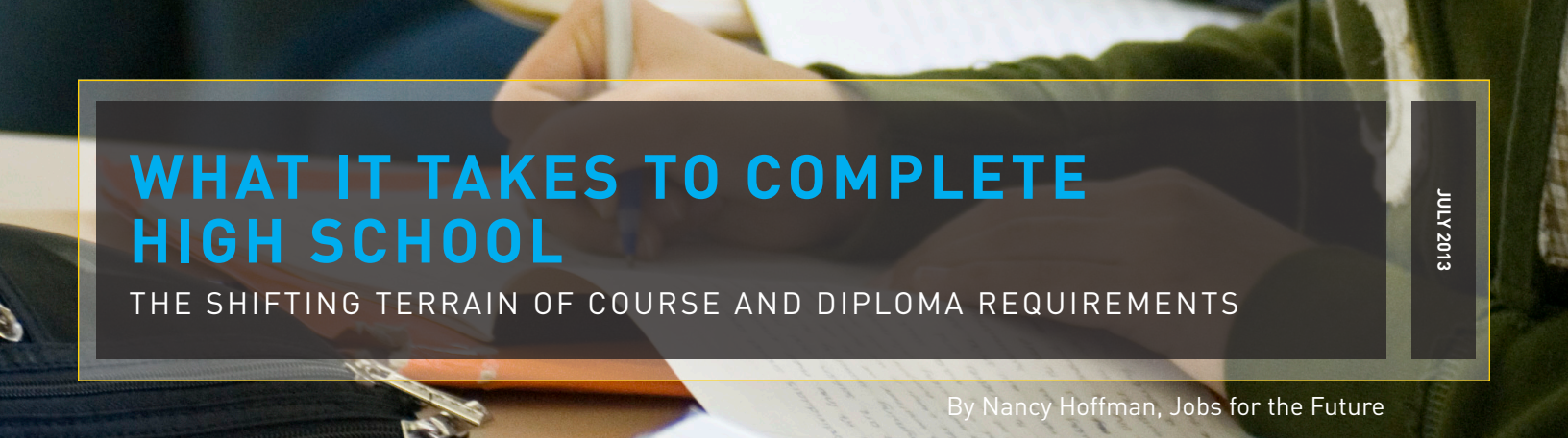

WHAT IT TAKES TO COMPLETE HIGH SCHOOL

THE SHIFTING TERRAIN OF COURSE AND DIPLOMA REQUIREMENTS

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In recent months, several states have altered their high school course requirements in various ways, from creating endorsements within a single diploma to creating new diplomas. These states appear to be making changes for a variety of reasons: to elevate career and technical education; to emphasize STEM fields; to improve the alignment with nonremedial college entrance requirements; to provide options for students who are not heading to college right after high school.

Whatever the reasons, and they do not seem to be in anticipation of Common Core State Standards, the new legislation and accompanying rules and regulations require scrutiny and a careful consideration of implications, both for themselves and for their relation to other categories of graduation requirements such as test scores, Carnegie Units, and new interest in competency- or proficiency-based assessments. Of particular interest is whether changes augment or undercut the ongoing effort to ensure that all students graduate from high school ready to succeed in postsecondary education—whether headed toward a certificate, an Associate's degree, or a four-year degree. Right now, with systems in flux across the nation, it is critical to track and pay attention to the trends. In that spirit, *What It Takes to Complete High School* focuses on one category of graduation requirement: courses required by states for students to attain a high school diploma.

We start from the basic principle that everyone needs some postsecondary education—whether an Associate's degree, a Bachelor's degree, or a certificate with currency in the labor market. For this reason, we are particularly concerned about alternative high school diplomas that are intended for students either wanting or having to enter the workforce directly out of high school. If the new diplomas preclude later participation in postsecondary education—for example, if graduates do not meet college requirements for years of math and science—they can put young people's futures in jeopardy.

Most states abolished low-level diplomas years ago, seeking to ensure that all students receive consistently rigorous instruction and graduate both college- and career-ready. The equity principle driving states toward a single diploma was intended to erase a history of tracking that has sent too many low-income students and students of color into less-demanding high school courses and programs, from which they exited with inferior credentials, useful neither in the job market nor for college.

So what is going on with course requirements? JFF is following these discussions with the goal of tracking changes, highlighting the issues, and arriving at a point of view about what would constitute a useful, coherent set of graduation requirements once the Common Core is in place. For example, state policymakers and educators are questioning whether the traditional Algebra II, or different math content needed in a wider range of future careers, should be a graduation requirement, as well as whether demonstrations of competency can and should replace the Carnegie Unit.

COURSE REQUIREMENTS

How can states help the largest number of students advance and be ready to succeed? *What It Takes to Complete High School* focuses on one category of graduation requirements: courses required by states for students to attain a high school diploma. We profile five states that have made or are on their way to making changes. States are also making changes to other graduation requirements that will have an impact on student learning and on high school completion rates, including specifying levels of attainment on current state assessments in English language arts and mathematics and levels to be established for new assessments (e.g., those being developed by the Partnership for Assessment of Readiness for College and Careers and by the Smarter Balanced Assessment Consortium). States have also added specifics in such areas as the number of and grades in end-of-course tests, credit hours (also known as seat time), and overall grade point averages. JFF intends to follow these trends as well.

According to Achieve, Inc., 23 states had mandated minimum college- and career-ready course requirements as of December 2012.[1] Assuming that the Achieve list represents all the states that have a standard resulting in college and career readiness, we focus first on changes in those states. We ask: Are states on the Achieve list augmenting college and career-ready expectations and requirements—or are they subtracting from and removing requirements?

That is, are states enacting legislation requiring specific Career and Technical Education (CTE), college prep, or other courses on top of the default or required college- and career-ready curriculum, or are they reducing those requirements? North Carolina and Ohio, for example, have made voluntary additions to their course requirements but did not change the default curriculum. By contrast, the Texas and Florida legislatures have reduced their states' college- and career-ready requirements.

We also look briefly at two of the twenty-seven states that are not on the Achieve list but are revising course requirements in ways that have merited significant legislative debate and national attention. Most states not on the list either have fewer course requirements than Achieve recommends as the minimum, or the college- and career-ready curriculum or the core is voluntary, with graduation requirements determined at the local level. (JFF's home state is among the latter. Consistently highest achieving in the country on the National Assessment of Educational Progress, Massachusetts recommends a core curriculum but it is not mandatory. New York, also not on the Achieve list, requires Regents exams in core subjects but does not require specific courses.)

Some changes in states not on the Achieve list are potentially positive but are either still being discussed or are too new to know how implementation will fare and what the results will be for students. Louisiana, which has never had a college- and career-ready core curriculum but had a low-demand CTE diploma, is engaged in public dialogue around a recently conceived framework for eleventh- and twelfth-grade career pathways and requirements. Oregon, too, is considering a distinctive innovation: requiring all high school students to complete college course credits to earn their diploma. A few states, both on and off the Achieve list, are maintaining the total number of courses required for graduation but allowing more substitutions for particular courses.

ADDING "ENDORSEMENTS" OR "HONORS" TO THE SINGLE DIPLOMA

North Carolina has implemented three new "seals" on its single diploma, and these are intended to indicate a student's readiness to transition to a Bachelor's-degree

program, a community college, or a career. Students can decide which seal to strive for; all three exceed minimum college- and career-readiness standards. And each diploma seal is meant to make more transparent post-graduation plans and requirements. The State Board of Education announced the requirements in May 2013.

The community college seal goes to students who have a 2.6 GPA and have completed Algebra II or integrated math among four required math courses. Students successfully completing Algebra II or integrated math can move directly into credit-bearing courses at a community college without taking a placement test, a policy that is both based on current research and strongly supported by the community college system. The state university seal is for students headed to university and who have taken chemistry or physics and two years of foreign language. The board developed both seals in consultation with the state postsecondary systems.

The career seal is intended for students who plan to enter the workforce directly after high school. However, this seal leaves open the option of further education for all who earn it because they have met minimum "college and career ready" course requirements. Requirements for the seal include four CTE courses and a target score on WorkKeys or another industry-recognized credential (e.g., a car-repair certificate, Microsoft suite certification, SAS programmer certification).

Ohio awards only one diploma, but similar to North Carolina, it has added three types of honors endorsements to its required core: CTE, the International Baccalaureate, and academic. All three endorsements require a 27 on the ACT or 1210 on the SAT. However, only the IB and academic diploma endorsements require a foreign language. The more significant ramp-up is in the CTE endorsement, which now includes four units of science, including two units of advanced science—the equivalent of the requirements for the other two diploma endorsements. The CTE program must also lead to an industry-recognized credential, result in an apprenticeship, or be part of an articulated career pathway that can lead to postsecondary credit.

SUBTRACTIONS FROM THE DEFAULT COLLEGE- AND CAREER-READY REQUIREMENTS

While the Common Core ramps up high school exit standards, and many states including Florida are engaged in helping teachers meet the different and higher demands, it is interesting that Texas (which did not adopt Common Core) and Florida have lowered their course requirements in recent months. While each state has its own rationale for doing so, the goal in both appears to be the reintroduction of a diploma for students who enter the workforce rather than go to college directly after high school.

The changes getting the most attention are in **Texas**. In June 2013, amidst considerable controversy and opposition, Governor Rick Perry signed legislation unanimously approved by both the House and Senate that replaces the state's high school requirements—known as "4x4"—with less demanding requirements. In the 4x4, students had to complete four years of coursework in four areas (English, math, science, and social studies) as well as a half-year of speech. The 4x4 curriculum was the most rigorous of any state on the Achieve list. The curriculum also specified actual required courses and did not permit choices among different courses in a field. The new law reduces the course requirements to three years each of math, science, and social studies while maintaining four years of English. Algebra II will no longer be required for graduation. Students will have to pass fewer end-of-course exams: They will no longer have to take exams in chemistry, physics, or English III. However, to qualify for automatic admission to a state college under Texas's 10 percent rule, students will still need to take and pass four science courses, as well as Algebra II.[2] As in other states, students can earn specified "endorsements" for such areas as STEM (science, technology, engineering, and math) and business/industry.

In **Florida**, a law enacted in April 2013 deletes some core requirements and state tests from the list of graduation requirements. The state now requires Algebra I and biology for the standard 24-credit

diploma but removes requirements for Algebra II, chemistry, and physics. According to the legislation, "Rigorous industry certification that leads to college credit" can satisfy two of the four required math credits and one science credit. Newly established "scholar" and "merit" designations and additions to the standard diploma for high school students will be available starting in the 2013-14 school year. Scholar students (i.e., students bound for four-year colleges) must pass specific math and science courses and end-of-course tests. Merit students must earn one or more industry certification.

NEW STATE GRADUATION REQUIREMENT DESIGNS

Louisiana, which currently offers three diplomas, including a low-level CTE diploma, and has no required college- and career-ready curriculum, is considering a single diploma system, including a bold approach to career education.

The intent in the Louisiana proposal is for three distinct systems—higher education, industry training, and K-12—to work together as a regional workforce development consortium, assembling and likely certifying "career packages" that would include postsecondary certifications or Associate's degrees. Technical colleges, local industry, and high schools would provide courses. We do not know of any state that has tried this approach.

This summer, Louisiana Superintendent of Education John White is holding public meetings to get input, and his department is putting in place a pilot program, called Jump Start, to promote partnerships with a few motivated and willing districts to build out new grades 11/12 pathways to high-wage/high-demand careers. Students in these pathways would spend a significant proportion of their time in work-based learning and in courses offered by technical colleges, high schools, and employers. The pilots are meant to provide opportunities for the state and local leaders to learn lessons about what it will take to scale up the approach across Louisiana.

Oregon is considering a different sort of course-related innovation. Under proposed legislation, beginning July 1, 2019, the state would require all students to earn six college credits to receive a high school diploma. The bill was aired in a public hearing in May 2013.

The rationale here is both fiscal and educational. Students would be able to earn college credit more quickly, and they would be more likely to succeed in postsecondary education. High school teachers would be trained to teach some of the college-credit courses, which would lower costs to school districts. In addition, the Oregon Student Access Commission, a state agency that improves access to college by providing information, mentoring, and financial support, would provide scholarships to help students pay for first-year college courses and for expenses incurred in relation to accelerated college-credit programs, with priority to underserved students.

THE IMPLICATIONS

It is hard to argue with augmentations of the college- and career-ready core that are optional, provide more guidance for students about their postsecondary choices, and better align high school and postsecondary requirements, potentially easing the transition to postsecondary education.

Thus, the North Carolina changes seem a better way to signal requirements for admission without remediation than to assume that all students know what the public higher education system requires. For example, while Massachusetts only requires that high school graduates take U.S. history and physical education, and local requirements vary, starting in 2017 students who seek to enroll in a public four-year institution will have to complete four years of math and three years of science in high school. The existence of these requirements can elude students, families, and counselors unfamiliar with college admissions standards. On the other hand, some states—New York is one—have had options like a CTE endorsement for years, but few students earn them because those requirements are on top of the core requirements. In other words, even North Carolina's approach might depend on aggressive career counseling to ensure that students make informed choices based on a deeper understanding of options, not on a counselor's assessment of the path that suits them best.

Similarly, the subtractions from existing graduation course requirements will likely have varying impacts, as is exemplified in both Florida and Texas's challenge to the Algebra II requirement for students headed into CTE fields. In fact, an emerging body of research suggests that Algebra II may not be the most useful math content for young people heading into a variety of CTE or traditional college courses of study. However, that is not to conclude that it is wise for states to relax the Algebra II requirement without thoughtfulness about which mathematics should replace all or some of the content with an eye to math competency that might have greater value in career preparation.

The debate on Algebra II dates at least from 2011 when Anthony Carnevale, the researcher who established the correlation between Algebra II and postsecondary and employment success, asserted that the causal link is very weak. Nonetheless, he also asserted that while very few people actually use Algebra II in college or at work, mathematics does teach critical thinking and problem solving, both useful in the workplace. Writing in the *New York Times*, Sol Garfunkel and David Mumford, and later Andrew Hacker, raised questions about the traditional math sequence—not to argue that young people require less math but rather to suggest that *other* math content choices might be more useful than Algebra II, a position that is getting considerable attention as the Common Core math curriculum is developed.[3]

A May 2013 report from the National Center on Education and the Economy, based on studies of community college and work-related math and English requirements, concludes that students need a strong foundation in Algebra I but that only a small percentage of careers require Algebra II or the calculus pathway. NCEE argues that a more useful math curriculum would strengthen middle school math and include math subjects not taught in high school at present, such as mathematical modeling (how to frame a real-world problem in mathematical terms) or statistics and probability.[4] And the Common Core standards provide models for the traditional Algebra I/Algebra II pathway as well as for an integrated pathway that includes a sequence of three courses, each of which includes algebra, geometry, probability and statistics, and, presumably, not all of the traditional Algebra II.[5] *Education Week* also takes up the Algebra II issue with a front page article in its June 12, 2013, edition registering both educator anxiety about how students will meet Algebra II demands of Common Core as well as the Texas and Florida legislation making Algebra II voluntary.[6]

Math content was widely debated in Texas this past year, but the legislative discussions did not center on the argument that quantitative reasoning or probability and statistics might be a better choice for students seeking many careers, as Hacker, Garfunkel and Mumford, and NCEE contend. Rather, math requirements came under scrutiny because Texas legislators wanted to remove this barrier for students heading to work directly after high school. In this case, the subtraction could jeopardize these students' college readiness, and that makes for a different and worrisome trend.

Indeed, the new diplomas in both Texas and Florida, with lower requirements than in the past, run the risk of increasing the number of students inadequately prepared for nonremedial entrance into college courses. Addressing that risk is the whole point of having a college- and career-ready diploma, and among the top goals of Florida's embrace of the Common Core and Texas' own rigorous standards.

Among the new options, Louisiana's exploration is difficult to assess. The state is indeed trying to effect a complete redesign that has affinities with European vocational education systems that function well in preparing young people by age 19 for the labor market. One option in the state's evolving plans for grades 11/12 pathways would be the academic route; a second pathway would be a coordinated mix of school and work. The school-work mix is a tricky design to pull off in the United States, a country without a history of employer engagement and where a disconnect between the education system and the needs of regional labor markets is more often the case than not. Despite that challenge, Louisiana's approach will be ambitious and interesting to follow if the state moves forward on it.

Oregon's proposed requirement for college credit in high school to boost high school completion and college-going rates is supported by an extensive body of research. This includes data from Jobs for the Future's Early College High School Initiative, which has created or redesigned nearly 250 schools since 2002, all of

which are designed so that students can graduate with a high school diploma and up to 2 years of college credit or an Associate's degree within 4 to 5 years of starting ninth grade.[7]

As is usual in the United States, all these state-level variations in responding to pressures for better educational and career outcomes for high school students veer in various directions. As they so often do, the states are serving as laboratories for experimentation as students face a list of mandated course requirements that, too often, have no transparent relation to one another. And, as noted, course requirements are only one piece of the graduation requirement puzzle.

In the next few years, it will be critical to watch state innovations in course requirements for high school graduation—and also in the other categories of requirements and how the various changes in a state align with one another (or not). While it is difficult to assess the trends among states, the advent of the Common Core provides an opportunity for the careful scrutiny and assessment of state strategies—as well as for rethinking "what it takes to complete high school."

ENDNOTES

[1] See: "State College- and Career-Ready High School Graduation Requirements," available on the Achieve website at: http://www.achieve.org/graduation-requirements

[2] Texas students who graduate in the top 10 percent of their high school class are guaranteed admission to public colleges and universities in Texas.

[3] See: "How to Fix Our Math Education," by Sol Garfunkel and David Mumford, *New York Times*, August 24, 2011; "Is Algebra Necessary," by Andrew Hacker, *New York Times*, July 28, 2012.

[4] National Center on Education and the Economy. 2013. *What Does It Really Mean to Be College and Work Ready? The Mathematics Required of First Year Community College Students*. Washington, DC: Author.

[5] See: http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf

[6] *Education Week*, June 12, 2013.

[7] For the most recent evaluation data, see: Andrea Berger. 2013. *College, Early Success: Early College High School Initiative Impact Study*. Washington, DC: American Institutes for Research. For more information on early college high schools, see: http://www.jff.org/projects/current/education/early-college-design-services/1477/project

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Jobs for the Future works with our partners to design and drive the adoption of education and career pathways leading from college readiness to career advancement for those struggling to succeed in today's economy.

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