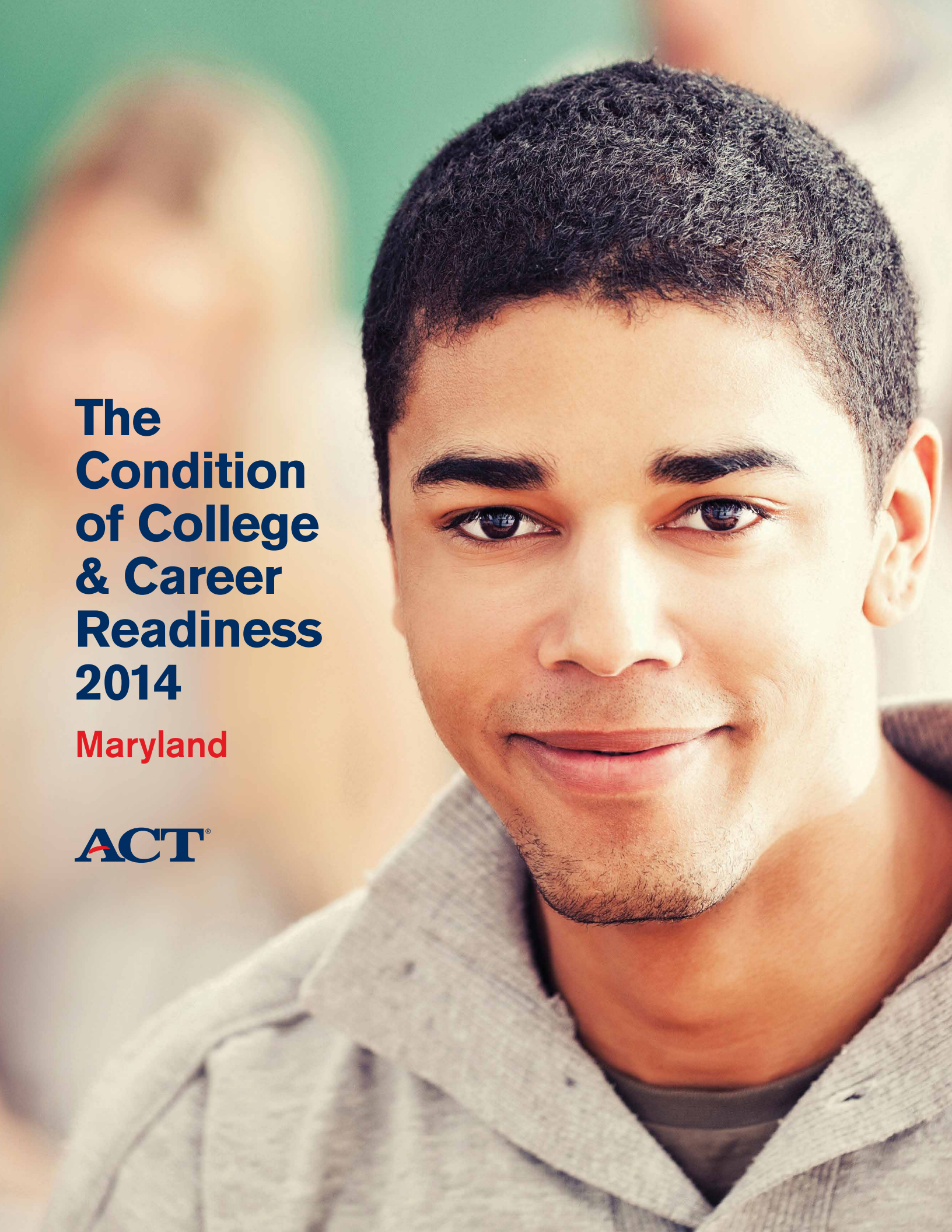

The Condition of College & Career Readiness 2014

Maryland

ACT®

Maryland

The Condition of College & Career Readiness 2014

The Condition of College & Career Readiness is ACT's annual report on the progress of the graduating class relative to college readiness. This year, 57% of the graduating class took the ACT® college readiness assessment. The increased number of test takers enhances the breadth and depth of the data pool, providing a comprehensive picture of the current graduating class in the context of readiness levels as well as offering a glimpse of the emerging educational pipeline.

Our Commitment to College and Career Readiness

As a research-based nonprofit, ACT is committed to providing a wider range of solutions across a wider range of life decision points in an increasingly individualized manner so everyone can benefit. This commitment has led ACT to a mode of continuous improvement in an ever-changing educational and workplace landscape. Over the last year, ACT has made several key announcements, including:

- **Release of ACT Aspire™.** In spring 2014, ACT released an assessment system that spans grades 3–10. It aligns to the ACT College Readiness Standards, which allows monitoring and intervening to take place much earlier and helps prepare students to succeed at college-level work, culminating with the ACT college readiness assessment. To date, more than 1 million assessments have been taken.
- **Enhancements to the ACT college readiness assessment.** Several key modifications were announced to the ACT. These include:
  - Online, computer-based administration of the ACT, with more than 4,000 students tested in spring 2014
  - Optional constructed-response computer-based testing tasks in mathematics, reading, and science—offered alongside the existing optional Writing Test—assessing whether students can justify, explain, and use evidence to support claims
  - Additional questions on the Reading Test that address whether students can integrate knowledge and ideas across multiple texts
  - Additional statistics and probability items on the Mathematics Test to allow for reporting of student achievement in this area
  - Additional reporting to include a STEM score, career readiness indicator, English language arts score, text complexity indicator, and reporting categories consistent with college and career readiness language
  - Enhanced Writing Test based on the newly developed ACT writing competency framework that provides results in four domains

While the evolution of the ACT continues and additional scores will be provided, it will remain a curriculum-based achievement exam, and the 1–36 score scale will not change.

- **A continued commitment to evidence and validity monitoring.** The ACT National Curriculum Survey®, completed every three to five years, is used to build and update a valid suite of ACT assessments, empirically aligned to the ACT College Readiness Standards. The survey informs the test blueprint for the assessments. Assessment results validate the ACT College Readiness Standards and the ACT College Readiness Benchmarks. This evidence and the validity cycle drive the development and continuous improvement of ACT's current and future solutions, as well as the associated research agenda.
- **Release of ACT Profile™.** ACT Profile is a first-of-its-kind college and career planning community, built on 30-plus years of ACT research. Mobile, social, and *free to students* (over the age of 13), ACT Profile develops personalized insights and populates an interactive career graph to show students the best career matches based on their self-assessment results. The tool then extends those insights to help students make informed career and educational plans.

ACT is committed to being a leader in education and career success by infusing innovation into our foundation of assessment excellence. We make changes only after a thorough analysis of user need, coupled with our commitment to the highest-quality test development and helping *all* students achieve college and career success.

A Holistic View of College Readiness

ACT continues in its steadfast support of the purpose and intent of the Common Core State Standards, which focus on the key essential standards that can prepare students for college and career success. However, we also believe that academic readiness is just one of several factors that contribute to educational success. Other key factors include the academic behaviors of students and informed career planning (e.g., based on interests). Together, these elements define a clear picture of student readiness for postsecondary education. To encourage progress, the educational system needs to monitor and sustain all key factors of success.

Using This Report[1]

This report is designed to help educators understand and answer the following questions:

- Are your students prepared for college and career, and are your younger students on target?
- Are enough of your students taking core courses, and are those courses rigorous enough?
- What are the most popular majors/occupations, and what does the pipeline for each look like?
- What other dimensions of college and career readiness, like academic behaviors, should educators track?
- How are educators tracking progress on STEM initiatives?

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Key Findings

Maryland

About Your Graduating Class

In Maryland, there were 14,080 students in the 2014 graduating class who took the ACT. This translates into an estimated 22% of the 2014 Maryland graduating class being tested with the ACT. Maryland saw an increase in ACT-tested graduates of 18% since 2010. Nationally, 1,845,787 students (an estimated 57% of the graduating class) were ACT tested, representing an increase in ACT-tested graduates of 18% since 2010.

Maryland tested less than 90% of its graduates. As a result, this report represents a subset of the entire student population, meaning that the results reflect only those tested, rather than the entire graduating class. The distribution of ACT-tested graduates by race/ethnicity remained relatively stable since the 2010 graduating class. Maryland's ACT-tested graduating class had 8% potential first-generation students, or students whose parents did not enroll in postsecondary education. This compares to 18% of ACT-tested graduates nationwide.

Academic Achievement

Maryland outperformed the nation in English, reading, math, and science. In interpreting academic achievement trend data, please note that in 2013, the ACT College Readiness Benchmark in science decreased from 24 to 23, and the ACT College Readiness Benchmark in reading increased from 21 to 22. During the routine practice of monitoring predictive validity, ACT analyzes the performance of students in college, looking at what is happening to students in the credit-bearing first-year college course in each specific content area. Data gathered through this routine review indicated a need to make updates to the ACT College Readiness Benchmarks.

Opportunity for Growth

Maryland has a good opportunity to improve on the college and career readiness of its students, especially in reading and science, where at least 10% of the students were only 1 or 2 points below the Benchmark. ACT research has shown those students meeting three or four ACT College Readiness Benchmarks are likely to be successful in postsecondary education. For Maryland, this means that the 51% who met three or four ACT College Readiness Benchmarks have a strong likelihood of experiencing success in college. A great way to improve students' college and career readiness is to get more of them to take a college preparatory core curriculum. In fact, Maryland saw 58% of core-taking students meeting the math ACT College Readiness Benchmark, compared to 43% of non-core-taking students meeting the Benchmark. In this graduating class, 16% of Maryland's ACT-tested graduates reported they did not plan to take a core curriculum, which means that 2,197 more students could have benefited from more rigorous coursework, presenting a real opportunity for improvement in college and career readiness.

Student Aspirations

There is good news in that 86% of Maryland's 2014 ACT-tested graduates aspired to postsecondary education. Interestingly, 84% of Maryland's 2013 ACT-tested graduating class aspired to enroll in postsecondary education, compared to 86% who actually did enroll. A positive note is that more 2013 Maryland ACT-tested graduates enrolled in postsecondary education than initially aspired to do so.

What's Next?

There is work to be done to improve the college and career readiness of our nation's students. Teaching to a higher set of standards, getting more students taking a core curriculum, and improving the rigor within those core courses are just a few of the ways we can begin to see an increase in student levels of college and career readiness. We also need to create an integrated, longitudinal, data-driven system to inform and encourage coherence in school, district, and state efforts to prepare all high school graduates for college and career. All students must also have systematic guidance and feedback about their progress and get that feedback early and often.

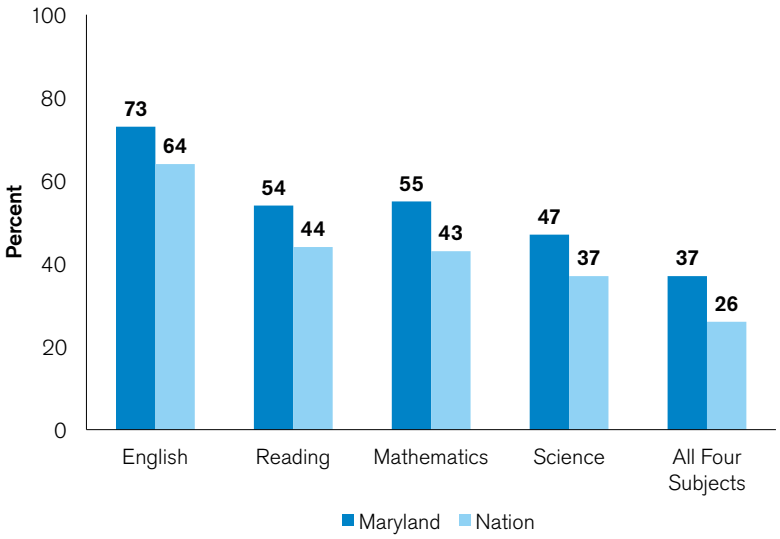
ACT research (*The Reality of College Readiness*, 2013; *Readiness Matters*, 2013) demonstrates that academically prepared students, as measured by the ACT College Readiness Benchmarks, have greater chances for success in their future educational endeavors. However, ACT research suggests that there are other readiness factors that impact student success, including the academic behaviors of students and informed career planning (e.g., based on interests). We strongly encourage educators in states, districts, and schools to monitor and set student interventions on all of these key factors of student success.

Maryland

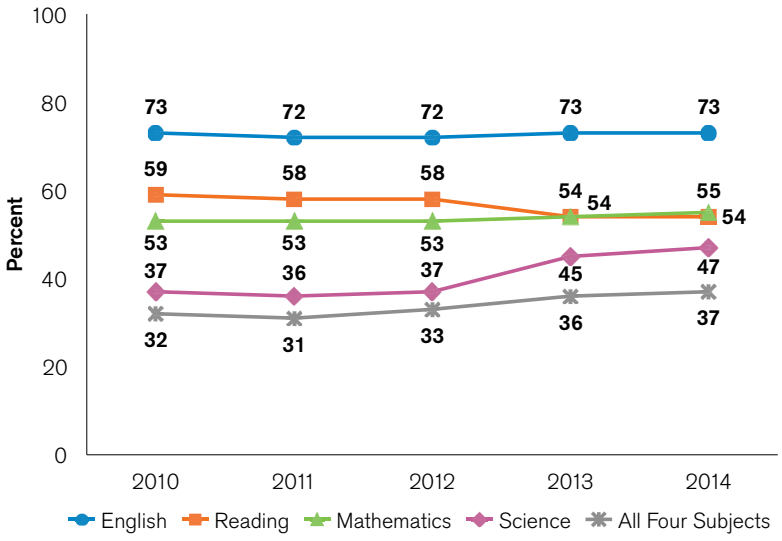
Attainment of College and Career Readiness

- 14,080 of your graduates, which is an estimated 22% of your graduating class, took the ACT.*
- From 2010–2014, the number of ACT test-taking graduates has increased by 18.1%, while the estimated number of graduates in your state has decreased by 5%.

Percent of 2014 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks by Subject



Percent of 2010–2014 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks**



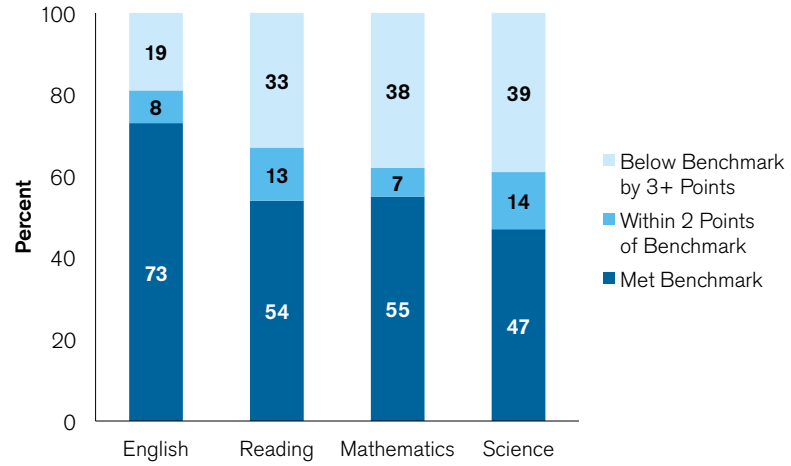
** ACT College Readiness Benchmarks in reading and science were revised in 2013. See page 19 for details.

* Totals for graduating seniors were obtained from *Knocking at the College Door: Projections of High School Graduates*, 8th edition. © December 2012 by the Western Interstate Commission for Higher Education.

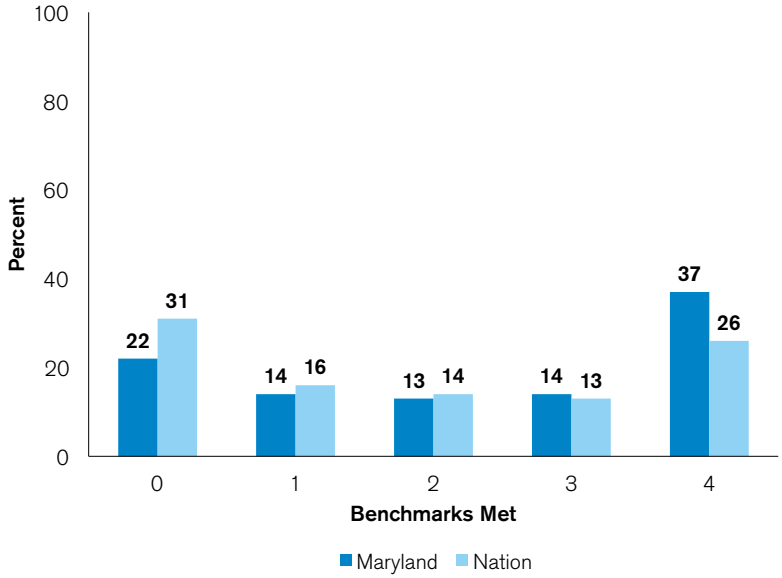
Note: Percents in this report may not sum to 100% due to rounding.

Near Attainment of College and Career Readiness

Percent of 2014 ACT-Tested High School Graduates by ACT College Readiness Benchmark Attainment and Subject



Percent of 2014 ACT-Tested High School Graduates by Number of ACT College Readiness Benchmarks Attained

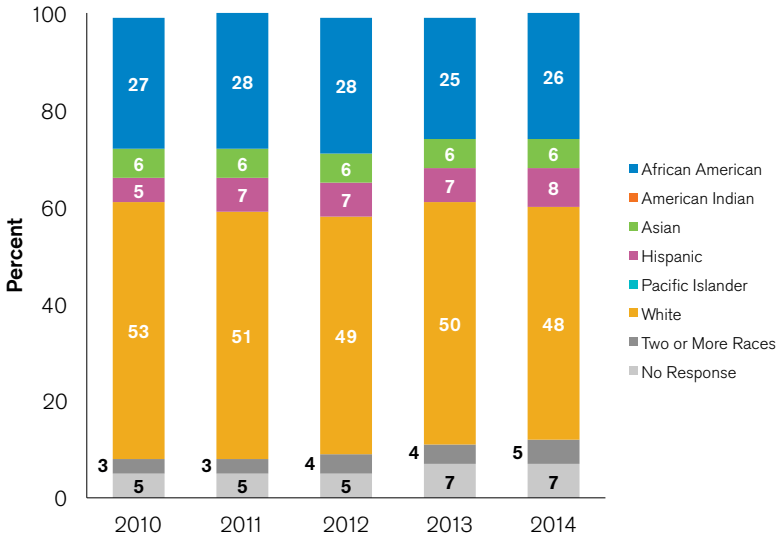


Maryland

Participation and Opportunity

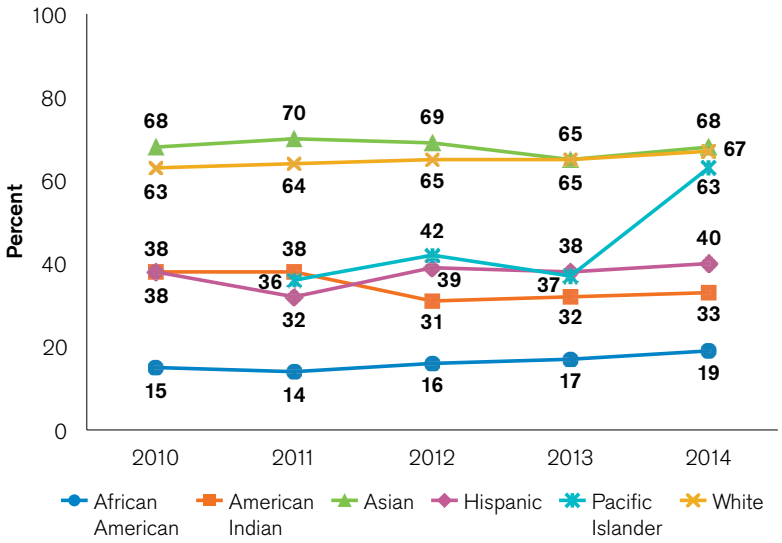
Over the past decade, ACT has experienced unprecedented growth in the number of students tested, as well as statewide partnerships in 13 states and in many districts across the country. As a result, the 2014 *Condition of College & Career Readiness* report provides a much deeper and more representative sample in comparison to a purely self-selected college-going population.

Percent of 2010–2014 ACT-Tested High School Graduates by Race/Ethnicity*



Note: Values less than 0.5% will not appear.

Percent of 2010–2014 ACT-Tested High School Graduates Meeting Three or More Benchmarks by Race/Ethnicity*

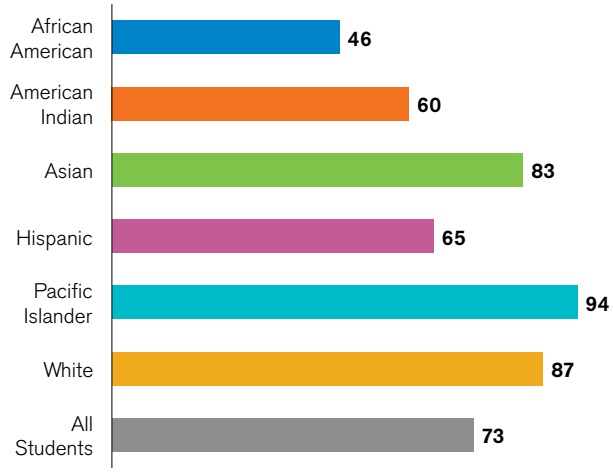


* Race/ethnicity categories changed in 2011 to reflect updated US Department of Education reporting requirements.[2]

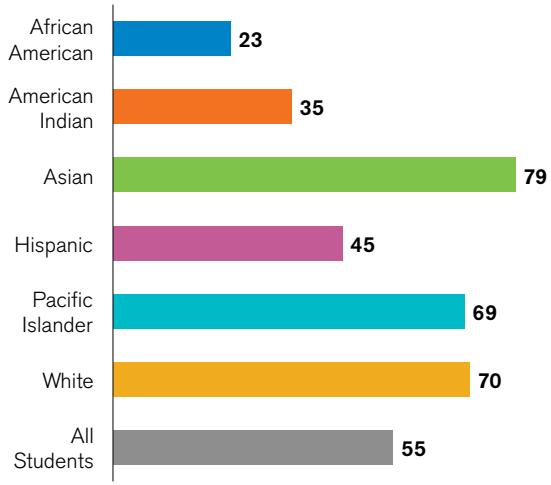
Participation and Opportunity by Subject

Percent of 2014 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks by Race/Ethnicity and Subject*

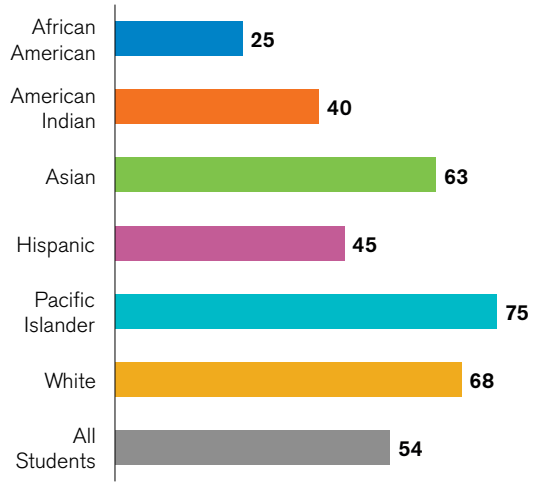
English



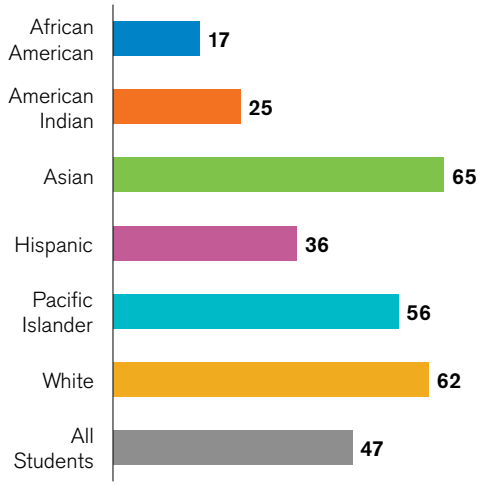
Mathematics



Reading



Science



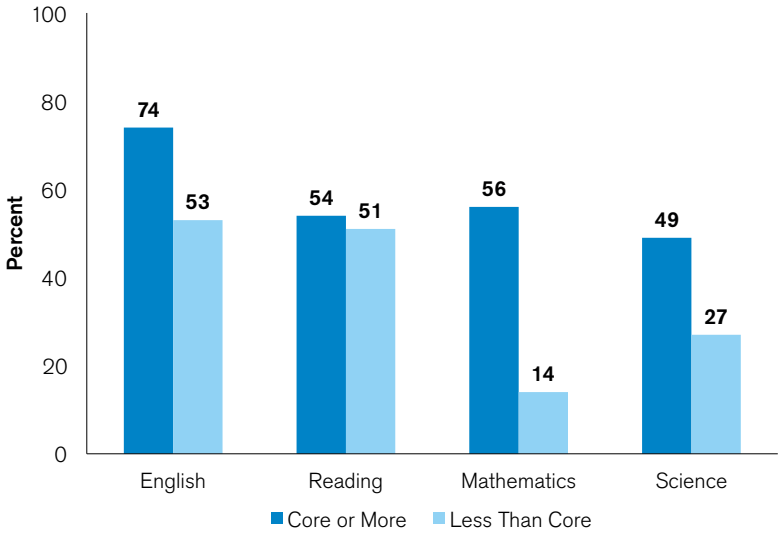
* Race/ethnicity categories changed in 2011 to reflect updated US Department of Education reporting requirements.[2]

Maryland

Course-Taking Patterns and Benchmark Performance

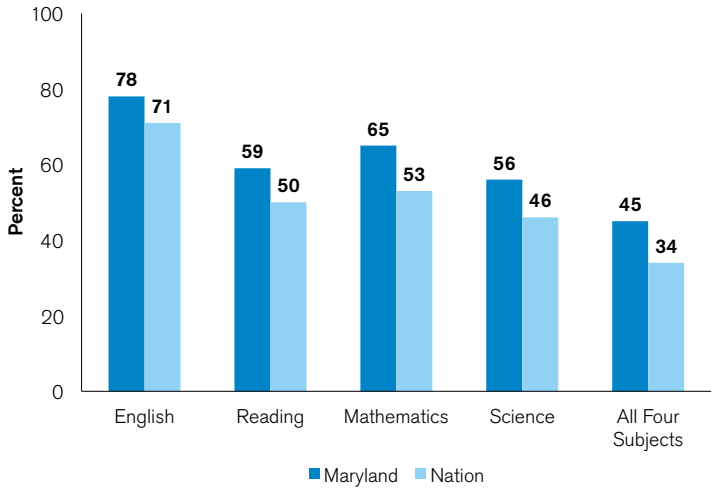
Within subjects, ACT has consistently found that students who take the recommended core curriculum are more likely to be ready for college or career than those who do not. A core curriculum is defined as four years of English and three years each of mathematics, social studies, and science.[3]

Percent of 2014 ACT-Tested High School Graduates in Core or More vs. Less Than Core Courses Meeting ACT College Readiness Benchmarks by Subject



A First Look at STEM

Percent of 2014 ACT-Tested High School Graduates with an Interest in STEM Meeting ACT College Readiness Benchmarks by Subject

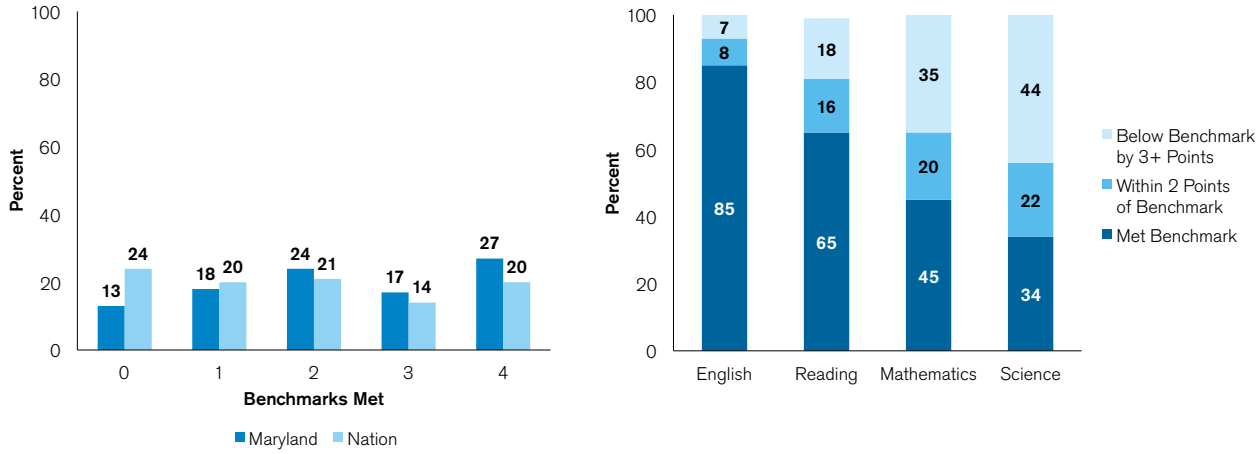


This chart compares ACT College Readiness Benchmark attainment for 2014 high school graduates in your state who have an interest in STEM majors or occupations to STEM-interested graduates nationally. Characteristics of students with an interest in STEM will be addressed in greater depth with the upcoming *Condition of STEM 2014* report to be released November 2014.

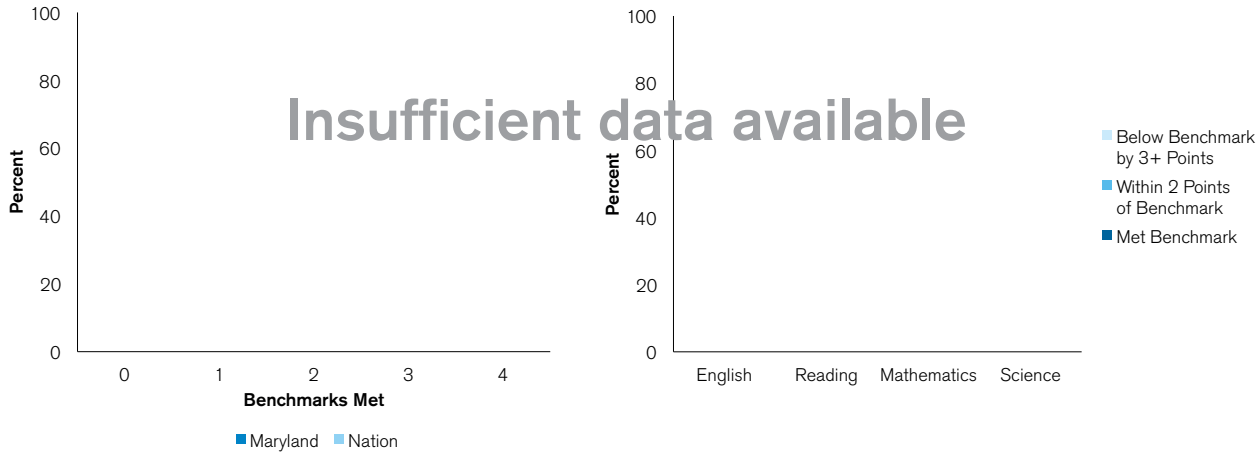
Early Preparation

ACT research shows that younger students who take rigorous curricula are more prepared to graduate from high school ready for college or career. Moreover, our research (*The Forgotten Middle*, 2008) found that "the level of academic achievement that students attain by 8th grade has a larger impact on their college and career readiness by the time they graduate from high school than anything that happens academically in high school."

Percent of 2013–2014 ACT Plan®–Tested 10th Graders Meeting ACT College Readiness Benchmarks (N = 1,633)



Percent of 2013–2014 ACT Explore®–Tested 8th Graders Meeting ACT College Readiness Benchmarks



Maryland

ACT College Readiness Benchmark Attainment for Top Planned College Majors: 2014 Graduates

When students register for the ACT, they can select a college major—from a list of 294 majors—that they plan to pursue in college. Among recent ACT-tested high school graduates nationwide, about 80% selected a specific planned major, whereas about 20% indicated that they were undecided or did not select a major.

This table ranks the state's top (most frequently selected) majors among 2014 graduates. The percentages of students meeting the ACT College Readiness Benchmarks are shown for each major. Across these planned majors, there are considerable differences in the percentage of students who are ready to succeed in college.

Major Name	N	English	Reading	Math	Science	All Four
Undecided	2,257	78	60	61	52	43
Medicine (Pre-Medicine)	513	83	63	66	60	47
Biology, General	479	83	64	66	56	47
Business Administration and Management, General	472	61	39	43	32	22
Nursing, Registered (BS/RN)	421	59	38	33	29	19
No Major Indicated	353	71	61	43	48	38
Mechanical Engineering	346	81	59	80	67	52
Biochemistry and Biophysics	290	86	62	70	60	51
Criminology	285	50	32	29	27	18
Computer Science and Programming	283	79	66	73	66	55
Law (Pre-Law)	209	67	54	47	39	33
Psychology, Clinical and Counseling	205	69	46	41	31	23
Psychology, General	203	73	52	46	41	28
Engineering (Pre-Engineering), General	197	90	78	89	77	71
Accounting	191	62	36	52	35	22
Physical Therapy (Pre-Physical Therapy)	187	70	50	52	47	33
Aerospace/Aeronautical Engineering	172	85	65	81	71	56
Elementary Education	170	66	45	34	29	18
Athletic Training	169	50	31	26	24	12
Chemistry	167	84	66	75	65	56
Marketing Management and Research	159	75	45	47	35	25
Biomedical Engineering	149	92	81	85	74	68
Political Science and Government	149	79	66	63	55	45
Marine/Aquatic Biology	147	78	64	54	55	41
Electrical, Electronics and Communications Engin.	146	73	53	73	60	46
Computer Engineering	143	74	56	66	53	42
Chemical Engineering	131	95	79	90	82	73
Civil Engineering	128	77	56	76	61	46
Early Childhood Education	128	51	34	24	19	11
Cell/Cellular Biology	123	82	66	72	66	51

Note: *Undecided* and/or *No Major Indicated* are included in the table, if applicable. The former refers to students who selected the option *Undecided* from the list of majors. The latter refers to students who did not respond to the question.

ACT College Readiness Benchmark Attainment for the Top Planned College Majors with Good Fit: 2014 Graduates

Many students gravitate toward majors that align with their preferred activities and values. ACT research has shown that greater *interest-major fit* is related to important student outcomes such as persistence in a major or college. This table shows, for each planned major, the numbers and percentages of students displaying good interest-major fit[4], as well as the percentages of students meeting the ACT College Readiness Benchmarks. Since only students who completed the ACT Interest Inventory during ACT registration are included here, this table shows results for a subset of the students in the prior table. These planned majors vary considerably in the percentage of students displaying good interest-major fit and meeting the ACT College Readiness Benchmarks. The results highlight the importance of examining multiple predictors of college success and affirm the value of a holistic view of college readiness.

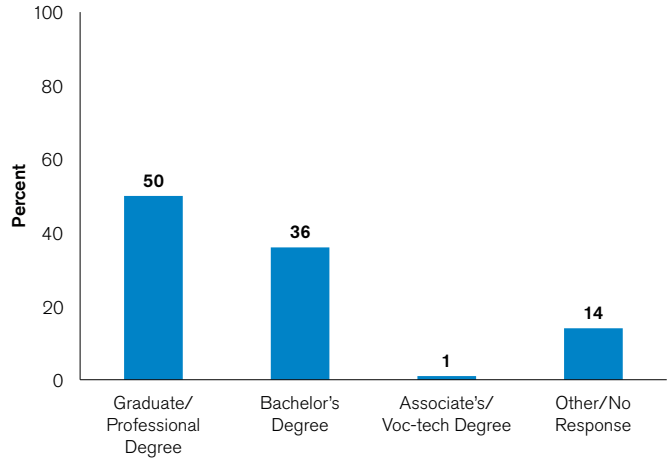
Major Name	N Fit	% Fit	English	Reading	Math	Science	All Four
Undecided			No profile available				
Medicine (Pre-Medicine)	193	38	83	62	65	61	46
Biology, General	192	40	88	69	65	58	50
Business Administration and Management, General	130	28	62	41	45	35	24
Nursing, Registered (BS/RN)	157	37	64	40	36	35	18
No Major Indicated			No profile available				
Mechanical Engineering	86	25	86	64	88	74	58
Biochemistry and Biophysics	126	43	86	64	68	64	52
Criminology	47	16	57	36	34	32	21
Computer Science and Programming	51	18	82	75	75	76	67
Law (Pre-Law)	81	39	73	56	51	47	36
Psychology, Clinical and Counseling	30	15	70	53	33	27	23
Psychology, General	42	21	83	69	52	52	29
Engineering (Pre-Engineering), General	43	22	95	84	91	84	72
Accounting	74	39	61	38	53	35	23
Physical Therapy (Pre-Physical Therapy)	48	26	69	56	54	52	38
Aerospace/Aeronautical Engineering	43	25	86	60	84	84	58
Elementary Education	43	25	70	56	30	19	16
Athletic Training	44	26	57	32	27	30	16
Chemistry	71	43	82	66	76	69	59
Marketing Management and Research	45	28	76	44	47	31	20
Biomedical Engineering	48	32	90	83	81	79	75
Political Science and Government	63	42	83	75	63	54	48
Marine/Aquatic Biology	68	46	81	68	60	60	47
Electrical, Electronics and Communications Engin.	36	25	72	61	75	64	50
Computer Engineering	26	18	81	73	85	69	58
Chemical Engineering	49	37	94	80	92	78	76
Civil Engineering	24	19	67	46	71	46	33
Early Childhood Education	35	27	66	40	17	11	6
Cell/Cellular Biology	48	39	85	69	73	73	54

Note: *Undecided* and/or *No Major Indicated* are included in the table, if applicable. The former refers to students who selected the option *Undecided* from the list of majors. The latter refers to students who did not respond to the question.

Maryland

Other College and Career Readiness Factors

Percent of 2014 ACT-Tested High School Graduates by Educational Aspirations



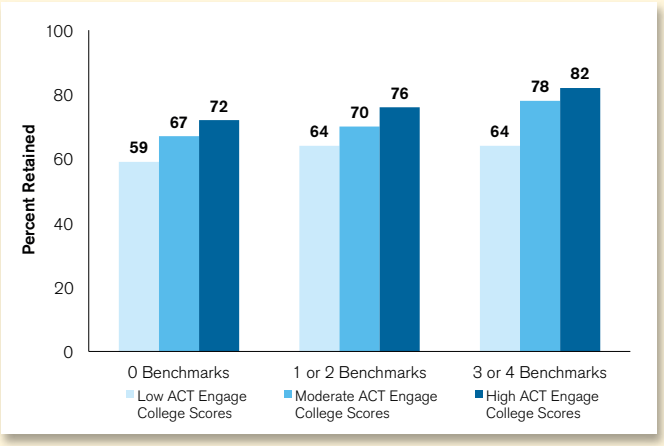
Aligning Student Behaviors, Planning, and Aspirations

Most students aspire to a post–high school credential. To help them meet those aspirations, educational planning, monitoring, and interventions must be aligned to their aspirations, begin early, and continue throughout their educational careers.

There is good news in that 86% of Maryland's 2014 ACT-tested graduates aspired to postsecondary education. Interestingly, 84% of Maryland's 2013 ACT-tested graduating class aspired to enroll in postsecondary education, compared to 86% who actually did enroll. A positive note is that more 2013 Maryland ACT-tested graduates enrolled in postsecondary education than initially aspired to do so.

Academic Achievement, Behaviors, and College Retention

College Retention Rates by Number of ACT Benchmarks Met and ACT Engage® College Scores*



Across all ACT College Readiness Benchmark attainment levels, students with higher ACT Engage College scores (based on the mean percentile scores of ACT Engage scales Academic Discipline, Commitment to College, and Social Connection) remain enrolled in a postsecondary institution after the first year of college at substantially higher rates than students with lower ACT Engage College scores.

* Based on N = 13,697 ACT-tested graduates of 2011 and 2012 who also took the ACT Engage College assessment and enrolled in college. Students with a mean percentile score of less than 25 were classified as low, those with scores between 25 and 75 were classified as moderate, and those with scores greater than 75 were classified as high.

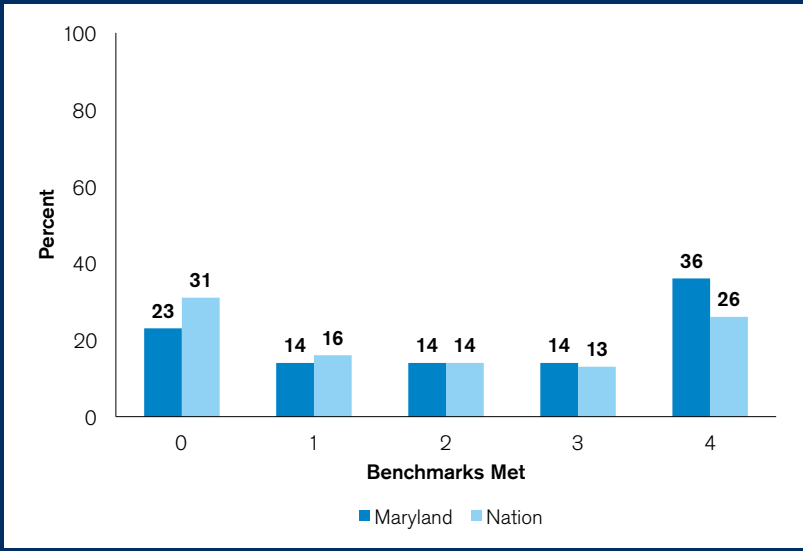
Looking Back at the Class of 2013

Maryland

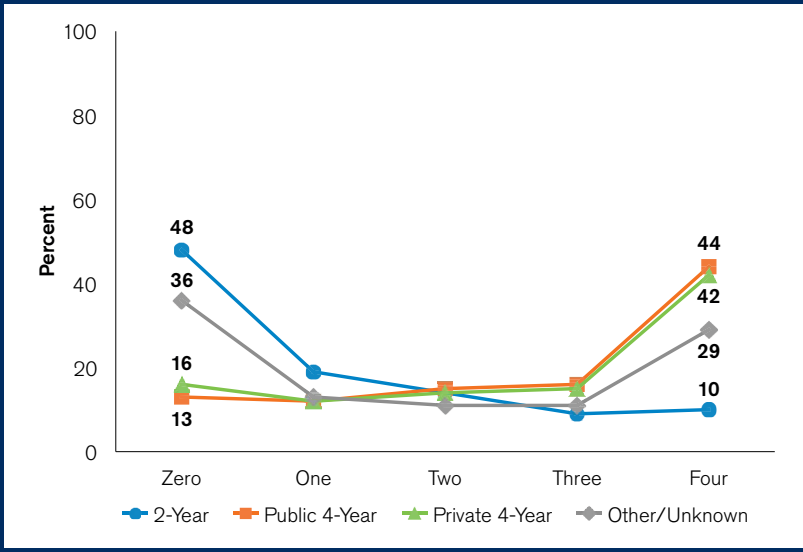
ACT College Readiness Benchmarks and Fall 2013 College Enrollment

Academic achievement, as measured by ACT College Readiness Benchmark attainment, has a clear and distinctive relationship with the path taken by high school graduates. Those who were more academically ready were more likely to enroll in 4-year institutions. Graduates who enrolled in 2-year colleges or pursued other options after high school were more likely to have met fewer Benchmarks. For the sizable number of 2013 graduates who did not meet any Benchmarks, their post–high school opportunities appear to have been limited compared to their college-ready peers.

Percent of 2013 ACT-Tested High School Graduates by Number of ACT College Readiness Benchmarks Attained



Percent of 2013 ACT-Tested High School Graduates by Number of ACT College Readiness Benchmarks Attained and Fall 2013 College Enrollment Status



Maryland

2014 State Percent of High School Graduates Tested, Average Composite Score, and Percent Meeting Benchmarks by Subject

State	Percent of Graduates Tested*	Average Composite Score	Percent Meeting English Benchmark	Percent Meeting Reading Benchmark	Percent Meeting Math Benchmark	Percent Meeting Science Benchmark
Colorado	100	20.6	63	43	39	36
Illinois	100	20.7	62	41	41	35
Kentucky	100	19.9	59	37	31	29
Louisiana	100	19.2	56	32	27	24
Michigan	100	20.1	59	36	35	33
Mississippi	100	19.0	53	31	21	21
Montana	100	20.5	60	44	39	33
North Carolina	100	18.9	47	30	33	23
North Dakota	100	20.6	62	42	41	34
Tennessee	100	19.8	59	37	30	28
Utah	100	20.8	63	43	39	36
Wyoming	100	20.1	59	40	34	31
Arkansas	93	20.4	63	41	35	32
Hawaii	90	18.2	42	26	27	20
Nebraska	86	21.7	72	48	45	42
Florida	81	19.6	53	38	33	27
Alabama	80	20.6	65	43	31	31
South Dakota	78	21.9	72	51	52	46
Minnesota	76	22.9	77	56	61	53
Missouri	76	21.8	72	51	45	42
Kansas	75	22.0	72	51	50	44
Oklahoma	75	20.7	66	45	35	35
Wisconsin	73	22.2	75	51	54	49
Ohio	72	22.0	72	52	50	45
New Mexico	69	19.9	55	37	33	29
Iowa	68	22.0	75	52	48	47
West Virginia	65	20.6	68	45	31	32
South Carolina	58	20.4	61	41	39	33
Arizona	55	19.7	54	37	37	29
Georgia	53	20.8	64	44	38	34
Idaho	45	22.4	75	55	53	45
Indiana	40	21.9	70	51	52	42
Texas	40	20.9	60	42	47	36

2014 State Percent of High School Graduates Tested, Average Composite Score, and Percent Meeting Benchmarks by Subject

State	Percent of Graduates Tested*	Average Composite Score	Percent Meeting English Benchmark	Percent Meeting Reading Benchmark	Percent Meeting Math Benchmark	Percent Meeting Science Benchmark
Alaska	37	21.0	63	48	45	36
District of Columbia	37	21.6	61	47	47	41
Nevada	36	21.2	65	47	46	37
Oregon	36	21.4	67	49	47	40
California	29	22.3	71	51	57	43
Connecticut	29	24.2	86	65	69	59
Vermont	29	23.2	78	58	60	52
Virginia	28	22.8	76	58	57	49
New York	27	23.4	79	59	67	55
New Jersey	25	23.1	77	57	64	50
Massachusetts	23	24.3	85	65	72	58
Maryland	22	22.6	73	54	55	47
Washington	22	23.0	74	58	62	52
New Hampshire	20	24.2	86	66	69	59
Pennsylvania	19	22.7	75	55	59	49
Delaware	18	23.2	77	61	60	52
Rhode Island	16	22.9	77	60	59	48
Maine	9	23.6	84	61	65	53
National	57	21.0	64	44	43	37

* Totals for graduating seniors were obtained from *Knocking at the College Door: Projections of High School Graduates*, 8th edition. © December 2012 by the Western Interstate Commission for Higher Education.

Policies and Practices

How to Increase Readiness

Approximately 26% of all 2014 ACT-tested high school graduates met all four of the ACT College Readiness Benchmarks indicating academic readiness for credit-bearing first-year college courses in English Composition, College Algebra, Biology, and the social sciences. At the same time, 16% of all 2014 ACT-tested high school graduates met only one Benchmark, and 31% met none. Based on decades of ACT research, the following recommendations include steps that states, districts, schools, and classrooms can take to increase student readiness for college-level work.

State Policy Recommendations

Advance college and career readiness through a renewed focus on teaching and learning. With the majority of states and the District of Columbia having adopted more rigorous college and career readiness standards—and assessments to measure student progress toward those standards—it is more important than ever for state and local systems to align other educational elements to these standards. These elements include curriculum alignment to standards; experiential learning opportunities; and teacher professional development, especially as it relates to integrating the standards into current teaching practices and increasing assessment literacy. Research shows that systemic alignment of key policies and school activities empowers educators to support students in making notable gains in student achievement.

Set clear performance standards to evaluate college and career readiness. States must define performance standards so that everyone knows "how good is good enough" for students to have a reasonable chance of success at college or on the job. ACT defines college readiness in English, reading, math, and science using decades of student performance data. For each area, students who are considered college ready have a 50% chance of earning a B or higher or about a 75% chance of earning a C or higher in the corresponding first-year English Composition, introductory social science, College Algebra, or Biology course. Longitudinal, real-world data and research on what constitutes student success are now available to every state and district, as are standards and benchmarks against which the performance of students and schools can be measured and state progress noted.

Implement a high-quality student assessment system. As states adopt and implement new high-quality assessment systems, they should ensure that those systems measure and provide timely and actionable information about student performance aligned to college and career readiness. High-quality assessments must:

- Monitor growth over a student's educational experience, starting in elementary school and through high school, so that educators can make timely instructional decisions and interventions based on reliable information.
- Be aligned, linked, and longitudinal in nature to be an effective tool for students, teachers, administrators, and parents in monitoring student progress.
- Be mindful of and incorporate the unique accessibility needs of English language learners and students with disabilities, and the tests must be constructed in deep consultation with experts on these populations.
- Vary according to the type of standards that need to be measured. These multiple measures can be used to offer more comprehensive evaluations of student achievement, from multiple-choice and constructed-response assessments to performance tasks and project-based learning.
- Be offered through multiple platforms. While computer-based testing is highly applicable to formative assessments that can be conducted on an on-demand basis, paper-and-pencil testing may be a reality for states and districts with less technological capacity. Until computer and broadband access for such large groups of students are sufficiently widespread in schools, both platforms must be available.
- Offer multiple stakeholders—especially teachers—ongoing, real-time, interactive reporting and access to assessment results and other related data.

These principles are consistent with the goals of other principles for high-quality college and career readiness assessments set forth by experts in the field.[5]

Support programs targeted at developing behaviors that aid students' academic success. Monitoring students' academic performance is critical, but certain academically related behaviors also contribute to student persistence and success. If students are to be successful in meeting a core set of academic standards, they need to be sufficiently motivated to persist at their work. The behavioral habits that contribute most directly to student postsecondary success include motivation, social engagement, and self-regulation.[6] Measuring these and other academically related factors is possible, and doing so can assess risk at important points in students' academic trajectories and identify areas of need and support.[7] Cultivating behavioral habits that contribute to postsecondary and workforce achievement can have a noticeable impact on students' achievement and persistence levels.

Provide all students with access to a rigorous high school core curriculum. While in recent years, most states have increased course requirements for high school graduation, too often those requirements have not specified the particular courses that prepare students for postsecondary success. In the absence of such specific and

Policies and Practices

rigorous high school graduation requirements, too many students are not taking either the right number or the right kinds of courses they need to be ready for college and career. All states, therefore, should specify the number and kinds of courses that students need to take to graduate academically ready for life after high school. At minimum, ACT recommends the following:

- Four years of English
- Three years of mathematics, including rigorous courses in Algebra I, Geometry, and Algebra II
- Three years of science, including rigorous courses in Biology, Chemistry, and Physics
- Three years of social studies

Invest in early childhood education programs so that more children are ready to learn. Improving college and career readiness for all students begins as early as kindergarten—where gaps between low-income students and their more advantaged peers already exist.[8] Large numbers of underserved students enter kindergarten behind academically in early reading and mathematics skills, oral language development, vocabulary, and general knowledge. Gaps also exist in the development of academic and social behaviors such as listening, following instructions, and resolving conflicts. States should not only continue to invest in, but also expand access to, high-quality, research-based early learning opportunities for *all* students from prekindergarten to third grade to address learning gaps well before eighth grade, by which time these gaps become much more difficult to reverse.

Continue to implement monitoring and early warning systems that help educators identify and intervene with at-risk students. An effective monitoring system should provide an evolving picture of students over time and identify their unique learning needs at various points along their educational careers. Adoption of such systems in states where they do not yet exist—as well as expansion of system capabilities in states where they currently exist—will support earlier and more effective interventions by providing teachers with information to implement the necessary interventions to maximize student potential. Teachers, who have been consistently identified as the most important school-based factor in student achievement, should be equipped with as much relevant data as possible to inform and supplement their efforts.[9] The data should help to identify students in need of intervention and model student growth toward college and career readiness.

Continue development of thoughtful and fair teacher evaluation systems that include multiple measures of performance—including student growth data. To help ensure that teachers and administrators have access to relevant feedback about their effectiveness at preparing all students for college and career, it is critical to offer continued support for developing and implementing robust teacher evaluation systems that include multiple measures of performance. Such development and implementation must proceed thoughtfully and be accompanied by education and communication about the appropriate use of student growth data in these systems.

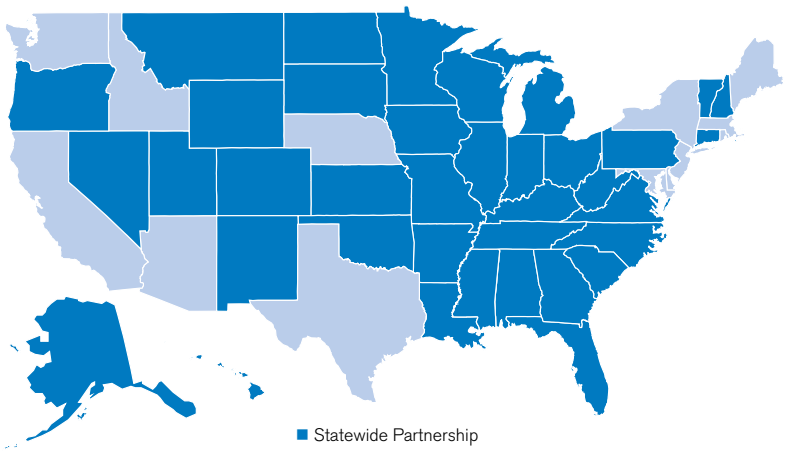
Increase support for the development of STEM-related courses to meet the coming demand for a larger STEM workforce. Education in science, technology, engineering, and mathematics (STEM) is vital to the ability of the United States to maintain its position of global leadership and economic competitiveness. With more than 8.6 million STEM-related jobs anticipated by the year 2018, preparing and encouraging students to pursue STEM majors and careers becomes even more important. To identify new programs that will better attract students to and retain them in STEM-related careers, states should seek opportunities to collaborate with multiple entities, including business; national workforce and job readiness groups; local chambers of commerce; and universities, community colleges, and technical schools.

Implement policies for data-driven decision making. Teachers must have access to high-quality, actionable data that can be used to improve instruction. Without such data, opinion can overly influence key instructional decisions. To address this challenge, states have been hard at work developing longitudinal P–16 data systems. This work should continue, but more must be done. To ensure that students are prepared for the 21st century, states must have systems that allow schools and districts to closely monitor student performance at every stage of the learning pipeline, from preschool through college. Policies governing teacher and administrator preparation and professional development must include an emphasis on developing skills to use data appropriately to improve the practices of teaching and learning for all students in the pipeline.

Resources

Statewide Partnerships in College and Career Readiness

States that incorporate ACT's college and career readiness solutions as part of their statewide assessments provide greater access to higher education and increase the likelihood of student success in postsecondary education. Educators also have the ability to establish a longitudinal plan using ACT's assessments, which provide high schools, districts, and states with unique student-level data that can be used for effective student intervention plans.



State administration of ACT's programs and services:

- Increases opportunities for minority and middle- to low-income students.
- Promotes student educational and career planning.
- Reduces the need for remediation.
- Correlates with increases in college enrollment, persistence, and student success.
- Aligns with state standards.

ACT Aspire **3rd- through 8th-grade students**	ACT Explore **8th- and 9th-grade students**	ACT Plan **10th-grade students**	The ACT **11th- and 12th-grade students**	ACT QualityCore **8th- through 12th-grade students**	ACT WorkKeys **11th- and 12th-grade students**	**ACT National Career Readiness Certificate™**	
Alabama	Alabama	Alabama	Alabama	Alabama	Alaska	Alabama	New Mexico
	Arkansas	Arkansas	Arkansas*	Kentucky	Illinois	Alaska	North Carolina
	Hawaii	Florida	Colorado		Hawaii	Arkansas	North Dakota
	Illinois	Hawaii	Hawaii		Michigan	Colorado	Ohio
	Kentucky	Illinois	Illinois		North Carolina	Connecticut	Oklahoma
	Louisiana	Kentucky	Kentucky		North Dakota	Florida	Oregon
	Michigan	Louisiana	Louisiana		Wyoming	Georgia	Pennsylvania
	Minnesota	Michigan	Michigan			Indiana	South Carolina
	North Carolina	Minnesota	Minnesota*			Iowa	South Dakota
	Oklahoma	New Mexico	Mississippi*			Kansas	Tennessee
	South Carolina	North Carolina	Missouri*			Kentucky	Vermont
	Tennessee	Oklahoma	Montana			Louisiana	Virginia
	Utah	Tennessee	Nevada*			Michigan	West Virginia
	West Virginia	Utah	North Carolina			Minnesota	Wisconsin
	Wyoming	West Virginia	North Dakota			Mississippi	Wyoming
		Wyoming	Tennessee			Missouri	
			Utah			Montana	
			Wisconsin*			New Hampshire	
			Wyoming				

* Indicates a state offering statewide testing in the 2014–15 academic year.

ACT Research

The continued increase of test takers enhances the breadth and depth of the data pool, providing a comprehensive picture of the current college readiness levels of the graduating class as well as offering a glimpse of the emerging national educational pipeline. It also allows us to review various aspects of the ACT-tested graduating class, including the following reports:

Releasing in the 2014–2015 Academic Year

- *The Condition of STEM 2014*
- *The Condition of College & Career Readiness—African American Students*
- *The Condition of College & Career Readiness—American Indian Students*
- *The Condition of College & Career Readiness—Asian Students*
- *The Condition of College & Career Readiness—Hispanic Students*
- *The Condition of College & Career Readiness—Pacific Islander Students*
- *The Condition of College & Career Readiness—First-Generation Students*
- *The Condition of College & Career Readiness—Students from Low-Income Families*

Other ACT Research Reports

***College Choice Report* (for the graduating class of 2012)**

- *Part 1: Preferences and Prospects*—November 2012
- *Part 2: Enrollment Patterns*—July 2013
- *Part 3: Persistence and Transfer*—April 2014

***College Choice Report* (for the graduating class of 2013)**

- *Part 1: Preferences and Prospects*—November 2013
- *Part 2: Enrollment Patterns*—July 2014
- *Part 3: Persistence and Transfer*—April 2015

To be notified of exact release dates, please subscribe here: **www.act.org/research/subscribe.html**.

How Does ACT Determine if Students Are College Ready?

The ACT College Readiness Benchmarks are scores on the ACT subject area tests that represent the level of achievement required for students to have a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in corresponding credit-bearing first-year college courses. Based on a nationally stratified sample, the Benchmarks are median course placement values for these institutions and represent a typical set of expectations. ACT College Readiness Benchmarks were revised for 2013 graduating class reporting. The ACT College Readiness Benchmarks are:

College Course	Subject Area Test	Original ACT College Readiness Benchmark	Revised ACT College Readiness Benchmark
English Composition	English	18	18
Social Sciences	Reading	21	22
College Algebra	Mathematics	22	22
Biology	Science	24	23

Notes

1. The data presented herein are based on the *ACT Profile Report—State: Graduating Class 2014* for each respective state, accessible at **www.act.org/readiness/2014**. With the exception of the top graph on page 6, data related to students who did not provide information or who responded "Other" to questions about gender, race/ethnicity, high school curriculum, etc., are not presented explicitly.
2. The race/ethnicity categories changed in 2011 to reflect updated US Department of Education reporting requirements; trends to previous reports may not be available for all race/ethnicity categories.
3. Data reflect subject-specific curriculum. For example, English "Core or More" results pertain to students who took at least four years of English, regardless of courses taken in other subject areas.
4. The interest-major fit score measures the strength of the relationship between the student's profile of ACT Interest Inventory scores and the profile of students' interests in the major shown. Interest profiles for majors are based on a national sample of undergraduate students with a declared major and a GPA of at least 2.0. Major was determined in the third year for students in 4-year colleges and in the second year for students in 2-year colleges. Interest-major fit scores range from 0–99, with values of 80 and higher indicating good fit.
5. See, for example, Council of Chief State School Officers, *Transition to High-Quality, College- and Career-Ready Assessments: Principles to Guide State Leadership and Federal Requirements* (Washington, DC: Council of Chief State School Officers, May 23, 2013), http://www.ccsso.org/Documents/2013/CCSSO_State_Principles_on_Assessment_Transition_5-23-13.pdf; and Linda Darling-Hammond et al., *Criteria for High-Quality Assessment* (Stanford, CA: Stanford Center for Opportunity Policy in Education, June 2013), https://edpolicy.stanford.edu/sites/default/files/publications/criteria-higher-quality-assessment_2.pdf.
6. ACT, *Enhancing College and Career Readiness and Success: The Role of Academic Behaviors* (Iowa City, IA: ACT), http://www.act.org/engage/pdf/ENGAGE_Issue_Brief.pdf.
7. ACT, *Importance of Student Self-Regulation* (Iowa City, IA: ACT, January 2013), http://www.act.org/research/researchers/briefs/pdf/2013-3.pdf.
8. Chrys Dougherty, *College and Career Readiness: The Importance of Early Learning Success* (Iowa City, IA: ACT, February 2013), http://www.act.org/research/policymakers/pdf/ImportanceofEarlyLearning.pdf.
9. Daniel F. McCaffrey, J.R. Lockwood, Daniel M. Koretz, and Laura S. Hamilton, *Evaluating Value-Added Models for Teacher Accountability* (Santa Monica, CA: RAND Corporation, 2003), http://www.rand.org/content/dam/rand/pubs/monographs/2004/RAND_MG158.pdf.

ACT is an independent, nonprofit organization that provides assessment, research, information, and program management services in the broad areas of education and workforce development. Each year, we serve millions of people in high schools, colleges, professional associations, businesses, and government agencies, nationally and internationally. Though designed to meet a wide array of needs, all ACT programs and services have one guiding purpose—helping people achieve education and workplace success.

A copy of this report can be found at
www.act.org/readiness/2014

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