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The impact of taking a college pre-calculus course on students' college calculus performance.

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Summary: Poor performance on placement exams keeps many US students who pursue a STEM (science, technology, engineering, mathematics) career from enrolling directly in college calculus. Instead, they must take a pre-calculus course that aims to better prepare them for later calculus coursework. In the USA, enrollment in pre-calculus courses in two- and four-year colleges continues to grow, and these courses are well-populated with students who already took pre-calculus in high school. We examine student performance in college calculus, using regression discontinuity to estimate the effects of taking college pre-calculus or not, in a national US sample of 5507 students at 132 institutions. We find that students who take college pre-calculus do not earn higher calculus grades.

Classification: I15 D35 C35

Keywords: college pre-calculus; college calculus; performance

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