The Condition of College and Career Readiness

This report looks at the progress of the 2016 ACT®-tested graduating class relative to college and career readiness. This year's report shows that **64%** of students in the 2016 US graduating class took the ACT test, up from 59% in 2015 and 49% in 2011. The increased number of test takers over the past several years enhances the breadth and depth of the data pool, providing a comprehensive picture of the current graduating class in the context of college readiness, as well as offering a glimpse at the emerging educational pipeline.

As a research-based nonprofit organization, ACT is committed to providing information and solutions to support the following:

- **Holistic view of readiness.** The 2014 ACT report, *Broadening the Definition of College and Career Readiness: A Holistic Approach*, shows academic readiness is only one of four critical domains in determining an individual's readiness for success in college and career. Cross-cutting capabilities, behavioral skills, and the ability to navigate future pathways are also important factors to measure and address. Together, these elements define a clear picture of student readiness for postsecondary education.
- **Providing meaningful data for better decisions.** ACT is focused on providing better data to students, parents, schools, districts, and states so that all can make more informed decisions to improve outcomes. We accomplish this goal by taking a holistic view and using consistent and reliable historical information so that individuals and institutions have a better context to make critical decisions about the journey they have undertaken.

The Condition of College & Career Readiness 2016

Massachusetts Key Findings

Performance

- A record number of students—20,298—took the ACT in Massachusetts's 2016 graduating class.
- In Massachusetts, the percent of students meeting the ACT College Readiness Benchmarks increased in two subject areas and stayed the same in two subject areas:
  - A 3% increase in mathematics, from 71% to 74% (average score increased by 0.3)
  - A 4% increase in reading, from 67% to 71% (average score increased by 0.7)
  - The same percent of students met the English and science Benchmarks in 2016 as in 2015 (English—85%; science—61%).
  - The average English score increased by 0.2 point and the average science score increased by 0.3 point.
  - 53% of students met all four ACT College Readiness Benchmarks, up 2% from 2015. Composite scores are up 0.4 points and Benchmark attainment is up 9% since 2012.
- Relative to ACT Composite score and subject level scores, Massachusetts saw the following:
  - Even though the size of the state's graduating class taking the ACT has grown, the average ACT Composite score increased from 24.1 to 24.8 between 2012 and 2016.
  - The average state Composite score, 24.8, currently exceeds the national average of 20.8.

STEM

- Massachusetts graduates who took advanced science and math courses show higher levels of achievement:
  - Students who took physics earned significantly higher average science scores and were more likely to meet or surpass the ACT College Readiness Benchmark in science than those who did not.
- 82% of Massachusetts test takers are taking a physics course sequence, which exceeds the national average of 51%.
- 88% of Massachusetts test takers are taking more than three years of math, compared to 71% nationally.
- STEM Benchmark Achievement
  - Over the last five years, Massachusetts has shown an increase in the science and mathematics scores for students meeting the STEM Benchmark, even as the nation has remained flat.
    - 44% of the 2016 Massachusetts graduating class met the ACT STEM Benchmark, which is 24% higher than the national average. The average score was 3.9 points above the national average. This is great news for a state with so many STEM programs.

Career Readiness

- This year, for the first time, ACT has provided an indicator of career readiness based on ACT composite scores. Table 3.4 in the state ACT Profile Report details how ACT-tested Massachusetts graduates are progressing toward the ACT National Career Readiness Certificate™ (ACT NCRC®).
- Progress toward career readiness is based on research linking ACT Composite scores to ACT NCRC levels. The ACT Composite cut score for each ACT NCRC level corresponds to a 50% chance of obtaining that level. If a student's ACT Composite score surpassed the cut score for an ACT NCRC level, they are categorized as making progress towards the next higher ACT NCRC level. Attainment of ACT NCRC levels indicates workplace employability skills that are critical to job success.
- In Massachusetts, 91% of ACT tested graduates are considered making progress towards at least a gold ACT NCRC level. This compares to 68% nationally.

ACT®

www.act.org/research

Behaviors that Impact Access and Opportunity

- Testing patterns
  - Of ACT-tested 2016 graduates testing during their 10th-, 11th-, or 12th-grade years, students taking the ACT more than once averaged an increase in Composite score.
  - White students who tested at least twice, starting in 11th grade, increased their score by 0.9 point and scored 1.7 points higher than White students testing only once.
  - Hispanic students who tested at least twice, starting in 11th grade, increased their score by 0.6 point and scored 1.5 points higher than Hispanic students testing only once.
  - Hispanic students' scores are up 0.5 point and the number of Hispanic students taking the ACT has increased by 439 students since 2012. Asian students' scores are up 1.3 points and the number of Asian students taking the ACT has increased by 680 since 2012.
- Below are the top five colleges and universities to which Massachusetts graduates sent their ACT scores:
  1. University of Massachusetts Amherst
  2. Northeastern University
  3. Boston University
  4. University of Massachusetts Lowell
  5. University of New Hampshire
- ACT Educational Opportunity Service (EOS) opt-in rates
  - EOS is a free service that allows students to learn about educational, scholarship, career, and financial aid opportunities from colleges, universities, financial aid and scholarship agencies, and other organizations that offer educational programs. In the 2016 Massachusetts graduating class, 56% of students opted into EOS. This is well below the national average of 73%.
- "Get Your Name in the Game" information
  - The "Get Your Name is the Game" campaign gives students an opportunity to find colleges that would be a good fit and helps students who were not thinking about postsecondary education to realize that college is a possibility.
  - Babson College, Curry College, Fisher College, Harvard University, Massachusetts Institute of Technology, Simmons College, Stonehill College, and Wheaton College accessed 717,150 student names using this initiative.
- Fee Waiver Usage
  - In Massachusetts, there were 2,752 fee waivers issued and 2,091 of those were used. This equates to a 76.0% usage rate. The national rate was 74.5%.
  - ACT provides students fee waivers to provide more access and opportunity for students.

Pipeline

- Only 3% of ACT-tested Massachusetts 2016 graduates expressed an interest in pursuing education as a major or career. Those students earned an average ACT Composite score of 22.2, lower than the state average of 24.8. In comparison, 14% expressed an interest in business.
- Aspirations matter. Students in Massachusetts who aspire to a higher level of postsecondary education achieve higher ACT Composite scores:
  - 22% of graduates aspiring to a professional degree earn an average Composite score of 26.5.
  - 27% of graduates aspiring to a graduate degree earn an average Composite score of 25.7.
  - 34% of graduates aspiring to a bachelor's degree earn an average Composite score of 22.9.
  - Less than 1% of graduates aspiring to an associate's degree earn an average Composite score of 19.8.
- 23% of students who took the ACT in Massachusetts listed "Undecided" as their planned educational major—higher than the national average of 13%. This is a great opportunity to expose students to the ACT Interest Inventory at an earlier age with ACT Profile® and PreACT™, allowing students starting at age 13 to see the connection between their personal characteristics and potential majors/careers.
- 13% of students listed Health Science and Technology as an intended major or career. The average score for these students is 23.8, which is below the state average of 24.8. With the largest-growing job in the state being registered nurses, these students will have many opportunities.

ACT Footprint

ACT Aspire® Summative	ACT Aspire Periodic	ACT Engage®	ACT QualityCore®	PreACT™	ACT WorkKeys®
2,542	13,652	1,853	–	1,914*	14,781

* PreACT refers to preorders for FY17.

These are the number of each of these assessments delivered in the state and not reflective of the 2016 ACT-tested graduating class.

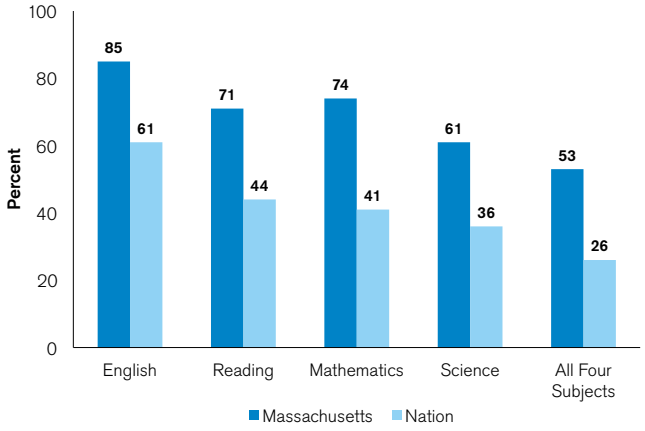
Special State Talking Points

- In 2016, ACT honored exemplars in 41 states as part of our College & Career Readiness Campaign. In Massachusetts, these honorees include:
  - High School—Monson High School
  - Student—Fiona Yang, -Newton North High School

Your State College and Career Readiness Attainment, Participation, and Opportunity

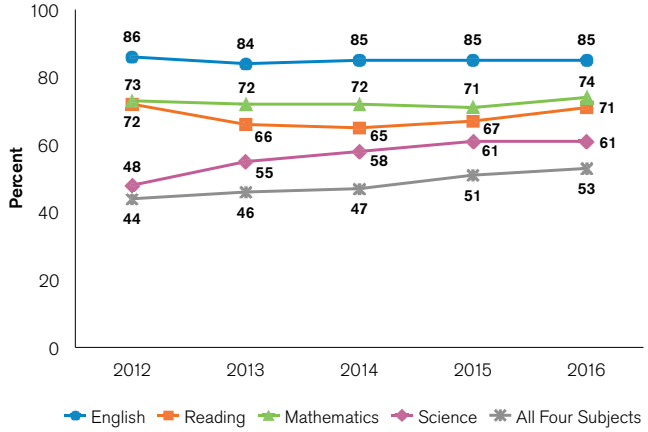
Massachusetts

Percent of 2016 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks by Subject



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

Percent of 2012–2016 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks*



* ACT College Readiness Benchmarks in reading and science were revised in 2013.

Student Data Trends

- Between 2012 and 2016, the number of students taking the ACT in Massachusetts increased by 31.8%.

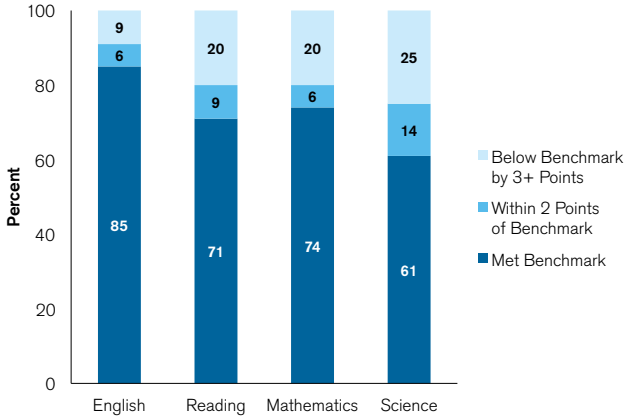
Student Condition Data Interest Trends: 2012–2016, State vs. Nation

Outcome	Cohort	2012	2013	2014	2015	2016
Percent Tested	Massachusetts	23%	22%	23%	28%	28%
	Nation	52%	54%	57%	59%	64%
N Tested	Massachusetts	15,398	16,058	16,651	19,617	20,298
	Nation	1,666,017	1,799,243	1,845,787	1,924,436	2,090,342
Average English Score	Massachusetts	23.9	23.8	24	24.2	24.4
	Nation	20.5	20.2	20.3	20.4	20.1
Average Reading Score	Massachusetts	24.2	24.4	24.5	24.6	25.3
	Nation	21.3	21.1	21.3	21.4	21.3
Average Mathematics Score	Massachusetts	24.5	24.4	24.6	24.6	24.9
	Nation	21.1	20.9	20.9	20.8	20.6
Average Science Score	Massachusetts	23.2	23.2	23.5	23.8	24.1
	Nation	20.9	20.7	20.8	20.9	20.8
Average Composite Score	Massachusetts	24.1	24.1	24.3	24.4	24.8
	Nation	21.1	20.9	21	21	20.8

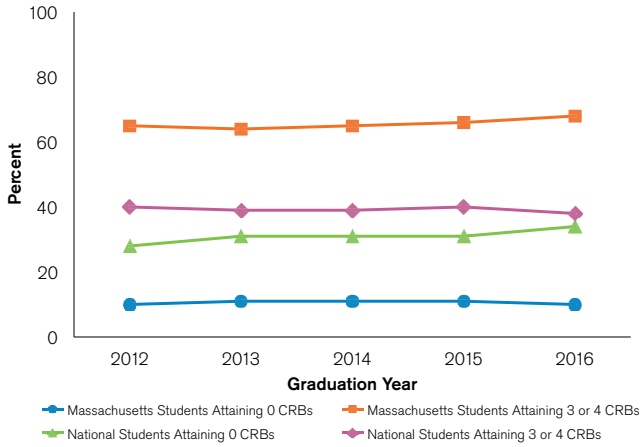
ACT®

www.act.org/research

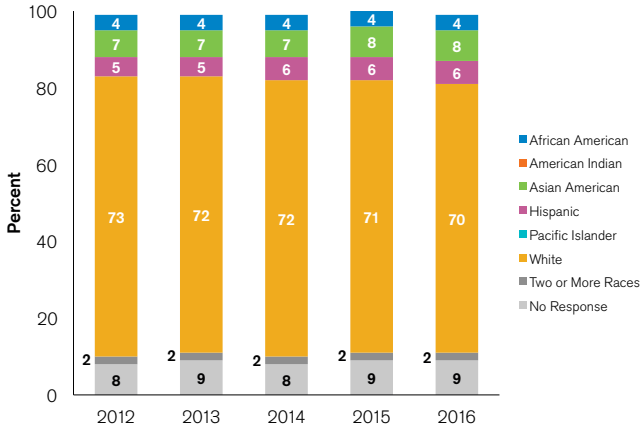
Percent of 2016 ACT-Tested High School Graduates by ACT College Readiness Benchmark Attainment and Subject



Trends in Percent of ACT-Tested High School Graduates by Number of ACT College Readiness Benchmarks (CRBs) Attained

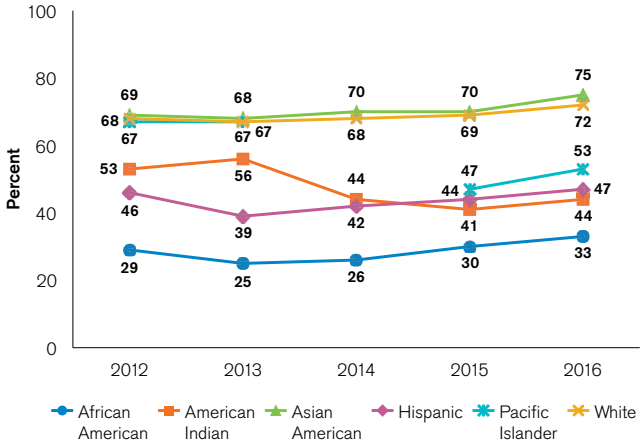


Percent of 2012–2016 ACT-Tested High School Graduates by Race/Ethnicity

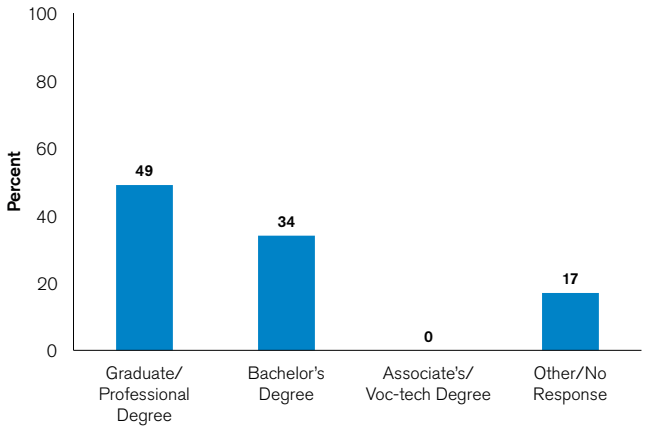


Note: Values less than 0.5% will not appear.

Percent of 2012–2016 ACT-Tested High School Graduates Meeting Three or More Benchmarks by Race/Ethnicity



Percent of 2016 ACT-Tested High School Graduates by Educational Aspirations



There is good news in that 83% of Massachusetts's 2016 ACT-tested graduates aspired to postsecondary education. Interestingly enough, 82% of Massachusetts's 2015 ACT-tested graduating class aspired to enroll in postsecondary education, compared to 86% who actually did enroll. A positive note is that more 2015 Massachusetts ACT-tested graduates enrolled in postsecondary education than initially aspired to do so.

What You Need to Know

At ACT, we are inspired every day to make a positive difference. Here are a few ways we are making an impact each day in the lives of students, teachers, education, policy makers, and workforce leaders.

The ACT®

- Enhancements to ACT Score Reports starting in September 2016
- Introduction of ACT Kaplan Online Prep Live in September 2016
- New Score Reports

Pre ACT™

- Affordable cost—$12 per student tested for schools, districts, and states
- Flexible administration—Schools, districts, and/or states may administer on any date between September 1, 2016 and June 1, 2017
- Structured test environment—Similar to what the student will experience when taking the ACT test

Online Prep Live

ACT® KAPLAN

- A virtual classroom experience that delivers all the benefits of ACT Online Prep, plus an interactive teaching experience
- Live learning experiences available at no cost to students who register for the ACT using a fee waiver
- Recorded sessions available on demand to provide maximum flexibility to students

ACT® Aspire®

- New Performance Level Descriptors coming in August 2016
- More than 5 million ACT Aspire online assessments administered to US students since January 2016, a major milestone for the program and up by more than 130% compared to the previous year
- New Score Reports

ACT® Engage®

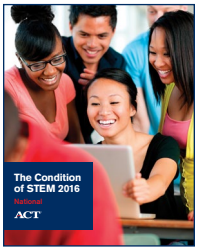
- Helps schools face the challenge of preparing students for success after high school. Read the latest white paper, *Identifying Skills to Succeed in School, at Work, and in the "Real World."*
- New Score Reports

ACT® WorkKeys®

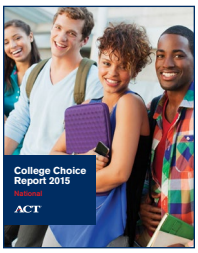
- Updated versions of the ACT National Career Readiness Certificate (ACT NCRC) assessments and credential coming in summer 2017
- Fully updated ACT WorkKeys curriculum and test prep available in summer 2017 to support the updated ACT NCRC assessments
- Will include a new test delivery platform that will introduce features and functionality important to ACT WorkKeys customers

www.act.org/condition2016

Key ACT Research



The Condition of STEM 2016—Releasing November 2016
This report provides national and state data about the 2016 graduating class in the context of STEM-related fields (Science, Technology, Engineering, Mathematics) to determine student interest levels in specific STEM fields and, more importantly, readiness in math and science of those interested in STEM careers.



College Choice Report 2015
This report follows the ACT-tested high school graduating class of 2015, focusing on specific testing behaviors that may expand college opportunities available to students. This is an important topic for enrollment managers and admissions officers to consider, as students' participation in these testing behaviors have implications for colleges' chances to recruit, advise, and place these prospective students.

Recommendations

1. **Create an assessment model that measures a variety of skill domains and competencies required for college and career success.**
   Historically, college and career readiness assessments have focused only on academic skills. ACT research has clearly established areas of competency important for college and career readiness success. While our research shows that ACT solutions independently measure key components of college AND career readiness, we and others have begun to realize that no single solution can measure the full breadth of this readiness, nor should it. Simply put, the ACT alone is not enough to measure the full breadth of career readiness. A more holistic assessment model, incorporating multiple domains and specific skills associated with career clusters or occupations, will typically be most appropriate for describing and evaluating student readiness for college and career.

2. **Optimize opportunities to influence awareness and engagement of underserved learners.**
   Initiatives designed to aid underserved learners are only as effective as they are visible. We must inform advocates and ALL underserved learners about the available and effective programs designed for this purpose. For example, in the 2015–2016 academic year, approximately 730,000 students registered to take the ACT using fee waivers valued at more than $36 million. Yet, not all eligible students took advantage of this offer. Similarly, institutions must use data to inform intervention strategies if they are going to help underserved students be prepared for postsecondary success.

3. **Take the guesswork out of STEM.**
   It is critically important to align STEM initiatives to capitalize on performance, measured interest, and expressed interest. Essential to this effort is expanding and nurturing interest in STEM, which will impact the emerging pipeline of STEM majors, teachers, and workers. This requires capturing a wider range of students and employing concrete measures to inform intervention and programming. To do so, states and districts must look for partnering opportunities from K–12 to postsecondary education to the workplace.

4. **Focus on the implementation of fewer, higher, clearer, standards in K–12 classrooms to raise the bar for all students.**
   No matter the adopted standards, proper implementation must focus on the most critical component for increasing readiness—effective, high-quality teaching. This requires investment in postsecondary teaching programs, professional development, and state-level collaboration among K–12 and higher education.

5. **Don't over test students.**
   When states, schools, and districts build an assessment strategy that recognizes the limits and promise of test scores, they will reduce the likelihood of over testing. Used ethically and appropriately, assessments can inform decisions at individual and institutional levels. Misunderstood, misused, or abused, assessments cause confusion, can be perceived as punitive, or result in ill-conceived strategies. To quote ACT founder E.F. Lindquist, "Assessment is valuable to the extent it bridges teaching and learning."