



**Pathways
to College
Network**

DIRECTED BY
THE INSTITUTE FOR HIGHER EDUCATION POLICY

Academic Rigor

At the Heart of College Access and Success

A College Readiness Issue Brief from the Pathways to College Network
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Why Is Rigorous Academic Preparation A Must for All Students?

America's economic and social well-being is increasingly dependent upon the capacity of our public education system to prepare all students for college and high-performance careers. With almost 80 percent of today's fastest-growing jobs requiring some postsecondary education,¹ all students—regardless of their race/ethnicity, gender, socio-economic or disability status—need to complete an academically rigorous high school curriculum in order to be well-equipped for productive work and civic life.

Only about half of high school graduates today are academically prepared for college-level courses, and far too many require at least some remedial work in reading, writing, and/or mathematics upon entering college.² Students who require remediation, notably those in need of remedial reading, are significantly less likely to obtain a

college degree.³ Low-income and minority students, students with disabilities, and those who are the first in their families to go to college, are often unprepared for and discouraged from taking rigorous academic courses in high school. It is therefore imperative that all young people—especially students traditionally underrepresented in postsecondary education—are prepared to succeed in entry-level college coursework without remediation.

Education research is unambiguous in concluding that a rigorous academic curriculum is indispensable for all students. Students who take high-level courses in high school, including advanced mathematics, laboratory science, and a world language, are more likely to enroll in and complete a bachelor's degree program than those who do not.⁴ Completion of a rigorous academic program in high school is especially beneficial for African American and Latino students in terms of increased college-going and completion rates.⁵

A Framework for Action



The Pathways to College Network developed this comprehensive conceptual *Framework for Action* to inform and support states, districts, schools, and programs in their efforts to prepare all students for success in college and the workplace. This series of issue briefs illuminates and provides resources on each of the five interrelated areas of the Framework: High Expectations, Academic Rigor & Support, Social Support, Data Use, and P-16 Alignment.

Defining and Implementing Academic Rigor

Given our nation's decentralized system of public education, there is no single national definition of a rigorous curriculum. The following course pattern has been defined as "rigorous" by various organizations and programs such as the State Scholars Initiative, High Schools That Work, College Board, and ACT, Inc:

- Four years of English
- Four years of Mathematics – including Algebra 1 and 2, Geometry, and preferably at least one other advanced Mathematics course such as Trigonometry, Pre-Calculus, Calculus, or Statistics
- Three years of Laboratory Science such as Biology, Chemistry, and Physics
- Three years of Social Studies
- Two years of a World Language

Other organizations, such as the National Governors Association's Center for Best Practices and Achieve's American Diploma Project, have championed end-of-high-school standards (benchmarks) that integrate the knowledge and skills students need for college and workplace readiness. Recognizing that course titles alone do not guarantee academic rigor, Rhode Island and some other states have implemented performance-based graduation requirements, not tied to specific courses, that focus on the demonstration of competencies, skills, and knowledge across the curriculum.

It is widely agreed that an academically rigorous curriculum should in all cases be coherent across grade levels and teach analytical thinking, learning, comprehension, and writing skills.

States and school districts are using various strategies to ensure that all students have access to an academically rigorous curriculum. A growing number of states, such as Texas, Indiana, and Arkansas, have made completion of a college-preparatory program a high school diploma requirement for all students, except those whose families request an exemption. Beginning in fall 2011, completion of Indiana's Core 40 curriculum—a rigorous college-preparatory curriculum that is aligned with the entry expectations of the state's public higher education system—will be an explicit admission requirement for Indiana students entering in-state public colleges and universities.

Course Content and Coherency of a Rigorous Curriculum

Although various strategies can be used to deliver and evaluate an academically rigorous curriculum, leading groups point to certain common characteristics. Rather than focusing narrowly on content knowledge, classes should encompass both content and the development of cognitive abilities and key learning skills. The Pathways to College Network recommends strengthening students' cognitive development through inquiry-based learning and problem-solving.⁶ The National Research Council suggests that teachers expose students to more in-depth content in key subject areas by including multiple examples to reinforce major concepts and replacing superficial coverage of multiple topical areas with in-depth coverage of fewer topics.⁷ The College Board's National Commission on Writing advises doubling the time that students spend on writing assignments and teaching writing at all grade levels and in all subject areas.⁸ In its report on adolescent literacy, the National Governors Association recommends explicitly teaching students strategies for reading comprehension, embedding effective instructional principles in content, and integrating writing instruction across content areas.⁹

By collaborating with teachers from different grade levels and postsecondary faculty, educators can ensure curriculum coherency from grade-to-grade and align the expected outcomes and competencies of high school graduation with the requirements of first-year college study. A well-designed, coherent, and rigorous curriculum accomplishes two goals:

1. All students can achieve mastery of core academic skills over the course of their high school education, opening the door to both college participation and skilled workforce employment.
2. Teachers can connect assignments and assessments and ensure that all students understand the key skills required for postsecondary success across a range of subjects.¹⁰

Providing Academic Support

As schools implement reforms to increase academic rigor, strategies to increase academic support must be put into place to ensure that all students receive the assistance needed to successfully undertake challenging work. Instruction needs to be more personalized and

individualized, and include additional learning time in core subject areas. Tutoring support in all subject areas along with supplemental reading, writing and math skill-building activities need to be offered both during the school day and in after-school, weekend, and summer programs. Students also need opportunities for job shadowing, internships, and community service to provide career awareness and connect learning to the real world.

Teachers can utilize a variety of instructional methods, including smaller learning environments and theme-based study groups. They can provide directed, quality time both during and after school for skill mastery development, test preparation, homework, and project work. To do so, many teachers need training in recognizing differences in student learning styles and adapting instructional methods accordingly. Teacher-led advisory systems are another effective strategy for increasing students' engagement and connectedness to their schools.

Some schools that have successfully addressed the learning needs of underserved students offer double-blocked class schedules, allowing students to earn more credits per year than other scheduling arrangements permit. (Double-blocked classes meet daily for extended periods and can cover a year's work of course material in a single semester.) Many successful schools also have mechanisms in place to identify students who are at-risk of failing and intervene early with appropriate academic support. Effective practices include ninth grade academies and semester-long intensive "catch-up courses" designed to better support students who are academically behind.

What Actions Can We Take Now?

States

- Institute a rigorous college-preparatory curriculum that includes in-depth coursework in English, Mathematics, Laboratory Science, Social Studies, and a World Language as a high school graduation requirement for all students.
- Align teacher preparation programs and certification policies to reflect the expectation that all students can successfully complete rigorous academic coursework.
- Align curriculum, instruction, and assessment to ensure that students graduate from high school prepared for first-year college courses without remediation.

Superintendents and Principals

- Create middle/high school (vertical) teams to align middle and high school learning standards for academic continuity.
- Create mechanisms for college faculty to provide K-12 teachers with an understanding of the content knowledge, competencies, and skills that students need to succeed in first-year college courses.
- Provide teachers with professional development opportunities (e.g. professional learning communities) to sharpen their pedagogical skills and subject-based knowledge.
- Ensure that teachers provide instruction to the same high standard across all courses.

Principals/Teachers/Counselors

- Focus curricula and in-depth content coverage, including inquiry-based learning and development of students' critical reading, writing, analytical thinking, and reasoning abilities.
- Provide all students with academic and social support as needed to succeed in college-preparatory courses.
- Partner with postsecondary institutions to provide students with dual enrollment programs that expose them to college-level learning and allow them to earn degree credits.
- Allow all students to take honors and Advanced Placement (AP) courses, and provide the support needed for them to successfully complete these courses.
- Implement programs that identify and engage students who are behind (or at risk of falling behind) and provide academic interventions that support successful outcomes.

Academic Rigor

Learn More:

To find these and other resources, search the online PCN Library at <http://www.pathwaystocollege.net/PCNLibrary/ListTopics.aspx>

- Closing the Expectations Gap: 2006
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=713>)
- Crisis or Possibility? Conversations about the American High School
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=1297>)
- Ensuring Rigor in the High School Curriculum: What States Are Doing
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=756>)
- Gaining Traction, Gaining Ground: How Some High Schools Accelerate Learning for Struggling Students
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=732>)
- Getting Students Ready for College and Careers
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=1513>)
- The Link between High School Reform and College Access and Success for Low-Income and Minority Youth
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=646>)
- Preparing Today's High School Students for Tomorrow's Opportunities
(<http://www.achieve.org/node/797>)
- Reading to Achieve: A Governor's Guide to Adolescent Literacy
(<http://www.nga.org/Files/pdf/0510GOVGUIDELITERACY.PDF>)
- Ready or Not: Creating a High School Diploma that Counts
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=201>)
- Ready to Succeed: All Students Prepared for College and Work
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=821>)
- Rising to the Challenge: Are High School Graduates Prepared for College and Work?
(<http://www.pathwaystocollege.net/PCNLibrary/ViewBiblio.aspx?aid=655>)

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- ⁶Pathways to College Network. (2004). A shared agenda: A leadership challenge to improve college access and success. Boston: Author.
- ⁷National Research Council. (2002). Learning and understanding: Improving advanced study of mathematics and science in U.S. high schools. Washington, DC: National Academy Press.
- ⁸National Commission on Writing in America's Schools and Colleges. (2003). The neglected "R": The need for a writing revolution. New York: College Board.
- ⁹National Governors Association. (2005). Reading to achieve: A governor's guide to adolescent literacy. Washington, DC: Author.
- ¹⁰Conley, D. (2005). College knowledge: What it really takes for students to succeed and what we can do to get them ready. San Francisco: Jossey-Bass.



The Pathways to College Network advances college opportunity for underserved students by raising public awareness, supporting innovative research, and promoting evidence-based policies and practices across the K-12 and postsecondary sectors.

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