

Math & College Readiness

While AP courses are a strong indicator of college readiness, the most reported and greatest indicator is completion of algebra in middle school and calculus in high school. An analysis released by IDRA found that calculus is not equally and fairly accessible in Texas public schools.

Students do not have equal access to college prep math courses.

Wealthier school districts have higher rates of students taking calculus.



Each 1% increase in property wealth per student* in a district is associated with a 1.02% increase in calculus enrollment while holding all else equal.

School districts with higher proportions of students in families with low incomes have lower rates of students taking calculus.



A 1% increase in the economically disadvantaged student population in a district is associated with a 1.11% decrease in calculus enrollment.

*Texas Is Not Funding College Readiness – Wealth and Inequality Highlighted by the Civil Rights Data Collection, by Dr. Crystal Ball Forecast, IDRA, 2016 & Conference School Finance Fellow, 2021

67%

of Texas middle schools offer Algebra 1

85%

of Texas high schools offer Algebra II*

47%

of Texas high schools offer calculus

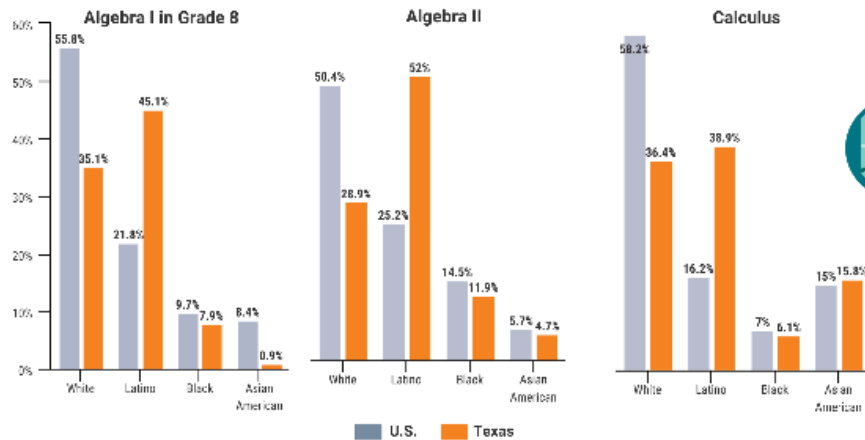
3%

of Texas high school students took calculus in 2017-18.

Algebra II was a required course in Texas until HB5 was passed in 2013. Students who don't take it cannot be considered for the Texas Top Ten Percent Plan.

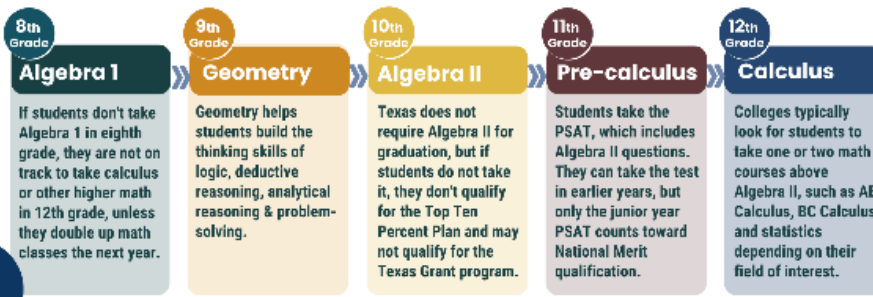
*WADA – weighted average daily average
Data source: U.S. Department of Education, Office for Civil Rights, Civil Rights Data Collection, 2017-18, available at <http://nces.ed.gov/ipeds/data/civildata/>

Student enrollment in math courses varies by race-ethnicity.



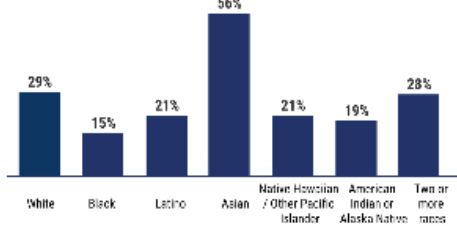
Data source: U.S. Department of Education, Office for Civil Rights, Civil Rights Data Collection, 2017-18, available at <https://ocrdata.ed.gov>

The college prep math course sequence begins in middle school.



Texas' endorsement system can track students away from college.

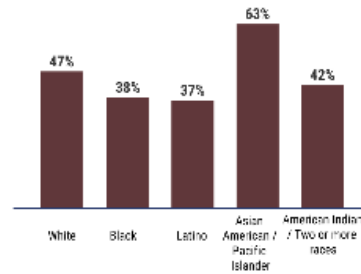
Texas students who take coursework under the STEM endorsement are more likely to be on a college track. In some districts, the Multidisciplinary Studies endorsement mirrors the previous 4x4 plan.



STEM Graduates in Texas 2019-20

Data source: Texas Education Agency, PEIMS data for 2019-20

Texas ranks 40th among U.S. states with just 58% of Texas high school graduates going directly to college in 2018.

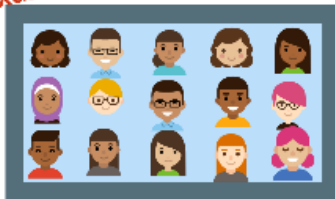


Class of 2020 Enrolling in College within One Year After High School Graduation

Data source: Texas Higher Education Coordinating Board

Students need good academic advising from their counselors.

Texas



412 to 1

On average, Texas counselors have 412 students to work with.

Recommended



250 to 1

The recommended ratio is 250 students per counselor.

Data source: American School Counselor Association (2021), Student-to-School Counselor Ratio 2019-2020. FactSheet_Alexandra_Vs_ASCA

It doesn't have to be this way

Schools and the state can take steps to improve college access.

- 1 All students should have access to college-prep courses, including Algebra II and higher math classes, such as calculus and statistics.
- 2 Schools should not steer any middle school students away from college options. Students need to take Algebra I in eighth grade and be prepared beforehand to be successful.
- 3 The state should take steps to address longstanding teacher shortages in critical fields, such as math, science and bilingual education.
- 4 All 8th-12th grade students should have access to college counselors who can advise them into advanced coursework that meets their college and career goals.
- 5 Schools should practice authentic two-way family engagement so that students and their parents can make informed decisions about their college and career counseling options.
- 6 College readiness indicators for schools should be tied to outcomes and be decoupled from military readiness, which should have its own rigorous standards.
- 7 The state should abolish the endorsement system for graduation requirements and return to the 4x4* that colleges prefer. In the interim, the state should monitor the college and career outcomes to ensure students have equitable access to college success through any endorsements offered at their high school.

The Intercultural Development Research Association is an independent, non-profit organization. Our mission is to achieve equal educational opportunity for every child through strong public schools that prepare all students to access and succeed in college.

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