High School Algebra Coursework and Public Higher Education Enrollment Rates:

A Study of 1997-2004 Texas Public High School Graduates

Texas Higher Education Coordinating Board
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A Texas Higher Education Coordinating Board study compared high school algebra coursetaking rates to college enrollment rates for students who graduated from a Texas public high school and enrolled in a Texas public college or university within one year of graduation.

Between 1997 and 2004, the percent of Texas public high school graduates who took one or more high school algebra courses increased from 80 percent to 90 percent. For economically disadvantaged high school students, the algebra coursetaking rate increased even more, from 72 percent to 88 percent of all graduates. These increases in algebra coursetaking may reflect state and local policy changes that encouraged and/or mandated greater algebra coursetaking in high schools during this period. For example, legislation that included Algebra I in the minimum high school diploma program was implemented for high school freshmen beginning in 1996. Additionally, a law making the recommended high school diploma curriculum the default curriculum for all Texas public high school students was passed in 2001 (phase-in began with the 2004-2005 freshman class).

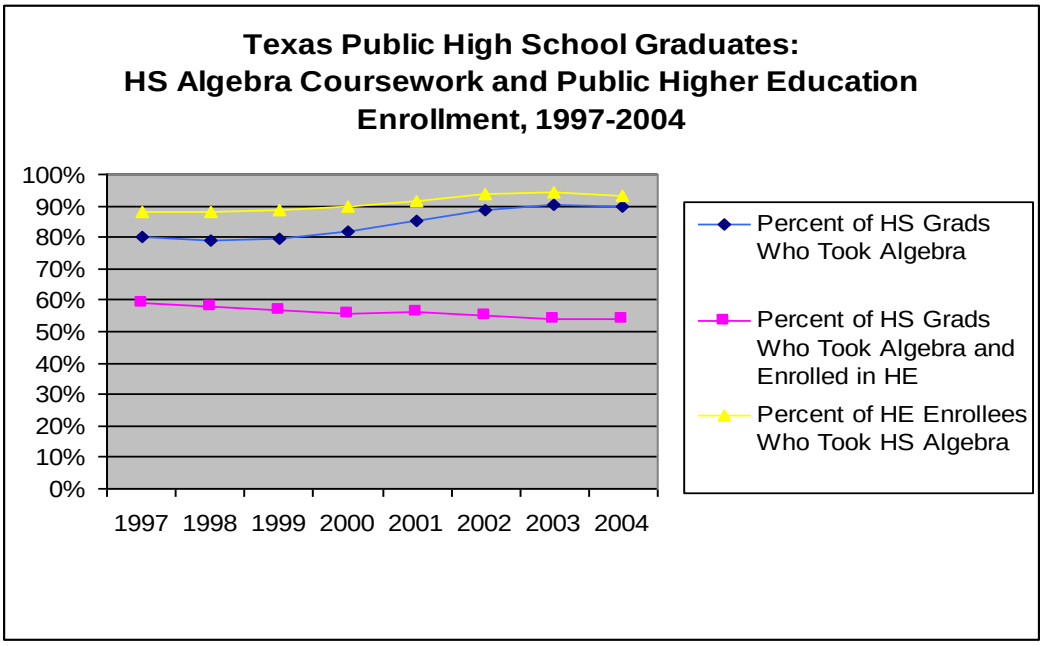
To better understand the possible effects of these curriculum changes on college enrollment, higher education enrollment records were linked to high school algebra coursework records.[1] The percent of higher education enrollees who took algebra in high school increased steadily from 88 percent to 94 percent between 1997 and 2003 (a slight drop-off was seen in the 2004 cohort). For economically disadvantaged students, the trend was more pronounced: 83 percent of economically disadvantaged high school graduates who enrolled in higher education in 1997 had taken algebra compared to 92 percent of 2004 high school graduates who entered college. This increase is more than double the increase seen for non-economically disadvantaged

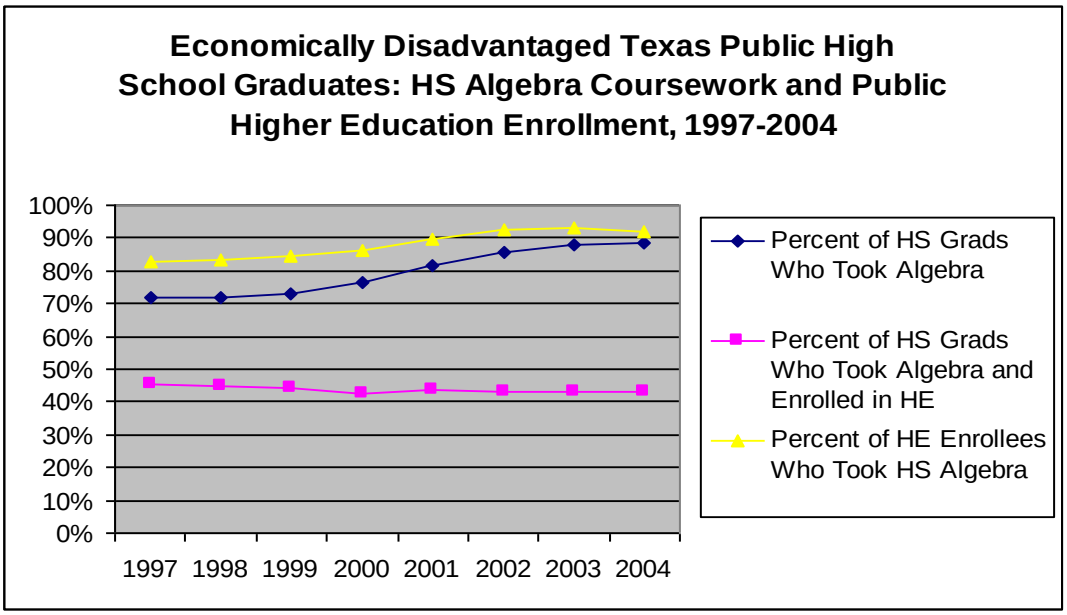
[1] Students who took Algebra I, Algebra II or both were included in the study. The THECB did not distinguish between these two courses because many students take Algebra I in grade 8, a grade for which individual coursework records were not available. In addition, the college enrollment data only represent Texas public high school students (both full- and part-time) who enrolled in Texas public institutions of higher education in the year following high school graduation. Students who transferred into Texas public high schools from private and out-of-state high schools may have taken algebra elsewhere but would be included in the "no algebra" group in this study.

students. In fact, by 2004 there was only a 1.5 percent difference between the percent of economically disadvantaged higher education enrollees who took high school algebra and their non-disadvantaged counterparts (92 percent and 93.5 percent respectively).

Although the increased number of high school algebra coursetakers translated into more college enrollees who had taken high school algebra, this increase also resulted in a decrease in the overall percent of students with algebra coursework who enrolled in higher education. In 1997, 59 percent of the high school graduates who took algebra enrolled in a Texas public higher education institution; in 2004, only 54 percent did so. Although college enrollments increased every year during this time (from 97,294 high school graduates enrolling in Texas public higher education in 1997 to 126,217 graduates enrolling in 2004), the overall percent of high school graduates who enrolled in college declined slightly.

Overall, the algebra coursetaking data suggest that more rigorous high school math requirements result in greater percentages of college enrollees who have had algebra in high school. The advantages are most pronounced for economically disadvantaged students. Encouraging students who have completed a more rigorous curriculum to consider higher education options remains an important Closing the Gaps participation goal.





Texas Public High School Graduates: Algebra Coursetaking History and College Enrollment 1997-2004 (Includes Economic Background Data)

Year of HS Graduation	Total High School Graduates	% HS Grads who took HS Algebra	Total HS Grads not enrolled in HE	% Econ-Dis. HS Grads who took HS Algebra	% Non Econ-Dis. HS Grads who took HS Algebra	Total HS Grads Enrolled in HE*	% HE Enrollees who took HS Algebra	% HS Grads who took HS Algebra and Enrolled in HE
1997	181,162	79.9%	83868	72.10%	82.70%	97,294	88.0%	59.2%
1998	196,555	79.0%	94121	72.00%	81.90%	102,434	88.0%	58.0%
1999	202,826	79.8%	98793	73.00%	82.60%	104,033	88.4%	56.8%
2000	212,182	81.7%	103875	76.40%	83.90%	108,307	89.6%	55.9%
2001	214,553	85.4%	102745	81.30%	87.10%	111,808	91.7%	56.0%
2002	223,950	88.8%	107345	85.60%	90.30%	116,605	93.7%	54.9%
2003	237,259	90.1%	114204	88.20%	90.90%	123,055	94.2%	54.2%
2004	243,408	89.8%	117191	88.30%	90.50%	126,217	93.1%	53.8%

* Higher education enrollees include students who enrolled in Texas public higher education the fall, spring or summer immediately following HS graduation.