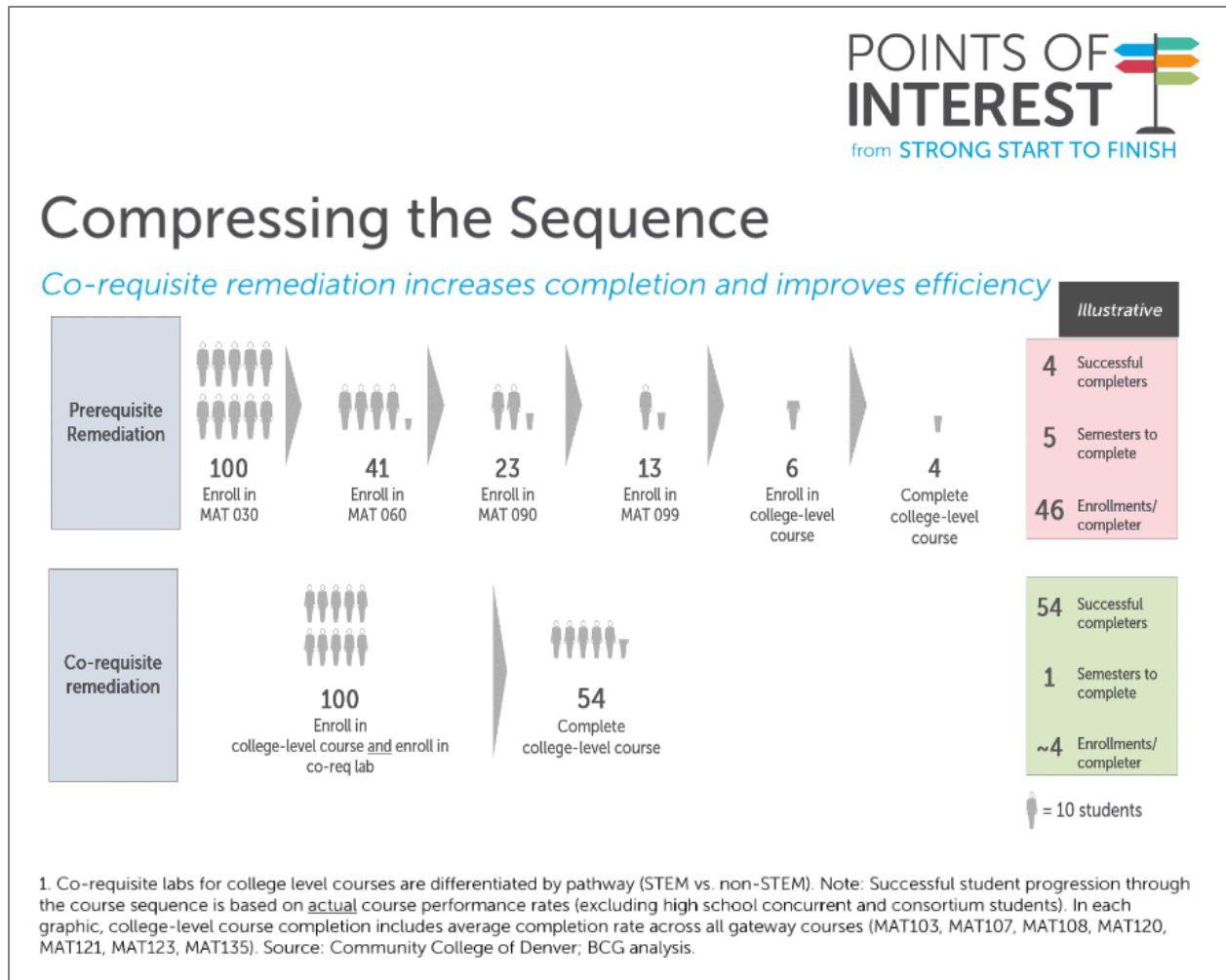
*The CCA graphic shows 10 students multiplied by 10 to get to 100 so we do not split any students in half, and the number of students can also be used as percentages.

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Why the Coreq Model Works

Moving from theory to practice demonstrates similar outcomes. The data below are from a real college which fully scaled corequisite support. In this college, of 100 students who started in the four-course traditional prerequisite remedial sequence, only four students successfully completed the college-level course.

After fully implementing corequisite support, 54 out of 100 students successfully completed the college-level course. The college abandoned a *five-semester sequence* and introduced a “one and done” opportunity for students to complete college level math in a single semester.



Laverdiere, R. Epper, R., Loshbaugh, H. & Mullin, C. M. (2018, May 23). Compressing the Sequence: Co-requisite remediation increases completion and improves efficiency. (Points of Interest). Denver, CO: Strong Start to Finish, Education Commission of the States.

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Understanding Coreq Success

Traditional Prerequisite Remediation: To analyze the change in pass rates for students in the college-level course, departments must include attrition. To demonstrate how attrition affects completion rates, we show a model that uses an 80% pass rate (20% fail rate) for each prerequisite remedial course to illustrate the point. Of the students who pass, 30% of students stop enrolling. The example shows an even distribution of the number/percent of students who begin at each level of the traditional prerequisite remediation sequence *and* the college-level course. This example demonstrates a baseline of success for all incoming students. To analyze impact on students who otherwise would have been placed into remediation, exclude students who began in the college-level courses without remediation. The baseline data from this model demonstrates that **37.5 students out of 100 students pass the college-level course**.

Enroll Prereq Course 1	Do Not Pass 20%	Stop Enrolling 30%	Enroll Prereq Course 2	Do Not Pass 20%	Stop Enrolling 30%	Enroll Prereq Course 3	Do Not Pass 20%	Stop Enrolling 30%	Enroll College-Level Course	Do Not Pass 20%	Pass College-Level Course
25	5	7.5	12.5	2.5	3.75	6.25	1.25	1.875	3.125	0.625	2.5
			25	5	7.5	12.5	2.5	3.75	6.25	1.25	5
						25	5	7.5	12.5	2.5	10
									25	5	20
										TOTAL	37.5

Cohort of 100 students = 25 + 25 + 25 + 25

Note: This model does not factor for how many students pass the college-level course within the first year, but rather shows pass rate over time as students move through a sequence of multiple semesters.

To analyze your overall completion outcomes for prerequisite remediation sequences, be sure to pull historic data that includes actual *enrollments*, not only passing data.

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Understanding Coreq Success

Coreq Comparison – flat pass rate: Again, assuming 80% pass rate/20% fail rates within one semester, the example below depicts outcomes for all students in the college-level course in a coreq model. Since the corequisite support and college-level courses are taught concurrently, *there is no attrition* between semesters. In this model, we assumed that the 75 students enrolled in *corequisite support* are equivalent to 75 students enrolled in the *prerequisite remediation* model across three levels—25 students at each of three levels. This model demonstrates that **80 students out of 100 students pass the college-level course in one semester.**

Note: To measure the impact of prerequisite to corequisite models alone, *do not include* students in the calculation who enrolled directly in the college-level course without support.

Enroll Coreq + College- Level Course	Do Not Pass 20%	Enroll College-Level Course	Do Not Pass 20%	Pass College-Level Course
75	15			60
		25	5	20
			TOTAL	80

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Understanding Coreq Success

Coreq Comparison – lower pass rate: This example again assumes 100 students: 75 students identified as needing support and placed into both a corequisite course and college-level course, and 25 students placed into the college-level course without support. This illustrates what happens if the 75 coreq students pass at lower rates, while the 25 students enrolled directly in the college-level course without support maintain the same pass rate as in the previous example. This model increases unsuccessful coreq students from a 20% to 30% *do not pass* rate, which equals a 70% overall pass rate. Even accounting for a 50% increase in the failure rate for coreq students, **72.5 students out of 100 students pass the college-level course.**

Note: To measure the impact of prerequisite to corequisite models alone, *do not include* students in the calculation who enrolled directly in the college-level course without support.

Enroll Coreq + College- Level Course	Do Not Pass 30%	Enroll College-Level Course	Do Not Pass 20%	Pass College- Level
75	22.5			52.5
		25	5	20
			TOTAL	72.5

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Understanding Coreq Success

Making Comparisons Commensurate: We now combine the prior models to discuss the overall impact of implementing corequisite support. First, we examined what happened either with a flat or decreased pass rate of coreq compared to prereq courses. We started with a baseline of 37.5% pass rate for all students who passed the college-level course in a traditional prerequisite remediation model. This includes students who began in traditional remediation and those who enrolled directly in the college-level course; success in the college-level course is not time-limited to one year.

If the total pass rate for all students (coreq and non-coreq) enrolled in the college-level course remained flat at 80%, this change would be a more-than-doubled *overall success rate* of students passing the college-level course. In an example where coreq students failed the college-level course at a rate 50% higher than students who directly entered the college-level course, the overall college-course pass rate would be 72.5%. A flat or even decreased pass rate in the college-level course *almost doubles the success rate* from the prerequisite remedial model.

Enroll Prereq Course 1	Do Not Pass 20%	Stop Enrolling 30%	Enroll Prereq Course 2	Do Not Pass 20%	Stop Enrolling 30%	Enroll Prereq Course 3	Do Not Pass 20%	Stop Enrolling 30%	Enroll College-Level Course	Do Not Pass 20%	Pass College-Level Course
25	5	7.5	12.5	2.5	3.75	6.25	1.25	1.875	3.125	0.625	2.5
			25	5	7.5	12.5	2.5	3.75	6.25	1.25	5
						25	5	7.5	12.5	2.5	10
									25	5	20
										TOTAL	37.5

Cohort of 100 students = 25 + 25 + 25 + 25

Enroll Coreq + College-Level Course	Do Not Pass 20%	Enroll College-Level Course	Do Not Pass 20%	Pass College-Level Course	Enroll Coreq + College-Level Course	Do Not Pass 30%	Enroll College-Level Course	Do Not Pass 20%	Pass College-Level Course	
75	15			60	75	22.5			52.5	
		25	5	20			25	5	20	
				TOTAL					TOTAL	80
									TOTAL	72.5

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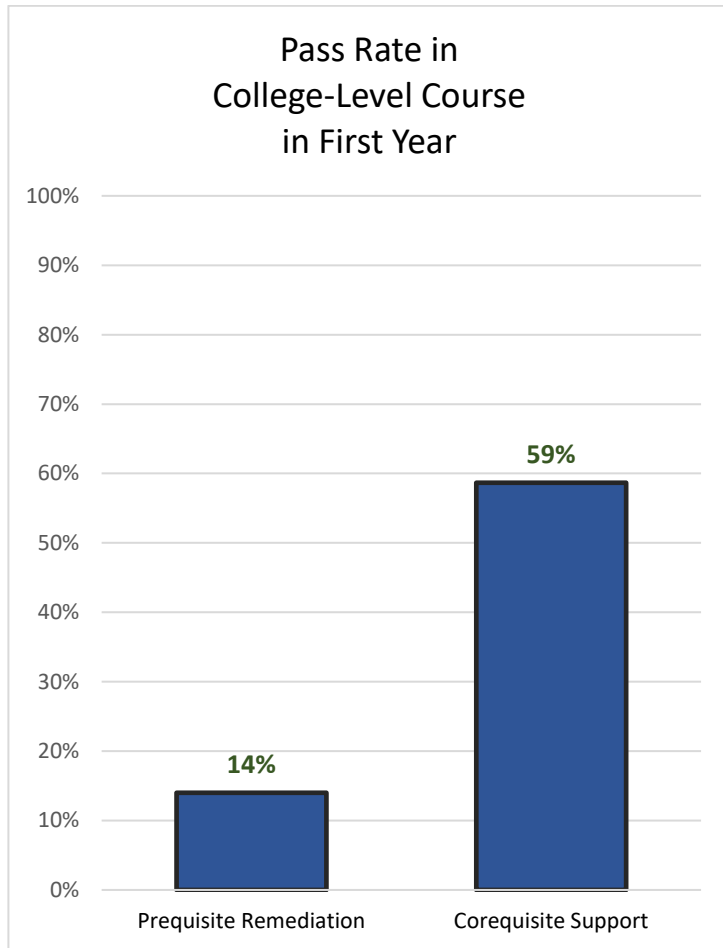
Additional Considerations: Analysis that only looks at pass rates of prerequisite students who enroll in the college-level course ignores students who either fail prerequisite remediation or stop out between semesters. Calculations that only include data from those who “survived” the traditional model overlook most students placed into remediation. In fact, one could expect high pass rates for students who endure long remedial sequences – the very fact that they made it through the prerequisite sequence demonstrates a high capacity to persevere through systems and structures that are ill equipped to support their success.

Finally, to fully understand what happens to all students, dive deeper into exploring what happened to students who failed both the corequisite support and the college-level course. The exploration often finds problems not associated with the corequisite course itself or even the content of college-level course. [Research](#) shows that frequently, these students also failed most or all their college courses or entirely stopped out of college altogether. If this is the case, the lack of progress is more indicative of other circumstances than placement in the corequisite support model.

Doing individual outreach or conducting focus groups with these students will help to identify the underlying causes of this lack of success. Areas to probe include student basic needs (e.g., housing or food security), life changes (e.g., job or home responsibilities, short- or long-term incarceration), fiscal/monetary concerns (e.g., financial aid coverage or living expenses), overall connection to the college or university, or others.

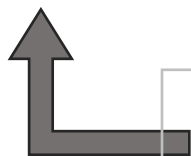
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Calculating Coreq Success Overall (interactive)



Use this tool to compare success between prerequisite remediation and corequisite support. “Success” is defined as students who place into either prerequisite remediation or corequisite support and then pass gateway/transferable college-level English or math courses within one year. To differentiate between students identified as needing support and those who do not, this tool purposely excludes students who enroll directly into the college-level courses without additional support.

- **Right click** on the chart and select **“Edit Data in Excel”** to open the Excel file to calculate your comparisons of coreq vs prereq success. Expand the Excel file to see all columns.
- **Fill in the spreadsheet with your data.** The data is set up in color coded cohorts that assume a fall start and completion by the end of spring. You may adapt this to include students entering throughout the academic year; be sure to calculate their success *within one year* of starting at your college or university. You may adjust the three years of prerequisite data and corequisite support data as you see fit.
- This tool will track attrition and ensure you are measuring actual student success. To understand the model’s impact, use cohort data to follow students from when they enter prereq/coreq through completion of the college-level course, pass *or* fail. **Do not** use total numbers of students who pass the college course.

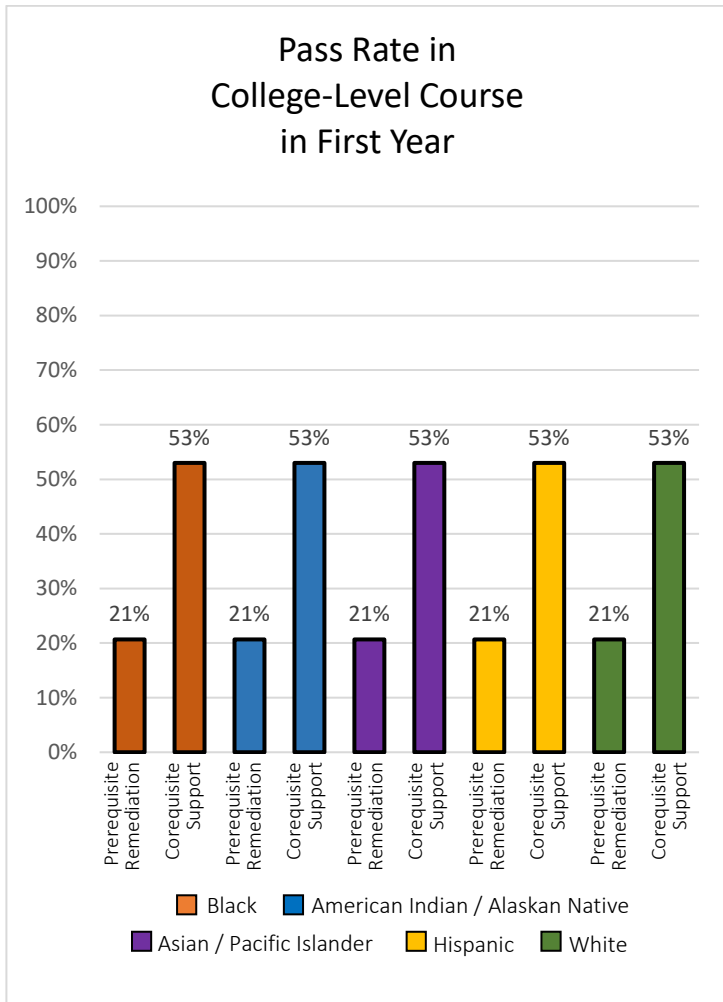


This chart uses sample data for illustrative purposes.

It is designed for you to complete with your institutional, regional, or state data to make the comparisons that are most relevant to your local context.

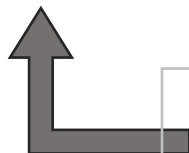
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Calculating Coreq Success by Race (interactive)



Use this tool to compare success between prerequisite remediation and corequisite support. “Success” is defined as students who place into either prerequisite remediation or corequisite support and then pass gateway/transferrable college-level English or math courses within one year. To differentiate between students identified as needing support and those who do not, this tool purposely excludes students who enroll directly into the college-level courses without additional support.

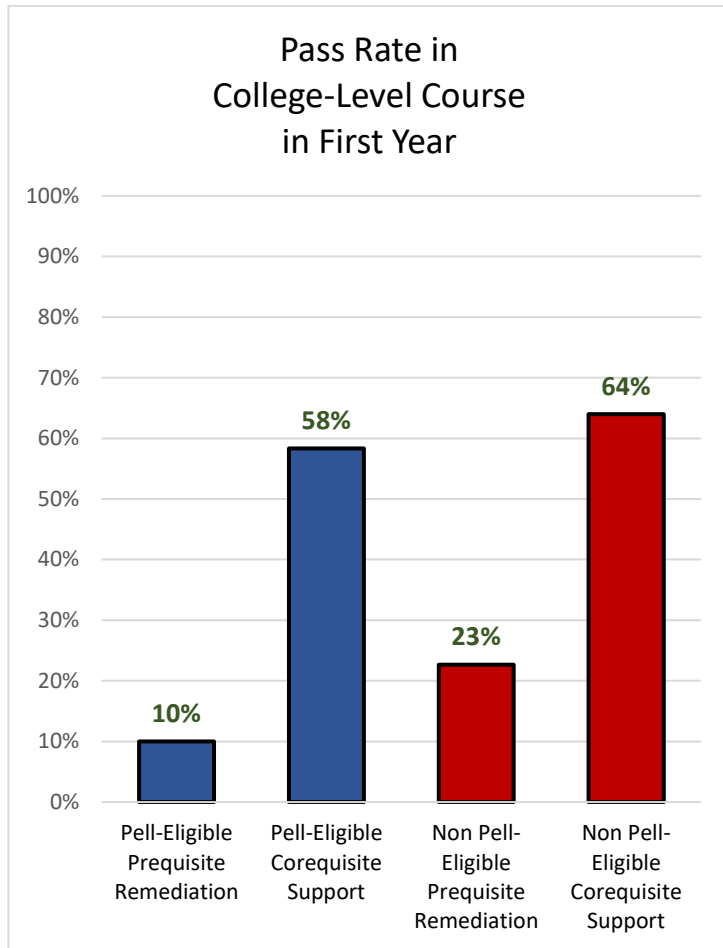
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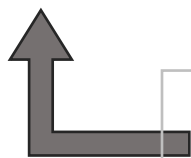
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Calculating Coreq Success by Pell-eligibility (interactive)



Use this tool to compare success between prerequisite remediation and corequisite support. “Success” is defined as students who place into either prerequisite remediation or corequisite support and then pass gateway/transferrable college-level English or math courses within one year. To differentiate between students identified as needing support and those who do not, this tool purposely excludes students who enroll directly into the college-level courses without additional support.

- **Right click** on the chart and select **“Edit Data in Excel”** to open the Excel file to calculate your comparisons of coreq vs prereq success. Expand the Excel file to see all columns.
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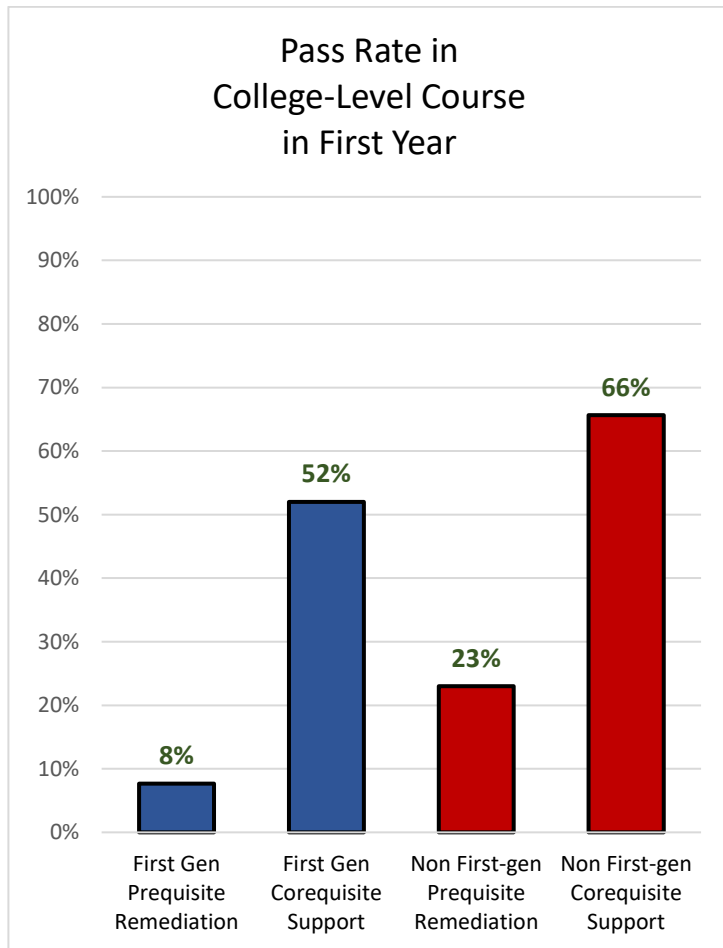


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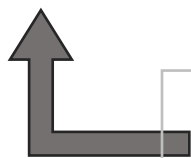
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Calculating Coreq Success by First-generation status (interactive)



Use this tool to compare success between prerequisite remediation and corequisite support. “Success” is defined as students who place into either prerequisite remediation or corequisite support and then pass gateway/transferrable college-level English or math courses within one year. To differentiate between students identified as needing support and those who do not, this tool purposely excludes students who enroll directly into the college-level courses without additional support.

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- This tool will track attrition and ensure you are measuring actual student success. To understand the model’s impact, use cohort data to follow students from when they enter prereq/coreq through completion of the college-level course, pass *or* fail. **Do not** use total numbers of students who pass the college course.

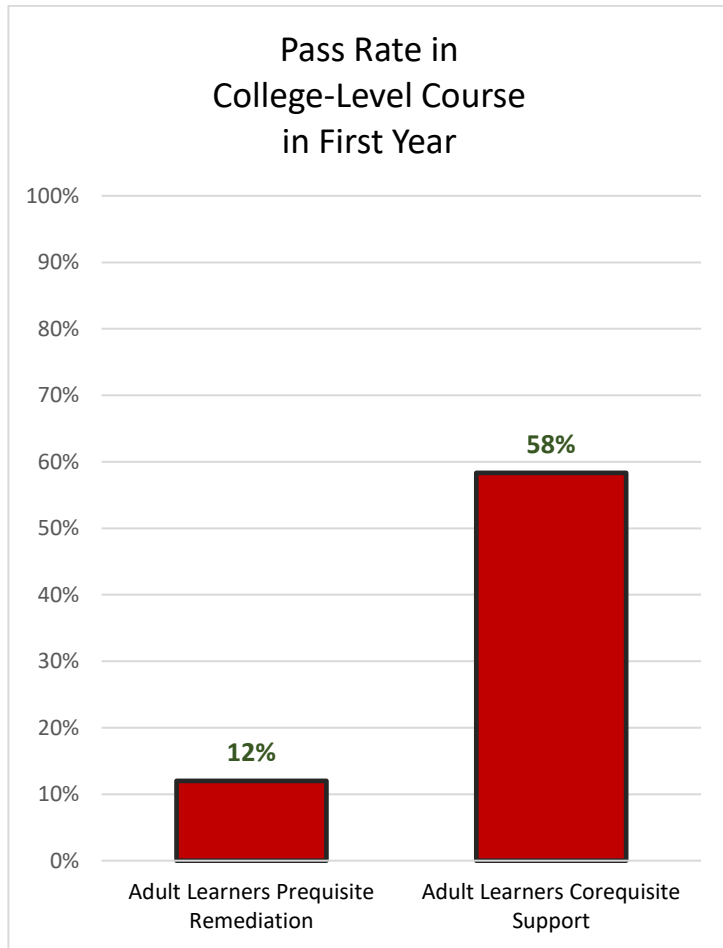


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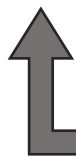
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Calculating Coreq Success by Adult Learners (interactive)



Use this tool to compare success between prerequisite remediation and corequisite support. “Success” is defined as students who place into either prerequisite remediation or corequisite support and then pass gateway/transferable college-level English or math courses within one year. To differentiate between students identified as needing support and those who do not, this tool purposely excludes students who enroll directly into the college-level courses without additional support.

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