

## The Condition of College & Career Readiness

This report looks at the achievement of the ACT®-tested 2017 graduating class relative to college and career readiness. A total of 60% of students in the 2017 US graduating class took the ACT® test, compared to 64% last year, 54% in 2013, and 42% in 2007. The growing percentage of the nation's graduates taking the ACT over the past decade has enhanced the breadth and depth of the data pool, providing a comprehensive picture of the current graduating class in the context of college readiness.

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

- **Holistic view of readiness.** The ACT report, *Broadening the Definition of College and Career Readiness: A Holistic Approach*, shows academic readiness is only one of multiple domains critical in determining an individual's readiness for success in college and career. Social and emotional learning skills (SEL) are also vital. Behavioral skills, cross-cutting capabilities, and navigational skills should be measured and addressed. Together, these elements provide a comprehensive picture of student readiness for success after high school.
- **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 educational 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 2017

## Massachusetts Key Findings

### Performance

- In the Massachusetts graduating class of 2017, 20,935 graduates took the ACT® test, compared to 16,058 in 2013.
- In Massachusetts, 29 percent of 2017 graduates took the ACT, compared to 60 percent nationally.
- Massachusetts graduates of 2017 had an average Composite score of 25.4, compared to the national average of 21.0.
  - ~ In the 2017 graduating class, the average ACT score increased in English, Math, Reading and Science, compared to last year.
  - ~ In the 2017 graduating class, the average ACT Composite score has increased 1.3 percent over the last five years.
- In 2017, 72 percent of Massachusetts graduates met three or four ACT College Readiness Benchmarks. This compares to 68 and 64 percent of 2016 and 2013 graduates, respectively.
  - ~ In the 2017 graduating class, the percent of students meeting ACT College Readiness Benchmarks increased in English, Math, Reading, and Science, compared to last year.
  - ~ In the 2017 graduating class, the percent of students meeting all four ACT College Readiness Benchmarks increased by 10 percent over the last five years.

### STEM

- In 2017, 10,168 Massachusetts graduates (49 percent) indicated having an interest in STEM majors and/or careers.
- Compared to a 2017 Massachusetts graduating class STEM average of 25.3, graduates in 2016 and 2013 had STEM averages of 24.8 and 24.0, respectively.
  - ~ The average ACT STEM score has increased by 1.3 percent over the last five years while the national average remains flat.
- Compared to 48 percent of 2017 Massachusetts graduates meeting the ACT STEM College Readiness Benchmark, graduates in 2016 and 2013 had STEM Benchmark percentages of 44 and 38, respectively.
- The ACT is the only college entrance exam with a dedicated Science assessment, making it a great fit for the Massachusetts STEM Nexus initiative.

### Career Readiness

- In 2017, 11,803 Massachusetts graduates (56 percent) were likely to attain the Gold ACT WorkKeys® National Career Readiness Certificate® or higher based upon ACT Composite score, compared to 538,392 (27 percent) nationally.
  - ~ The ACT Composite scores associated with a 50% chance of earning each ACT WorkKeys NCRC® level or higher are: 13 for Bronze, 17 for Silver, 25 for Gold, and 35 for Platinum. Based on those cut scores, students who earned an ACT Composite score of less than 13 would be classified as "Needs Improvement," 13 to 16 as "Bronze," 17 to 24 as "Silver," and 25 or above as "Gold or Higher." For comparison, individual student score reports classify those who scored 12 to 13, 14 to 17, and 18 and higher as making progress toward Bronze, Silver, and Gold certificates.
- ACT has formed a partnership with Massachusetts Executive Office of Labor and Workforce Development to offer ACT WorkKeys at 100 test centers statewide.

## Impact

- Based on the actual test volume and ACT score distributions of 2016 ACT-tested Massachusetts high school graduates, ACT research estimates that an increase of 0.1 in state average ACT Composite score for the 2017 graduating class would result in:
  - ~ 35 more students enrolling in college.
  - ~ 43 more students persisting to year two.
  - ~ 21 fewer students needing remedial English.
  - ~ 36 fewer students needing remedial math.
  - ~ 52 more students persisting to year four.
  - ~ 61 more students earning a postsecondary degree within six years.

## Behaviors that Impact Access and Opportunity

- In Massachusetts, 2017 graduates taking the ACT two or more times had an average Composite score of 26.8, compared to 24.3 for single-time testers.
  - ~ 45 percent (9,340) of the 2017 Massachusetts graduating class took the ACT more than once, compared to 45 percent nationally.
- Of Massachusetts's 2017 graduating class, there were 847 (4 percent) African American students taking the ACT. This compares to 256,756 (13 percent) nationally.
- Of Massachusetts's 2017 graduating class, there were 14,253 (68 percent) White students taking the ACT. This compares to 1,062,439 (52 percent) nationally.
- Of Massachusetts's 2017 graduating class, there were 1,382 (7 percent) Hispanic students taking the ACT. This compares to 347,906 (17 percent) nationally.
- Of Massachusetts's 2017 graduating class, there were 1,841 (9 percent) Asian students taking the ACT. This compares to 96,097 (5 percent) nationally.
- For Massachusetts's 2017 ACT-tested graduates, the top five schools to which scores were sent were University of Massachusetts Amherst, Northeastern University, Boston University, University of Massachusetts Lowell, and University of New Hampshire.
  - ~ For Massachusetts's 2017 ACT-tested graduates, the top three out-of-state schools to which scores were sent were University of New Hampshire, University of Vermont, and University of Connecticut.
- Compared to 73 percent of 2017 graduates nationally, 56 percent of Massachusetts graduates opted into EOS.
  - ~ The ACT "Get Your Name in the Game" initiative allows colleges and universities access to underserved students' names free of charge. Fifteen colleges and universities in Massachusetts acquired 941,460 students' names using "Get Your Name in the Game."
  - ~ Compared to 85 percent of African American students nationally, 73 percent of Massachusetts African American 2017 graduates opted into EOS.
  - ~ Compared to 69 percent of White students nationally, 54 percent of Massachusetts White 2017 graduates opted into EOS.
  - ~ Compared to 83 percent of Hispanic students nationally, 74 percent of Massachusetts Hispanic 2017 graduates opted into EOS.

- ~ Compared to 76 percent of Asian students nationally, 63 percent of Massachusetts Asian 2017 graduates opted into EOS.

- ACT issued 2,898 ACT fee waivers to qualified Massachusetts students. However, 657 students (23 percent) did not take advantage of this opportunity to test for free. This compares to 656,061 issued nationally, of which 181,092 (28 percent) did not take advantage. This represents a great opportunity for high schools within the state to increase the socio-economic diversity of their students tested. Note: This is the number of fee waivers issued for the state, not specific to this graduating class.

## Pipeline

- In the Massachusetts graduating class of 2017, 1,013 (5 percent) had parents who did not attend college.
- In the Massachusetts graduating class of 2017, 4,637 (22 percent) aspired to attain a professional degree. They had an average Composite score of 27.0.
- In the Massachusetts graduating class of 2017, 5,892 (28 percent) aspired to attain a graduate degree. They had an average Composite score of 26.4.
- In the Massachusetts graduating class of 2017, 6,773 (32 percent) aspired to attain a bachelor's degree. They had an average Composite score of 23.5.
- In the Massachusetts graduating class of 2017, 53 (0 percent) aspired to attain an associate's degree. They had an average Composite score of 18.8.
- In order of prevalence, the five most commonly indicated college majors of interest for 2017 Massachusetts graduates were: Undecided; Business Administration and Management, General; Medicine (Pre-Medicine); Biology, General; and Nursing, Registered (BS/RN).
  - ~ In the Massachusetts graduating class of 2017, 5,056 (24 percent) indicated being undecided about their college major. They had an average Composite score of 26.1.
  - ~ In the Massachusetts graduating class of 2017, 580 (3 percent) indicated planning on majoring in education. They had an average Composite score of 22.8.

## ACT Footprint

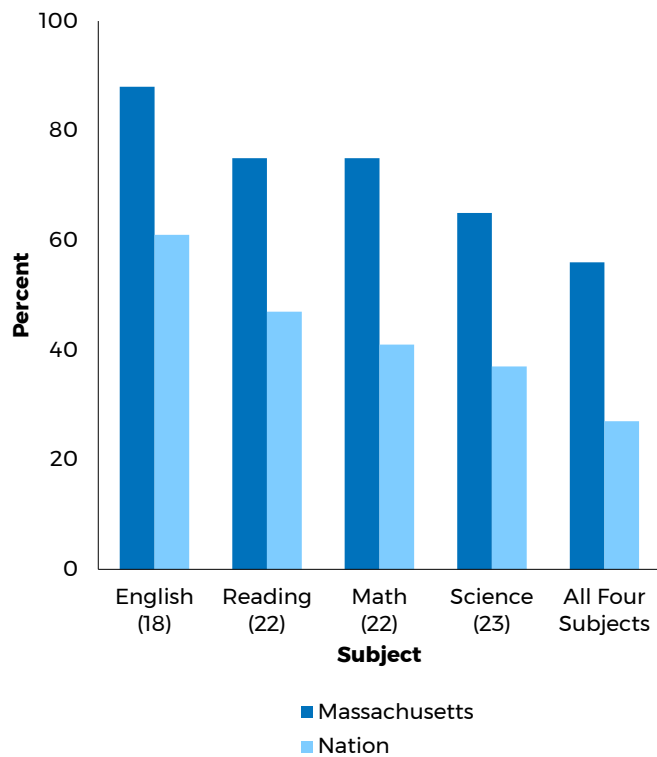
- Number of administrations:
  - ~ ACT Aspire® Summative: 415
  - ~ ACT Aspire Periodic: 541
  - ~ ACT Engage®: 223
  - ~ PreACT®: 3,338
  - ~ ACT WorkKeys: 1,555

## Additional Points

- According to the US Department of Labor, the top five emerging professions in Massachusetts include: Home Health Aides; Statisticians; Interpreters and Translators; Nurse Practitioners; and Ambulance Drivers and Attendants (except Emergency Medical Technicians).
- ACT will host three ACT College and Career Readiness Workshops this fall in Massachusetts. October 25 (Endicott College), October 26 (College of the Holy Cross), and October 27 (Springfield University). The theme for this year's workshop: "Preparing Students for Success: A Holistic Approach."
- In the 2017 Massachusetts graduating class, 109 students earned a 36 ACT Composite score, compared to 66 in 2016.

# Massachusetts College and Career Readiness Attainment, Participation, and Opportunity

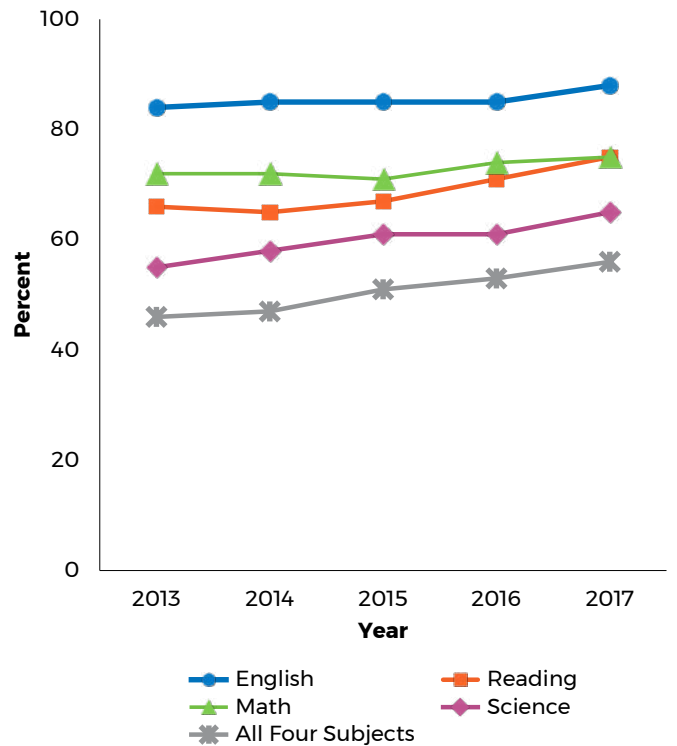
Percent of 2017 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks\* by Subject



Data from graph above:

State / Nation	English (18)	Reading (22)	Math (22)	Science (23)	All Four
Massachusetts	88	75	75	65	56
Nation	61	47	41	37	27

Percent of 2013–2017 ACT-Tested High School Graduates Meeting ACT College Readiness Benchmarks

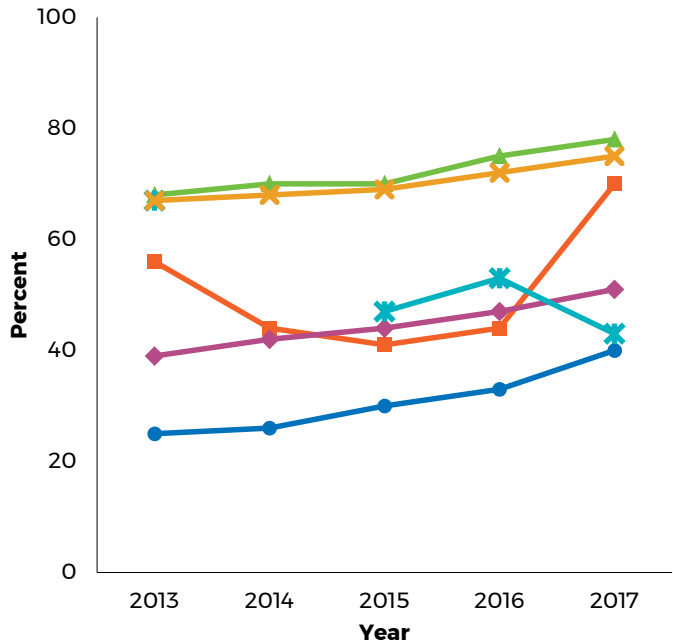


Data from graph above:

Subject	2013	2014	2015	2016	2017
English	84	85	85	85	88
Reading	66	65	67	71	75
Math	72	72	71	74	75
Science	55	58	61	61	65
All Four Subjects	46	47	51	53	56

\* 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. Throughout this report, benchmark attainment corresponds with students meeting or exceeding score values in parentheses ( ).

**Percent of 2013–2017 ACT-Tested High School Graduates Meeting Three or More ACT College Readiness Benchmarks by Race/Ethnicity\***



● African American  
■ American Indian  
▲ Asian American  
◆ Hispanic  
✱ Pacific Islander  
✕ White

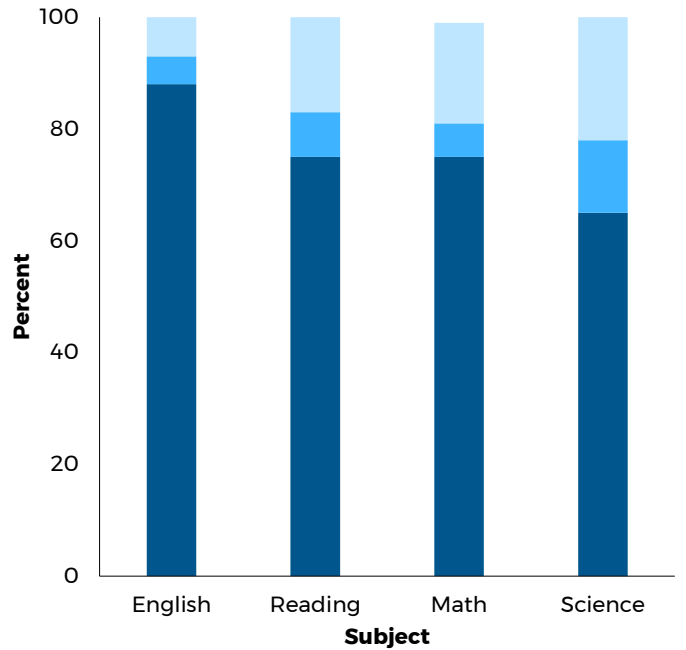
Data from graph above:

Race	2013	2014	2015	2016	2017
African American	25	26	30	33	40
American Indian	56	44	41	44	70
Asian American	68	70	70	75	78
Hispanic	39	42	44	47	51
Pacific Islander	67		47	53	43
White	67	68	69	72	75

\* Percentages for groups with insufficient counts will be missing.

**Percent of 2017 ACT-Tested High School Graduates by ACT College Readiness Benchmark Attainment and Subject**

Note: Percents in this graph may not sum to 100% due to rounding. Values less than 0.5% will not appear.

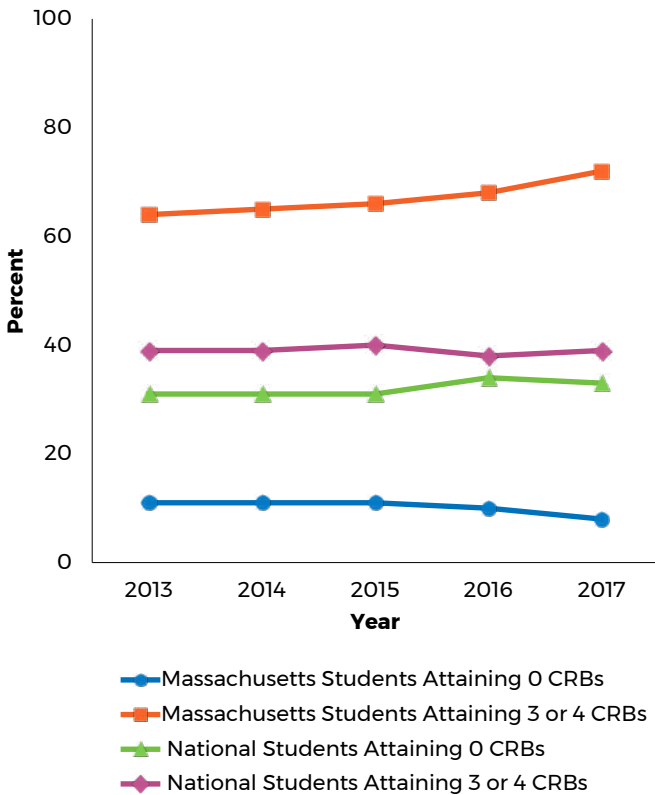


■ Met Benchmark  
■ Within 2 Points of Benchmark  
■ Below Benchmark by 3+ Points

Data from graph above:

Attainment	English	Reading	Math	Science
Met Benchmark	88	75	75	65
Within 2 Points of Benchmark	5	8	6	13
Below Benchmark by 3+ Points	7	17	18	22

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

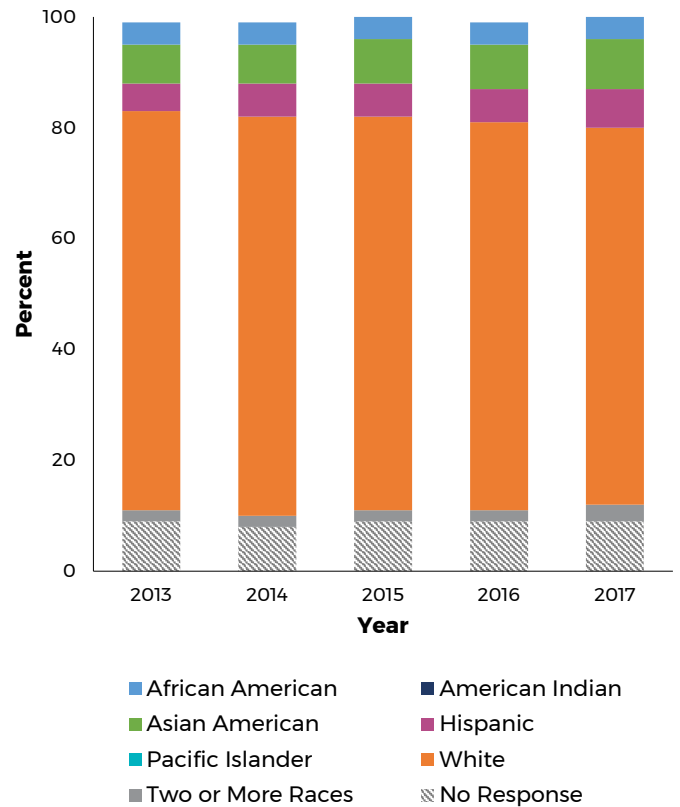


Data from graph above:

Attainment	2013	2014	2015	2016	2017
Massachusetts Students Attaining 0 CRBs	11	11	11	10	8
Massachusetts Students Attaining 3 or 4 CRBs	64	65	66	68	72
National Students Attaining 0 CRBs	31	31	31	34	33
National Students Attaining 3 or 4 CRBs	39	39	40	38	39

**Percent of 2013–2017 ACT-Tested High School Graduates by Race/Ethnicity**

Note: Percents in this graph may not sum to 100% due to rounding. Values less than 0.5% will not appear.



Data from graph above:

Race	2013	2014	2015	2016	2017
African American	4	4	4	4	4
American Indian	0	0	0	0	0
Asian American	7	7	8	8	9
Hispanic	5	6	6	6	7
Pacific Islander	0	0	0	0	0
White	72	72	71	70	68
Two or More Races	2	2	2	2	3
No Response	9	8	9	9	9

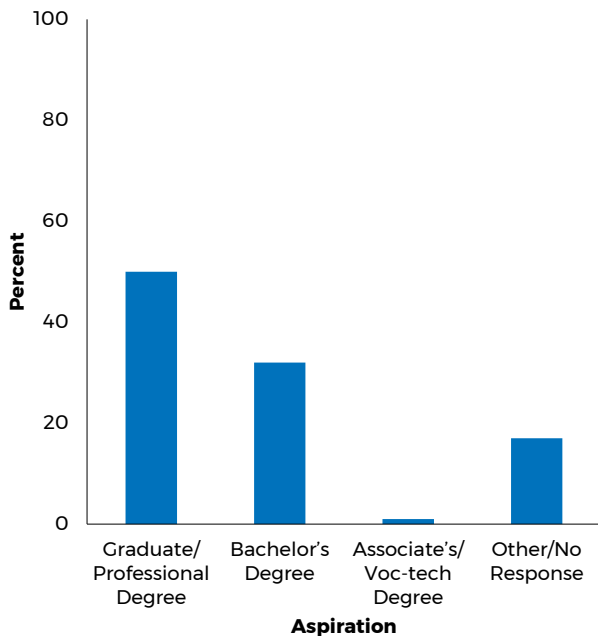
**Massachusetts:** Between 2013 and 2017, the number of students taking the ACT in Massachusetts increased by 4,877 students (30 percent).

**Student Data Trends: 2013-2017, State vs. Nation**

Outcome	Cohort	2013	2014	2015	2016	2017
Percent Tested	Massachusetts	22	23	28	28	29
	Nation	54	57	59	64	60
N Tested	Massachusetts	16,058	16,651	19,617	20,298	20,935
	Nation	1,799,243	1,845,787	1,924,436	2,090,342	2,030,038
Average English Score	Massachusetts	23.8	24.0	24.2	24.4	25.4
	Nation	20.2	20.3	20.4	20.1	20.3
Average Reading Score	Massachusetts	24.4	24.5	24.6	25.3	25.9
	Nation	21.1	21.3	21.4	21.3	21.4
Average Math Score	Massachusetts	24.4	24.6	24.6	24.9	25.3
	Nation	20.9	20.9	20.8	20.6	20.7
Average Science Score	Massachusetts	23.2	23.5	23.8	24.1	24.7
	Nation	20.7	20.8	20.9	20.8	21.0
Average Composite Score	Massachusetts	24.1	24.3	24.4	24.8	25.4
	Nation	20.9	21.0	21.0	20.8	21.0

**Percent of 2017 ACT-Tested High School Graduates by Educational Aspirations**

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



There is good news in that 83% of Massachusetts's 2017 ACT-tested graduates aspired to postsecondary education. Interestingly enough, 83% of Massachusetts's 2016 ACT-tested graduating class aspired to enroll in postsecondary education, compared to 86% who actually did enroll. A positive note is that more 2016 Massachusetts ACT-tested graduates enrolled in postsecondary education than initially aspired to do so.

*Data from graph*

Aspiration	Percent
Graduate / Professional Degree	50
Bachelor's Degree	32
Associate's / Voc-tech Degree	1
Other / No Response	17



## Massachusetts State Exemplar 2017 ACT College and Career Readiness Campaign

### Shellaina Gordon

Fitchburg High School, Fitchburg Public Schools

*“Education is my emancipation from adversity and my path to prosperity. Ultimately, I have realized that many can bask in their weakness, but even fewer can gather the strength through their predicament.”*

Shellaina’s family struggles with numerous health issues, which has caused turmoil in her life but also inspired her to become a doctor. In high school, she took college-level courses while working to support her family.

Shellaina plans to earn her bachelor’s and master’s degrees in a dual program then move onto medical school. She also plans to serve as a mentor to local high school students so that she can pay back the guidance she has received on her path to success.

## Information and products for further review

	Knowledge & Skills	Social & Emotional
<b>Assessments</b>	ACT Aspire®	ACT Tessera™
	PreACT®	ACT Engage®
	The ACT® Test	
	ACT WorkKeys®	
<b>Research</b>	Condition of College & Career Readiness	A Rosetta Stone for Noncognitive Skills
	ACT® National Curriculum Survey®	
	The Forgotten Middle	Tessera Comprehensive Theory of Action
	Rigor at Risk	
	ACT Holistic Framework™	
<b>Resources</b>	PLDs Learning Description Review	Tessera Teacher Playbook
	Curriculum Review Worksheets	
	OpenEd Learning Resources	
	Test Prep	
<b>Training</b>	Professional Learning Sessions	
	College & Career Readiness Workshops	
	Holistic Framework Webinars	

We are more than just the ACT test. ACT products and services encompass a variety of research- and assessment-based solutions.

As research leaders, we continue to innovate education and workforce solutions to help guide individuals to education and career success.

**Find out more at [www.act.org](http://www.act.org).**

## Key ACT Research

As students navigate their education and career journeys, it is critical for them to be ready for college and career success. College and career readiness is supported by the ACT Holistic Framework, a research-based, multidimensional model for understanding the essential knowledge and skills needed for success, and the solutions that can meet students' navigation needs. Visit [act.org/condition2017](http://act.org/condition2017) to access key reports listed below.

- Serving students' navigation needs from kindergarten to career requires a holistic approach:
  - ~ *Beyond Academics: A Holistic Framework for Enhancing Education and Workplace Success*
  - ~ *The Importance of Behavioral Skills and Navigation Factors for Education and Workforce Success*
- The ACT Holistic Framework is supported by prolific research:
  - ~ Core Academic Skills:
    - 2017 State and National Condition Reports
    - *Profiles of STEM Students: Persisters, Joiners, Changers, and Departers*
    - *ACT Composite Score by Parental Education Level, 2012-2016*
    - *Comparisons of Student Achievement Levels by District Performance and Poverty*
  - ~ Behavioral Skills (also called Social and Emotional Learning):
    - *The Development of Behavioral Performance Level Descriptors*
  - ~ Cross-Cutting Capabilities:
    - *ACT National Curriculum Survey 2016*
  - ~ Student journeys continue into postsecondary education and careers:
    - *Higher Education Research Digest*
    - *Predicted Attainment of ACT National Career Readiness Certificates for the 2016 ACT-tested High School Cohort*

## Recommendations

- 1. Use a holistic assessment model for school accountability that measures student readiness for college and career across multiple domains.** While it is essential to measure students' academic achievement in assessing college and career readiness, it is not enough. Social and emotional learning skills are important and measurable, and they can be impacted. Assessment models should take into account core academic skills, behavioral skills, cross-cutting capabilities, and education and career navigation skills to provide an integrated picture of college and work readiness.
- 2. Make special efforts to ensure that underrepresented students have equal access and opportunity to pursue postsecondary education.** According to ACT research, most underrepresented students want to continue their education after high school, but they face many barriers. Ensuring they have access to the same rigorous core curriculum as others is just one step. Many also lack the resources, information, and familial and peer support they need to prepare for success after high school. Special efforts must be made to level the playing field for underrepresented students so they have equal opportunity to succeed.
- 3. Increase emphasis on STEM readiness initiatives, measures, and programs.** With technology advancing rapidly, the importance of STEM readiness is only increasing. The threat of robotic and computer-assisted technologies eliminating jobs is growing while the remaining and emerging jobs will likely require higher-level skills. ACT data continue to show that many graduates are not ready. Without improvement in STEM readiness, far too many will be ill-prepared for the future workforce.
- 4. Focus on fewer, higher, and clearer learning standards in K-12 schools.** Far too many students continue to graduate from high school without all of the core skills they will need to ably succeed at the next level. Many will struggle, and many will likely fail to realize their aspirations. The push toward raising the bar on learning standards and focusing on the essential skills necessary for success must continue.
- 5. Begin assessing learning and implementing intervention strategies early.** Early assessment and intervention are critical to improving educational outcomes. If students are not on track for college and career readiness by the time they reach middle school, it may be too late. Assessing learning and implementing intervention strategies to help students get on the right path for college and career readiness must begin in elementary school.