

# 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<sup>1</sup>

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?

# **Key Findings**

## **Virginia**

#### **About Your Graduating Class**

In Virginia, there were 22,977 students in the 2014 graduating class who took the ACT. This translates into an estimated 28% of the 2014 Virginia graduating class being tested with the ACT. Virginia saw an increase in ACT-tested graduates of 19% 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.

Virginia 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. Virginia's ACT-tested graduating class had 9% 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**

Virginia 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**

Virginia 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 Virginia, this means that the 54% 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, Virginia saw 60% of core-taking students meeting the math ACT College Readiness Benchmark, compared to 35% of non-core-taking students meeting the Benchmark. In this graduating class, 8% of Virginia's ACT-tested graduates reported they did not plan to take a core curriculum, which means that 1,900 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 89% of Virginia's 2014 ACT-tested graduates aspired to postsecondary education. Interestingly, 87% of Virginia's 2013 ACT-tested graduating class aspired to enroll in postsecondary education, compared to 86% who actually did enroll. If we fully closed the aspirational gap, an additional 251 of the 2013 ACT-tested graduates from Virginia would have enrolled in postsecondary education.

#### 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

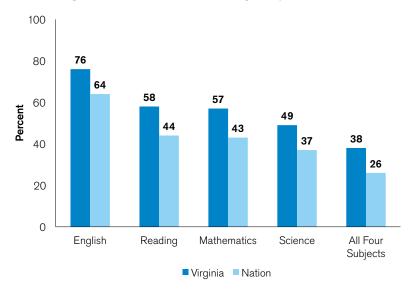
ACT research (The Reality of College Readiness, 2013; Readiness Matters, 2013) demonstrates that academically prepared students, as measured by the ACT College Readiness Benchmarks, have greater chances for success in their future educational endeavors. However, ACT research suggests that there are other 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.



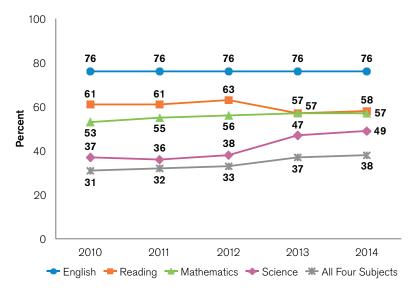
## **Attainment of College and Career Readiness**

- 22,977 of your graduates, which is an estimated 28% of your graduating class, took the ACT.\*
- From 2010–2014, the number of ACT test-taking graduates has increased by 19.4%, while the estimated number of graduates in your state has decreased by 6.3%.

# 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\*\*



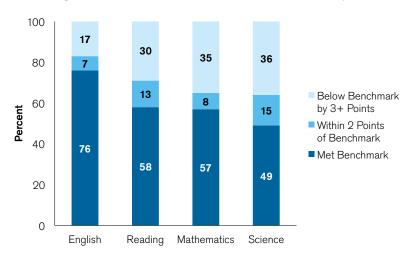
<sup>\*\*</sup>ACT College Readiness Benchmarks in reading and science were revised in 2013. See page 19 for details.

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

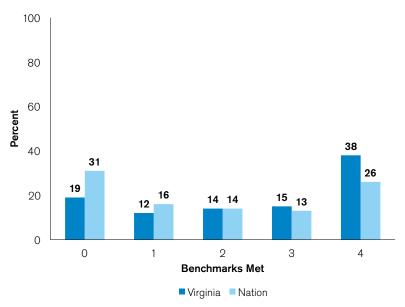
<sup>\*</sup> Totals for graduating seniors were obtained from *Knocking at the College Door: Projections of High School Graduates*, 8th edition.
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# **Near Attainment of College and Career Readiness**

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

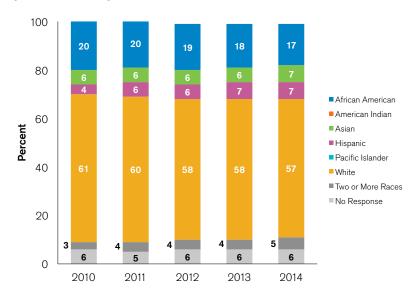




# **Participation and Opportunity**

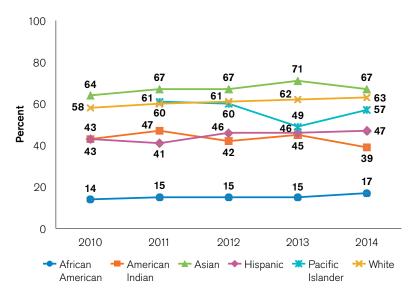
Over the past decade, ACT has experienced unprecedented growth in the number of students tested, as well as statewide partnerships in 13 states and in many districts across the country. As a result, the 2014 Condition of College & Career Readiness report provides a much deeper and more representative 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\*

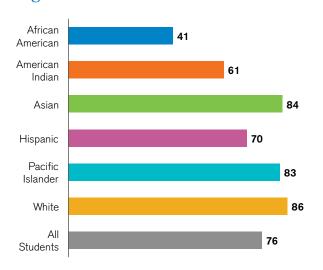


<sup>\*</sup> Race/ethnicity categories changed in 2011 to reflect updated US Department of Education reporting requirements.<sup>2</sup>

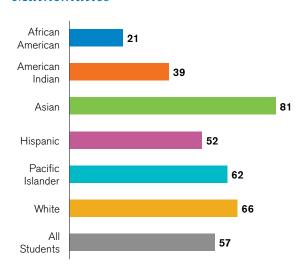
# **Participation and Opportunity by Subject**

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

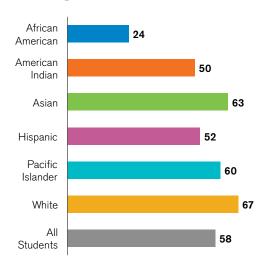
### English



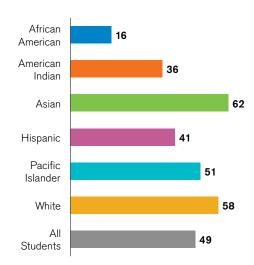
### **Mathematics**



## Reading



### Science



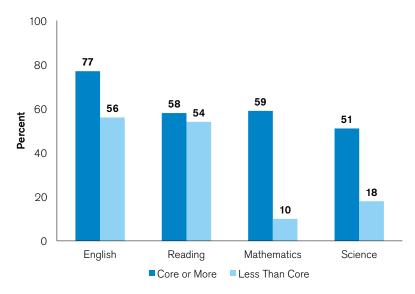
<sup>\*</sup> Race/ethnicity categories changed in 2011 to reflect updated US Department of Education reporting requirements.2



## **Course-Taking Patterns and Benchmark Performance**

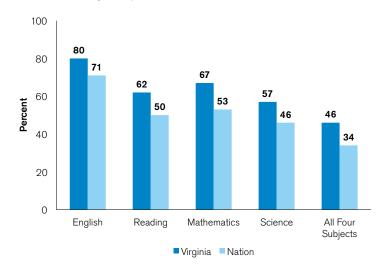
Within subjects, ACT has consistently found that students who take the recommended core curriculum are more likely to be ready for college or career than those who do not. A core curriculum is defined as four years of English and three years each of mathematics, social studies, and science.<sup>3</sup>

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

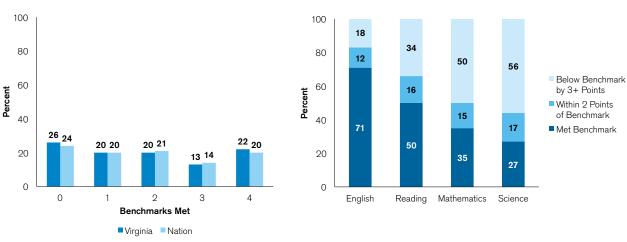


This chart compares ACT College Readiness Benchmark attainment for 2014 high school graduates in your state who have an interest in STEM majors or occupations to STEM-interested graduates nationally. Characteristics of students with an interest in STEM will be addressed in greater depth with the upcoming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

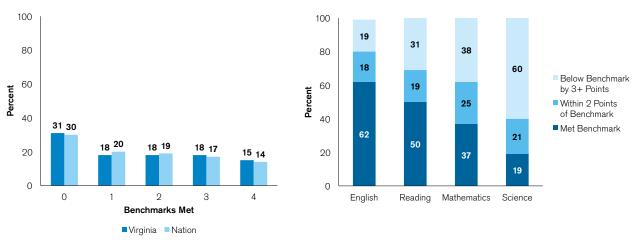
# **Early Preparation**

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 = 2,604)



### Percent of 2013-2014 ACT Explore®-Tested 8th Graders Meeting ACT College Readiness Benchmarks (N = 6,841)





# **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	4,156	77	58	59	50	40
Medicine (Pre-Medicine)	904	88	70	75	65	54
Nursing, Registered (BS/RN)	774	64	42	33	29	18
Business Administration and Management, General	745	71	51	52	41	29
Biology, General	640	83	67	70	61	51
Mechanical Engineering	553	85	69	80	69	58
Criminology	470	56	39	25	26	12
Computer Science and Programming	424	84	66	76	67	55
Physical Therapy (Pre-Physical Therapy)	420	72	46	49	42	27
Biochemistry and Biophysics	398	88	74	76	65	56
Law (Pre-Law)	371	79	62	52	50	37
Athletic Training	333	54	33	33	26	15
Elementary Education	321	70	46	41	37	23
Marketing Management and Research	320	74	53	51	44	32
Psychology, Clinical and Counseling	318	69	51	38	35	26
Aerospace/Aeronautical Engineering	310	89	74	86	78	64
Engineering (Pre-Engineering), General	308	89	74	89	79	65
Psychology, General	270	80	65	51	46	36
Accounting	268	73	45	67	46	32
Biomedical Engineering	257	95	81	93	81	72
Marine/Aquatic Biology	255	76	56	51	49	32
Chemistry	250	89	69	80	69	57
Civil Engineering	218	86	63	85	65	52
Computer Engineering	216	83	61	75	58	47
International Relations and Affairs	215	92	81	77	60	55
No Major Indicated	213	68	54	51	42	32
Chemical Engineering	209	90	79	90	82	71
Political Science and Government	195	87	76	66	54	48
Pharmacy (Pre-Pharmacy)	188	74	45	54	44	28
Electrical, Electronics and Communications Engin.	185	84	70	75	65	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.

# **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<sup>4</sup>, 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.

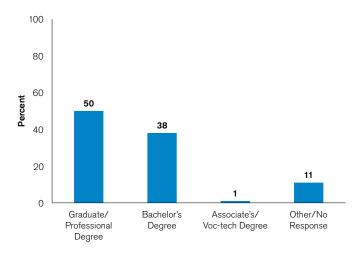
Major Name	N Fit	% Fit	English	Reading	Math	Science	All Four
Undecided				No profile	available		
Medicine (Pre-Medicine)	361	40	90	72	75	63	52
Nursing, Registered (BS/RN)	228	29	69	41	35	31	18
Business Administration and Management, General	206	28	76	58	55	42	29
Biology, General	269	42	86	68	71	63	52
Mechanical Engineering	150	27	88	69	82	74	60
Criminology	69	15	64	42	25	28	14
Computer Science and Programming	87	21	86	67	79	66	55
Physical Therapy (Pre-Physical Therapy)	121	29	74	48	50	46	30
Biochemistry and Biophysics	189	47	89	75	76	63	54
Law (Pre-Law)	138	37	80	66	52	47	36
Athletic Training	59	18	66	36	41	31	17
Elementary Education	87	27	72	39	37	30	15
Marketing Management and Research	76	24	80	59	57	49	33
Psychology, Clinical and Counseling	41	13	76	59	34	32	24
Aerospace/Aeronautical Engineering	87	28	86	79	85	77	64
Engineering (Pre-Engineering), General	73	24	89	75	85	79	64
Psychology, General	64	24	89	72	53	48	39
Accounting	124	46	75	47	71	49	31
Biomedical Engineering	88	34	97	86	92	81	77
Marine/Aquatic Biology	122	48	81	62	52	52	33
Chemistry	97	39	88	65	75	65	52
Civil Engineering	46	21	80	63	83	65	54
Computer Engineering	49	23	86	57	82	65	49
International Relations and Affairs	32	15	97	84	88	66	63
No Major Indicated			No profile available				
Chemical Engineering	73	35	95	81	95	86	75
Political Science and Government	83	43	89	80	66	57	51
Pharmacy (Pre-Pharmacy)	68	36	72	44	54	49	28
Electrical, Electronics and Communications Engin.	45	24	73	64	67	62	49

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.



# Other College and Career Readiness Factors

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



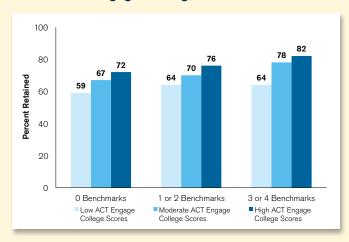
## Aligning Student Behaviors, Planning, and Aspirations

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 89% of Virginia's 2014 ACT-tested graduates aspired to postsecondary education. Interestingly, 87% of Virginia's 2013 ACT-tested graduating class aspired to enroll in postsecondary education, compared to 86% who actually did enroll. If we fully closed the aspirational gap, an additional 251 of the 2013 ACT-tested graduates from Virginia would have enrolled in postsecondary education.

# Academic Achievement, Behaviors, and College Retention

### College Retention Rates by Number of ACT Benchmarks Met and 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.

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.

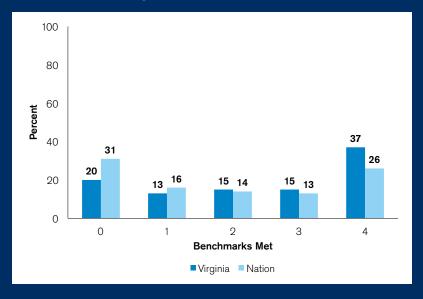
# Looking Back at the Class of 2013

# **Virginia**

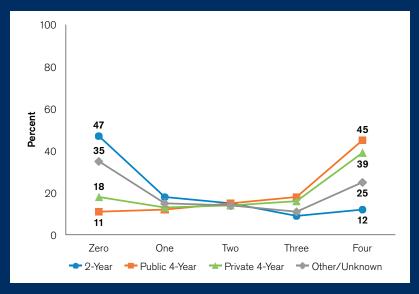
ACT College Readiness Benchmarks and Fall 2013 College Enrollment

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 posthigh school opportunities appear to have been limited compared to their collegeready 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





# 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
lowa	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

Alaska       37       21.0       63       48       45         District of Columbia       37       21.6       61       47       47         Nevada       36       21.2       65       47       46         Oregon       36       21.4       67       49       47         California       29       22.3       71       51       57         Connecticut       29       24.2       86       65       69         Vermont       29       23.2       78       58       60	36 41
Nevada         36         21.2         65         47         46           Oregon         36         21.4         67         49         47           California         29         22.3         71         51         57           Connecticut         29         24.2         86         65         69	
Oregon         36         21.4         67         49         47           California         29         22.3         71         51         57           Connecticut         29         24.2         86         65         69	0.17
California         29         22.3         71         51         57           Connecticut         29         24.2         86         65         69	37
Connecticut         29         24.2         86         65         69	40
	43
Vermont 90 929 79 59 60	59
<b>Verificit</b> 29 23.2 76 36 00	52
Virginia         28         22.8         76         58         57	49
<b>New York</b> 27 23.4 79 59 67	55
<b>New Jersey</b> 25 23.1 77 57 64	50
Massachusetts         23         24.3         85         65         72	58
<b>Maryland</b> 22 22.6 73 54 55	47
<b>Washington</b> 22 23.0 74 58 62	52
New Hampshire         20         24.2         86         66         69	59
<b>Pennsylvania</b> 19 22.7 75 55 59	49
<b>Delaware</b> 18 23.2 77 61 60	52
<b>Rhode Island</b> 16 22.9 77 60 59	48
<b>Maine</b> 9 23.6 84 61 65	53
<b>National</b> 57 21.0 64 44 43	

<sup>\*</sup> 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.<sup>6</sup> 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, researchbased 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.



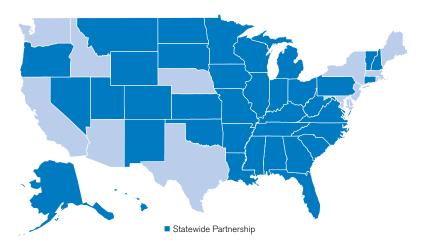
# Resources

# **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.

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

<sup>\*</sup> 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**

- 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.
- 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.
- 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.
- 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.
- 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.
- ACT, Importance of Student Self-Regulation (lowa City, IA: ACT, January 2013), http://www.act.org/research/researchers/briefs/pdf/2013-3.pdf.
- 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.
- 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** 

