By 2020, 65 percent of jobs will require a postsecondary credential, meaning anything from a bachelor’s degree to industry-recognized credentials.

Without access to essential math and science classes in high school, many students will graduate from high school unprepared for postsecondary learning and the opportunities it offers.

Source: Georgetown University Center on Education & the Workforce, “Recovery: Job Growth & Education Requirements Through 2020”
Office of Civil Rights Data Collection

About the Data

• Analysis of 2015-16 Office of Civil Rights Data Collection, conducted every two years.
• Analysis based on pathways to college and career readiness (including access to math, science, Advanced Placement and dual enrollment courses).

About the Analysis

• Population is schools offering grades 9, 10, 11 or 12. This is a broader definition of “high school” that gives us better insight into schools that should be offering these courses.
• All core courses except Calculus and Physics are “or higher” to capture schools that may offer courses exclusively in middle school.
• Course progression: Algebra I, Geometry, Algebra II, Advanced Math, Calculus; Biology, Chemistry, Physics.
• Incorporates Common Core of Data to include additional school characteristics.
• All data points are available by state.

Why This Data?

• Under-reported and under-utilized data source.
• Helps to partially address “data deserts” or insufficient data sources on student course needs statewide and access gaps.
• Only national source of data on access pathways to college and career readiness.
Findings from the Analysis

1. Far too many students lack access to key courses that would prepare them for college and career.

2. Lack of access is inequitable: it is worse for schools with high populations of minority students and schools with high populations of low-income students.
Finding 1: Many Students Lack Access to Key Courses That Would Prepare Them for College and Career

<table>
<thead>
<tr>
<th>Course</th>
<th>National Number of Students with No Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment Course</td>
<td>5,800,071</td>
</tr>
<tr>
<td>Calculus</td>
<td>4,317,308</td>
</tr>
<tr>
<td>AP Course/Program</td>
<td>3,735,255</td>
</tr>
<tr>
<td>Physics</td>
<td>3,396,726</td>
</tr>
<tr>
<td>Advanced Math or Higher</td>
<td>2,442,519</td>
</tr>
<tr>
<td>Chemistry or Higher</td>
<td>2,050,588</td>
</tr>
<tr>
<td>Algebra II or Higher</td>
<td>1,762,020</td>
</tr>
<tr>
<td>Biology or Higher</td>
<td>1,549,273</td>
</tr>
<tr>
<td>Geometry or Higher</td>
<td>1,502,503</td>
</tr>
<tr>
<td>Algebra I or Higher</td>
<td>1,370,825</td>
</tr>
</tbody>
</table>
Finding 1: Many Students Lack Access to Key Courses That Would Prepare Them for College and Career

National percentage of students with no access to courses

- DUAL ENROLLMENT COURSE: 33%
- CALCU LUS: 25%
- AP COURSE/PROGRAM: 22%
- PHYSICS: 20%
- ADVANCED MATH OR HIGHER: 14%
- CHEMISTRY OR HIGHER: 12%
- ALGEBRA II OR HIGHER: 10%
- BIOLOGY OR HIGHER: 9%
- GEOMETRY OR HIGHER: 9%
- ALGEBRA I OR HIGHER: 8%
Finding 1: Many Students Lack Access to Key Courses That Would Prepare Them for College and Career

National percentage of schools with no access to courses:

- Calculus: 55%
- AP Courses/Program: 55%
- Dual Enrollment Course: 52%
- Physics: 47%
- Advanced Math or Higher: 39%
- Chemistry or Higher: 33%
- Algebra II or Higher: 28%
- Biology or Higher: 23%
- Geometry or Higher: 23%
- Algebra I or Higher: 20%
Finding 2: Lack of Access Is Inequitable

It is worse for schools with high populations of low-income students.

Schools Without Access Based on Student Poverty
Comparing Lowest and Highest Quintiles

- Q1 Low Poverty Schools represents schools in the 20th percentile or lower of FRPL students enrolled in those schools.
- Q5 High Poverty Schools represents schools in the 80th percentile or higher of FRPL students enrolled in those schools.
Finding 2: Lack of Access Is Inequitable

**It is worse for schools with high populations of low-income students.**

Schools Without Access
Based on Student Minority
Comparing Lowest and Highest Quintiles

Q1 Low Minority Schools represents schools in the 20th percentile or lower of minority students enrolled in those schools.

Q5 High Minority Schools represents schools in the 80th percentile or higher of minority students enrolled in those schools.
How to Overcome Gaps in Access

1. Evaluate
Conduct a statewide audit of course offerings and access.

2. Communicate
Inform families of college and career course options and availability.

3. Improve
Identify policy solutions to improve access for students.

This is an ongoing cycle, not a checklist.

States should continually evaluate their course offerings and effectiveness, communicate course availability to families and the public and use feedback from evaluations and outreach to improve access for students.
Limits of the Data

The CRDC and ExcelinEd’s analysis does not:

- include if students are access courses online,
- include non-core courses,
- reflect the current school year (2017-18), or
- reflect the quality of the course.

ExcelinEd did not independently verify the information from the 29,716 public schools reflected in this analysis.
Other Interesting Findings
Small Schools Struggle to Provide Access

Percent of Schools Without Access Based on Student Enrollment
Comparing Lowest and Highest Quintiles

Q1 Very Small Schools represents schools with fewer than 93 students enrolled.
Q5 Very Large Schools represents schools with more than 1,142 students enrolled.
Percent of Schools Without Access Based on Locale

It’s Not Just a Rural Problem
Thank You!

For additional information and questions, contact:

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