

Methodology for Achieve “High School and Postsecondary Alignment” Data Explorer

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High School Graduation Requirements

Throughout the Spring 2018, Achieve collected publicly available information on graduation requirements, pathways, and endorsements from states’ websites in place for the Class of 2018. Wherever possible, Achieve preserved states’ language and terminology, though at times language was edited for clarity and/or brevity. In a small number of states, graduation course requirements are locally determined and not mandated by the state. In these states, only the courses that are required by state law are included.

States’ mathematics and science high school graduation requirements are included in the “High School and Postsecondary Alignment” data explorer. For a comprehensive look at states’ high school graduation requirements in all subjects, as well as links to the sources, visit the [“Graduating Ready”](#) data explorer.

Idaho, Indiana, Nebraska, and New Jersey define units of credit differently than most other states. For the purposes of comparison, the number of units required by subject have been adjusted to align better with how the majority of states define units of credit (i.e., Carnegie units).

High School Graduation Options and Diploma Classifications

Achieve defines a graduation option as any formal designation a student can earn that signals completion of high school and/or readiness for postsecondary education. For instance, California’s a-g requirements are not a specific diploma that districts confer, but they are the requirements a student needs to fulfill to enter either public university system in California. Achieve included as many options as possible options for graduation across states to illustrate the breadth of choices students have in many states.

Achieve classified each graduation option, including whether the option requires students to complete a CCR course of study. Classifications include:

- *Mandatory CCR*: Students in these states must complete a CCR course of study in order to graduate.
- *Default CCR*: Students are expected to complete a CCR course of study. However, students can opt out of, or modify, the CCR course of student and pursue a less demanding set of requirements. Personal modification policy note - in some states students can modify requirements and in these cases may not meet postsecondary admissions requirements.
- *Opt-in CCR*: Students voluntarily select the CCR course of study from a menu of graduation options. The burden is placed on students and/or districts to ensure access to CCR courses for all students.
- *Minimum*: Students are required to take a state-defined set of requirements that is below the CCR threshold or not specific to which courses students must take to graduate.
- *Local Control*: The state does not set graduation requirements; requirements are locally determined.

Higher Education Institutions

To select the universities included in the analysis, we used the Integrated Postsecondary Education Data

System (IPEDS) website¹ to generate a list of the public, four-year, non-profit institutions in each state. We looked at the total first-time degree/certificate-seeking undergraduate enrollment as well as the percent of students admitted in each state to select two universities in the state, usually the universities enrolling the largest number of in-state students. The universities needed to specify courses required for admissions to be included. If a university did not specify subject-specific admissions requirements, we selected the next public university that served the next highest number of students.² In 42 states, these two universities included serve the most first-time degree-seeking undergraduates in their states. Sixty-two of the 98 universities admitted 70 percent or more of applicants. Twenty-five of the 98 universities admitted between 50-69 percent of applicants. The remaining 11 universities admitted between 17-49 percent of applicants but did not have substantively different requirements from universities admitting higher percentages of students.

Higher Education Institution Admissions Requirements

Throughout October-November 2018, Achieve collected publicly available information from university websites on admissions requirements, including:

- All subject-specific course requirements, including mathematics, science, English, social studies, computer science, foreign language, electives, etc.
 - o Because we found that differences between K-12 exit and higher education entry expectations tend to be in mathematics and science, we prioritized these two subjects as likely hurdles to students' eligibility and focused the analysis in these two subject areas. For example, every university required four years of English language arts with some limited guidance around what the courses should include. With one exception, every state's default high school graduation requirements in English similarly require four years of English language arts with some limited guidance around what the courses should include.
- Freshman requirements – rather than transfer students, returning students, international students, etc. as these at times differ.
- Generic requirements for admissions; if we were forced to choose a program, we chose the least specific program (e.g., arts and science).

In some universities, the courses are not required for admission, but are suggested and/or strongly encouraged. Some students who haven't completed such a program still qualify for admission; but may need to submit additional information or may be required to complete coursework or demonstrate competency related to their deficiency before enrolling to the university.

In some universities, a set number of courses are required but the university recommends a higher number of courses. We have included the lower "required" number in the analysis.

Postsecondary institutions vary in their use of terminology when referring to the courses students must take in high school to be prepared for college: units, credits, years, and courses were some of the most commonly used terms. For purposes of this analysis, we sought to preserve universities' language and terminology, though at times language was edited for clarity or brevity.

¹ <https://nces.ed.gov/ipeds/datacenter/Institutionbyname.aspx>

² In 42 states, these two universities included serve the most first-time degree-seeking undergraduates in their states. On average, the universities included in the analysis admit 71 percent of applicants. Sixty-two of the 98 universities admitted 70 percent or more of applicants. Twenty-five of the 98 universities admitted between 50-69 percent of applicants. The remaining 11 universities admitted between 17-49 percent of applicants but did not have substantively different requirements from universities admitting higher percentages of students.

Higher Education State-Specific Notes

- Two states, Delaware and Wyoming, are home to only one public four-year university that specified admissions requirements by subject. Thus, these two states have only one university included for comparison in the data explorer.
- The University of the District of Columbia (DC) does not specify course requirements for admission. However, DC does not have another four-year institution. The District of Columbia was not included in this analysis.

Classification System

We created a system to classify whether a student who completes the mathematics and science requirements prescribed by each state's high school graduation option(s) renders a student eligible for admission to two different public, four-year universities in the state that serve some of the largest populations of first-time freshman (i.e., recent high school graduates) in the state. Importantly, the classification system does not take into account the minimum content or coursework each sector requires, only whether K-12 and the higher education institution are sending students clear and coherent signals about the necessary coursework to students and families.

Each state high school graduation option/university pairing received a separate rating in mathematics and science. There are three possible classifications:

- **Green ("Yes"):** A student who completes the K-12 specified coursework meets the subject-specific coursework requirements listed for admission. The K-12 graduation option and the higher education institution require the same number of courses (or K-12 requires a greater number) and the two sectors are consistent in their specificity about the courses students must complete.
- **Yellow ("Maybe"):** A student who completes the K-12 specified coursework may fall short of the coursework needed for entry into this higher education institution. The K-12 system specifies courses that students may count towards a student's mathematics or science credits for graduation, but it was not clear that the higher education institution would count those same courses as meeting its admissions requirements. A student may find themselves unprepared because of the courses they took or did not take.
- **Red ("No"):** A student who completes the K-12 specified coursework will fall short of the coursework needed for entry into this higher education institution. K-12 requires fewer credits/years/units of science than the higher education institution and/or the higher education institution requires more advanced coursework, and/or the higher education institution is more specific about the coursework students must complete.