

## 1.1.b Preparation for College

**Increase the proportion of Nebraska high school graduates who are adequately prepared to enroll in postsecondary education and proceed through degree completion.**

The results of the ACT test are summarized in this section as indicators of the extent to which Nebraska high school graduates are prepared academically to enter and proceed through postsecondary education. Of particular interest are (1) the estimated percentages of Nebraska high school graduates who are prepared for college-level coursework and (2) the higher average ACT scores achieved by students who take the “core” high school courses recommended to prepare them for college.

Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). As shown in the following section, this change has affected participation rates so that all students graduating from Nebraska high schools have theoretically taken the ACT test.<sup>5</sup>

Since the ACT test is the predominant college entrance exam available to measure the extent to which Nebraska students are prepared for academic coursework beyond high school, this section focuses exclusively on the ACT test.<sup>6</sup>

### **Nebraska ACT Assessment Scores**

The ACT Assessment consists of four curriculum-based achievement tests in English, reading, mathematics, and science. A student’s scores for each of these tests are reported on a 36-point scale. A composite score is reported on a 36-point scale to reflect the student’s overall performance on the series of four tests.

- As shown in [Figure 1.1.b.1](#), the average ACT composite score for Nebraska high school students in the graduating class of 2019 was 20.0, down from 22.1 in 2009. Nebraska’s 2019 average ACT composite score was 0.7 point lower than the national average of 20.7.
- There are three known reasons for the recent declines in the average ACT composite score.
  - First, starting in 2013, extended-time test takers are included in national and state composite scores. Historically, the inclusion of these students’ scores has lowered Nebraska’s average composite score by 0.2 point.<sup>7</sup>
  - Second, the Nebraska ACT Pilot Project required all 11<sup>th</sup> graders in eight selected Nebraska public school districts to take the ACT during a school day in the spring of 2012, 2013, and 2014. The net effect of this project on ACT scores is unknown as the Commission does not know which students would have taken the ACT Assessment had it not been required.

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<sup>5</sup> A potential exception to 100% testing of graduates would be out-of-state students that transferred into Nebraska’s schools after their cohort minus one year.

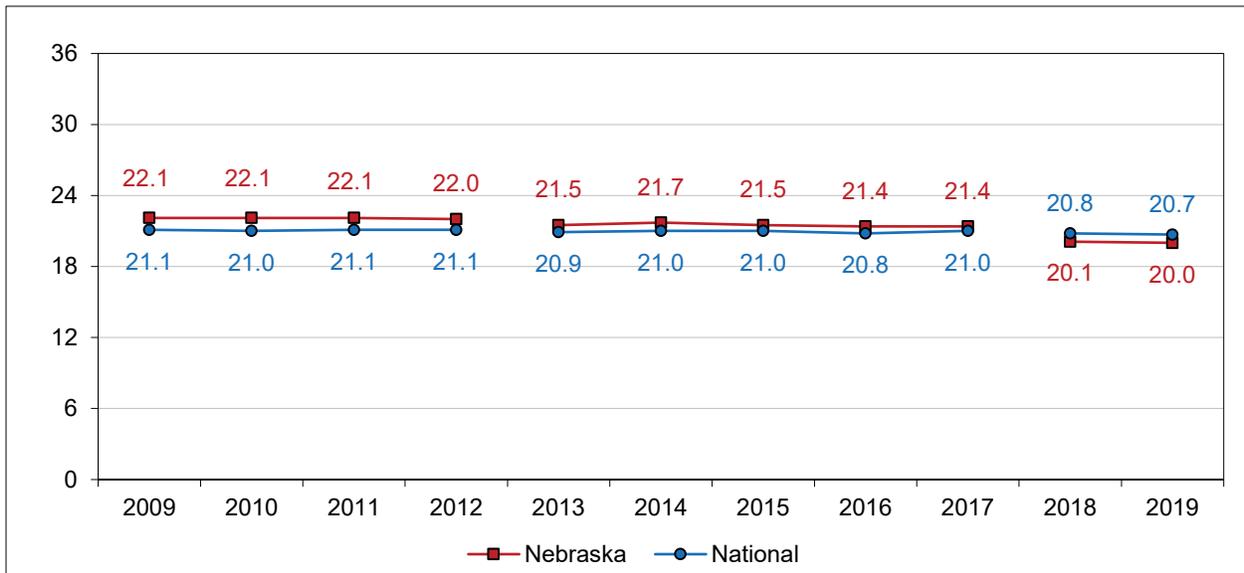
<sup>6</sup> In 2019, only 3.0% of Nebraska students took the SAT Test.

<sup>7</sup> Students with disabilities are provided reasonable accommodations appropriate to the student’s disability. Approved students have up to five total hours (50% more time) to complete all four multiple-choice tests.

- Third, beginning with the graduating class of 2018, all students take the ACT test in the cohort minus one year. The precise effects of this change on ACT scores is unknown; however, it is reasonable to postulate that students who normally would not have taken the ACT test unless required would perform lower than students who planned to take the ACT test.
- Nationally, an estimated 52% of students in the high school graduating class of 2019 took the ACT Assessment. Nebraska was tied for the fourth highest average composite score among the 17 states where an estimated 95% or higher of the 2019 high school graduates took the ACT Assessment.

**Figure 1.1.b.1**

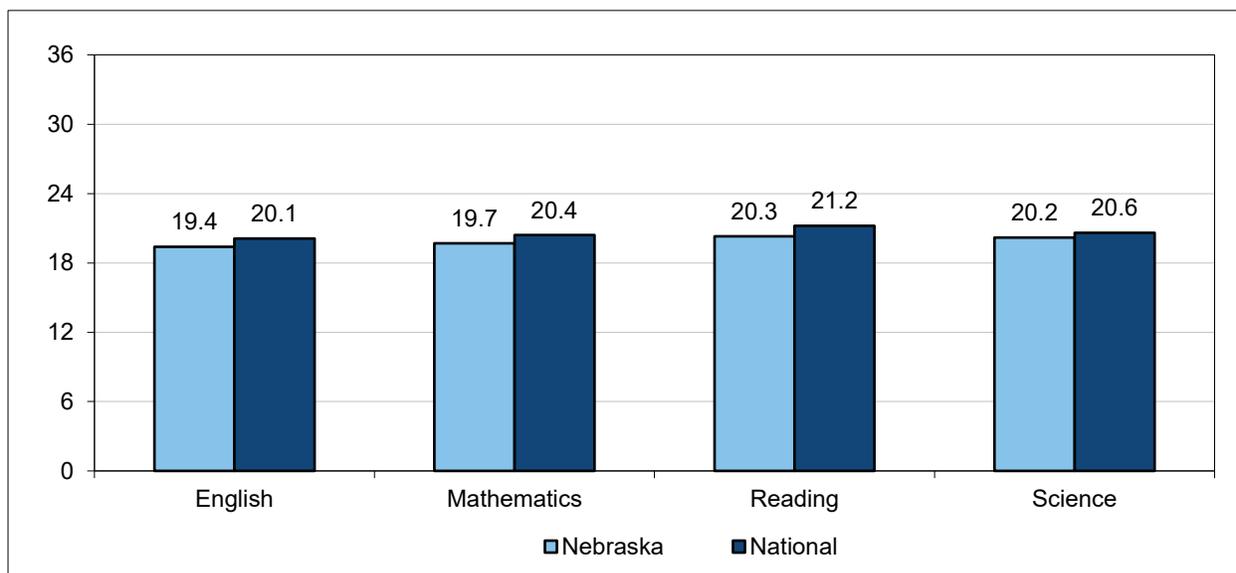
**Comparison of Nebraska and National Average ACT Composite Scores for the High School Graduating Classes of 2009 through 2019**



*Note.* Beginning with the graduating class of 2013, scores for extended-time test takers are included in reported ACT composite scores. Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). Data source: ACT, *High School Profile Report - Nebraska*, 2009 through 2019.

- As shown in [Figure 1.1.b.2](#), Nebraska students in the 2019 graduating class scored below the national average on each of the subject-area tests that constitute the ACT Assessment.

**Figure 1.1.b.2**  
**Comparison of National and Nebraska Average ACT Composite Scores**  
**in English, Reading, Mathematics, and Science**  
**for the High School Graduating Class of 2019**



Data source: ACT, *High School Profile Report - Nebraska, 2019*.

### **ACT College Readiness Benchmark Scores**

Based on research conducted by ACT, Inc., students are prepared to succeed in entry-level college courses if their scores on the ACT Assessment meet or exceed ACT College Readiness Benchmark Scores. A *benchmark score is the minimum score needed on an ACT subject-matter test to indicate that a student has a 50% chance of earning a B or higher or about a 75% chance of earning a C or higher in related entry-level, credit-bearing college courses.* Corresponding to the subject-matter tests that constitute the ACT Assessment, these courses include English composition, social sciences, algebra, and biology. For each college course or subject area, the ACT subject-area test and College Readiness Benchmark Scores are:

<u>College Course or Area</u>	<u>ACT Subject-Area Test</u>	<u>College Readiness Benchmark Score<sup>8</sup></u>
English Composition	English	18
Social Science	Reading	22
Algebra	Mathematics	22
Biology	Science	23

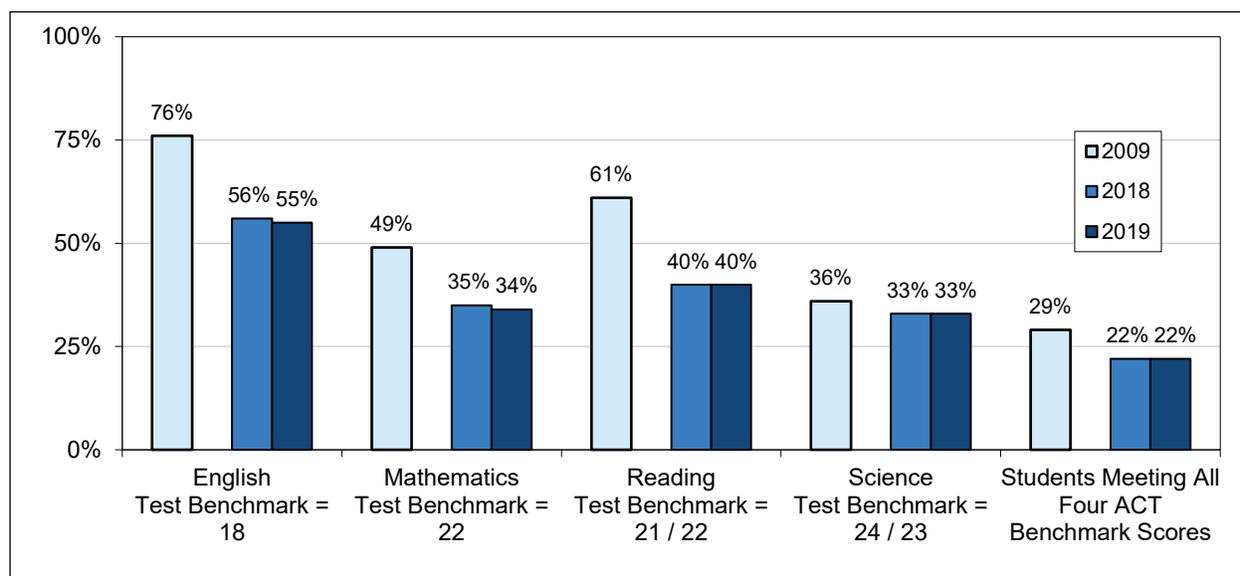
<sup>8</sup> Beginning in 2013, the reading benchmark score increased from 21 to 22 and the science benchmark score decreased from 24 to 23.

## **Percentages of Nebraska ACT-Tested Students Ready for College-Level Coursework**

- Based on the data summarized in [Figure 1.1.b.3](#), 55% of the ACT-tested Nebraska high school graduating class of 2019 met or exceeded the College Readiness Benchmark Score of 18 on the ACT English test, indicating that there is a relatively high probability that these students will earn at least a C in college-level English composition courses.
- In comparison, 34% met or exceeded the mathematics benchmark score of 22 for college algebra; 40% met or exceeded the benchmark score of 22 on the reading test; and only 33% met or exceeded the science benchmark score of 23 for biology.
- Between 2009 and 2019, the percentages of Nebraska students who met or exceeded ACT College Readiness Benchmarks on the English, mathematics, reading, and science tests decreased 21, 15, 21, and 3 percentage points, respectively.
- While the percentages of students meeting or exceeding ACT benchmark scores have been trending downward since 2009, large declines have occurred since Nebraska started testing all students in the cohort minus one year. Between 2017 and 2019, the percentage of Nebraska students who met or exceeded ACT College Readiness Benchmarks for English, mathematics, reading, and science decreased 12, 8, 10, and 8 percentage points, respectively. (See [Table A4.1](#) in [Appendix 4](#) for more detail.)
- **Only 22% of Nebraska's high school graduates in the class of 2019 met or exceeded the ACT College Readiness Benchmarks in all four subject areas included in the ACT Assessment.** This percentage is seven points lower than in 2009.

**Figure 1.1.b.3**

### **Percentages of ACT-Tested Students Meeting ACT College Readiness Benchmarks that Indicate Sufficient Preparation for College-Level Courses Nebraska High School Graduating Classes: 2018 and 2019 Compared to 2009**



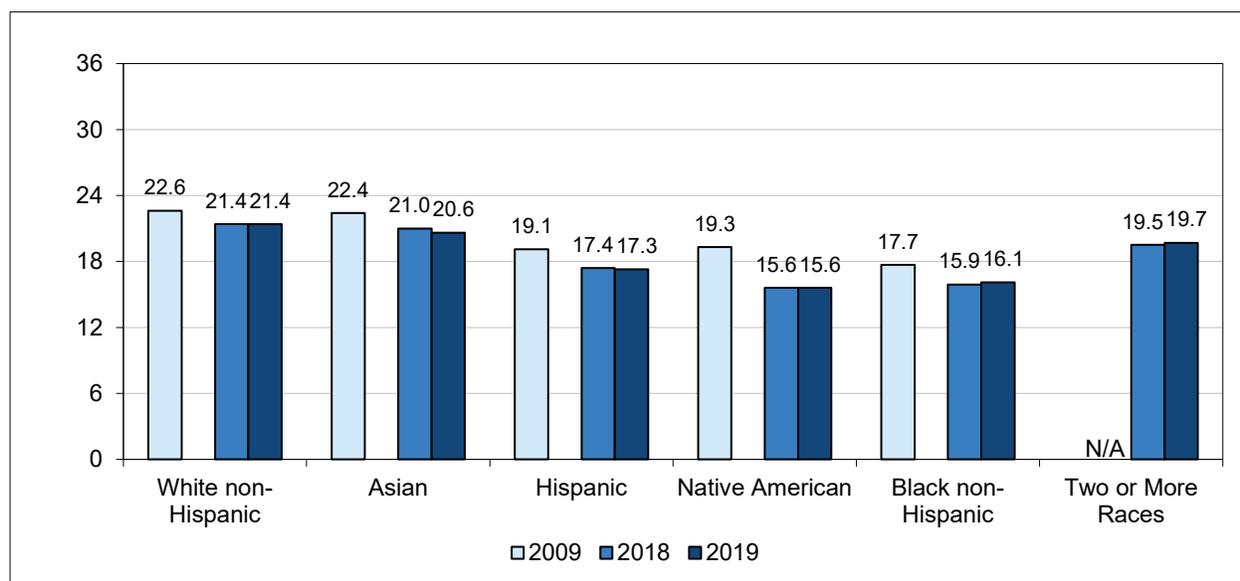
*Note.* Beginning with the 2013 graduating class, ACT's college readiness benchmark score for reading increased from 21 to 22 while their college readiness benchmark score for science decreased from 24 to 23. The benchmark scores for English (18) and mathematics (22) were unchanged during the reporting period. In addition, starting in 2013, extended-time test takers are included in national and state scores. Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). See [Table A4.1](#) in [Appendix 4](#) for supporting data. Data source: ACT, *High School Profile Report - Nebraska*, 2009, 2018, and 2019.

## **ACT Composite Scores and College Readiness Percentages by Race/Ethnicity**

- As shown in [Figure 1.1.b.4](#), average ACT composite scores vary by race/ethnicity.
- The average composite scores for Hispanics, Native Americans, and black non-Hispanics who graduated from Nebraska high schools in 2009, 2018, and 2019 were generally lower than the average composite scores of their white non-Hispanic, Asian, and multi-racial classmates.
- Between 2018 and 2019, average composite scores decreased slightly for Asians and Hispanics and increased slightly for black non-Hispanics and multi-racial students.
- It is unknown how much of the overall decline was attributable to the inclusion of extended-time test takers and students who took the ACT test only because they were required to do so, and how much of the decline is attributable to other variables.

**Figure 1.1.b.4**

**Nebraska Average ACT Composite Scores by Race/Ethnicity  
2018 and 2019 Compared to 2009**



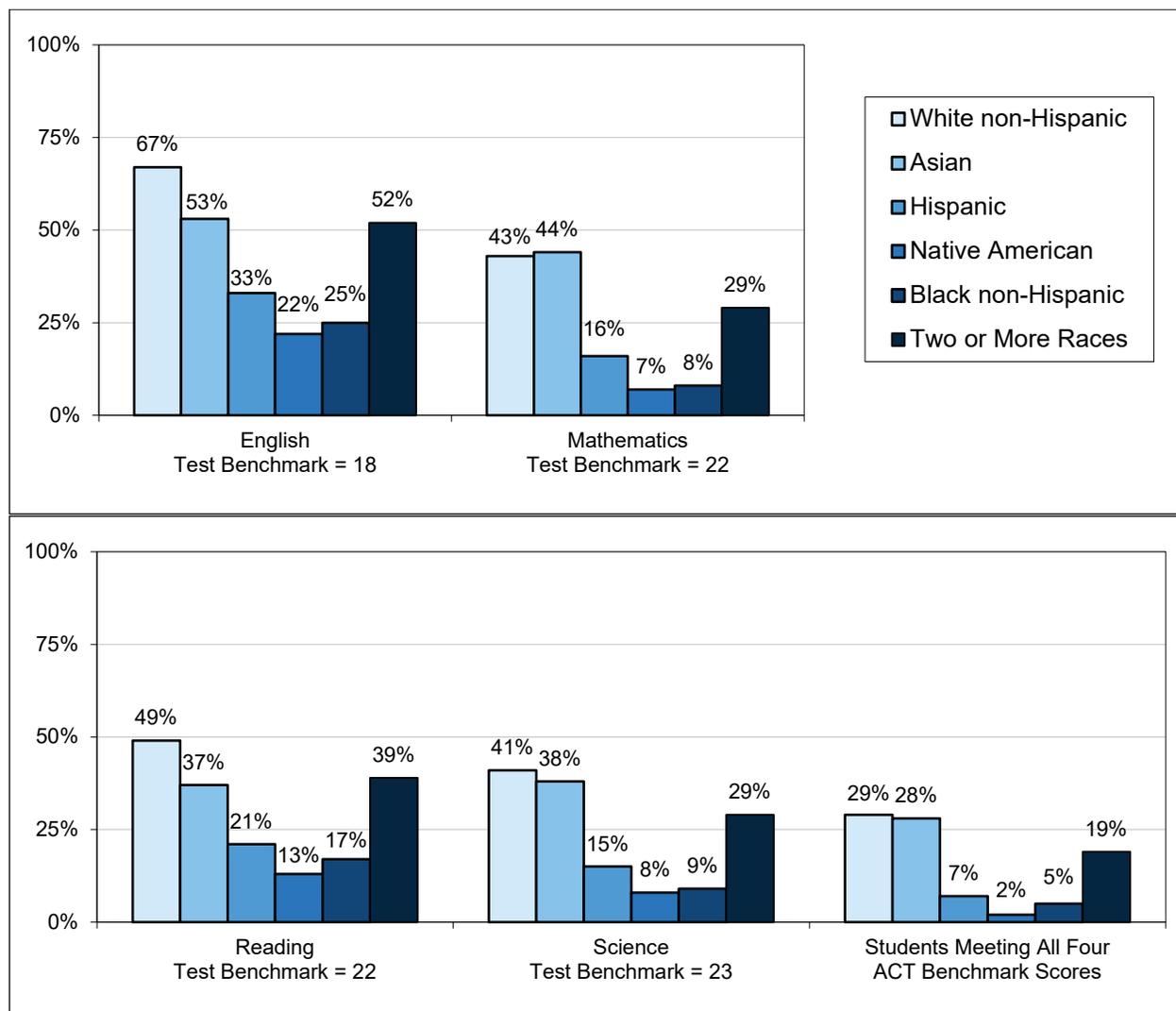
*Note.* Beginning with the graduating class of 2013, scores for extended-time test takers are included in reported ACT composite scores. Prior to 2011, the Asian category included Native Hawaiians and other Pacific Islanders. Average composite scores for Native Hawaiians and other Pacific Islanders are excluded from this figure due to the small number of individuals in this racial category who took the ACT Assessment. In 2018, 38 Native Hawaiians and other Pacific Islanders took the ACT Assessment with an average composite score of 16.9. In 2019, 32 Native Hawaiians and other Pacific Islanders took the ACT Assessment with an average composite score of 16.9. These students are not included in the calculation of the average composite score for Asians in 2018 or 2019. Prior to 2011, ACT did not have a racial/ethnic category for individuals who were more than one race. Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). Data source: ACT, *High School Profile Report - Nebraska*, 2009, 2018, and 2019.

- Based on the data for the graduating class of 2019 summarized in [Figure 1.1.b.5](#), lower percentages of Hispanics, Native Americans, black non-Hispanics, and multiracial graduates are sufficiently prepared for college-level coursework compared to their white non-Hispanic and Asian classmates.

- For example, only 29% of multiracial students in the class of 2019 met or exceeded the ACT College Readiness Benchmark Score in mathematics, compared to 43% of white non-Hispanic students and 44% of Asian students. More dramatically, only 16% of Hispanics, 7% of Native Americans, and 8% of black non-Hispanics met or exceeded the benchmark score in mathematics. A similar pattern is evidenced for the other three ACT subject-matter tests as well as the percentage of students who met all four ACT benchmark scores.
- In fact, 29% of white non-Hispanics and 28% of Asians met or exceeded the benchmarks for all four subject-matter tests in 2019, while only 19% of multiracial students, 7% of Hispanics, 2% of Native Americans, and 5% of black non-Hispanics met or exceeded the benchmarks for all four subject-matter tests.

**Figure 1.1.b.5**

**Percentages of ACT-Tested High School Students in the Graduating Class of 2019 Who Met or Exceeded ACT College Readiness Benchmark Scores that Indicate Sufficient Preparation for College-Level Courses by Race/Ethnicity**



*Note.* Data for Native Hawaiians and other Pacific Islanders are excluded from this figure due to the small number of individuals in this racial category (32) who took the ACT Assessment. Data source: ACT, *High School Profile Report - Nebraska, 2019*.

## **The Importance of the ACT-Recommended High School Core Curriculum**

ACT, Inc. defines the core, college-preparatory high school curriculum (i.e., the core) as consisting of four years of English and three or more years each of social studies, science, and mathematics (beginning with Algebra I). Specifically, the core is defined as consisting of the following courses:

- 4 years of English: English 9, English 10, English 11, and English 12
- 3 years of Math: Selected from Algebra I, Algebra II, Geometry, Trigonometry, and Calculus
- 3 years of Social Sciences: Selected from American History, World History, American Government, Economics, Geography, and Psychology
- 3 years of Natural Sciences: Selected from General/Physical/Earth Science, Biology, Chemistry, and Physics

When students register to take the ACT Assessment, they are asked to report the courses they have taken or plan to take before they graduate from high school. Based on the combinations of courses that students report they have taken or plan to take, ACT, Inc. conducts research to determine how taking the core—or more than the core—is related to scores on the ACT Assessment and academic achievement in college.

- Research conducted by ACT, Inc. has repeatedly confirmed that students who complete the high school core generally score higher on the ACT Assessment and are more likely to progress successfully through postsecondary education programs than students who do not complete the recommended core courses.
- Furthermore, research conducted by ACT, Inc. indicates that students who take rigorous courses beyond the recommended minimum number of core courses are even more likely to be ready for college than students who take the minimum core. This research indicates that students whose coursework beyond the core includes advanced courses in mathematics, such as trigonometry or calculus, as well as courses in biology, chemistry, and physics, are the likeliest of all high school students to be ready for college-level coursework.<sup>9</sup>

Consequently, it is important to monitor the average ACT composite scores of students who report that they completed the core—or more than the core—compared to the scores of students who report taking less than the minimum core courses.

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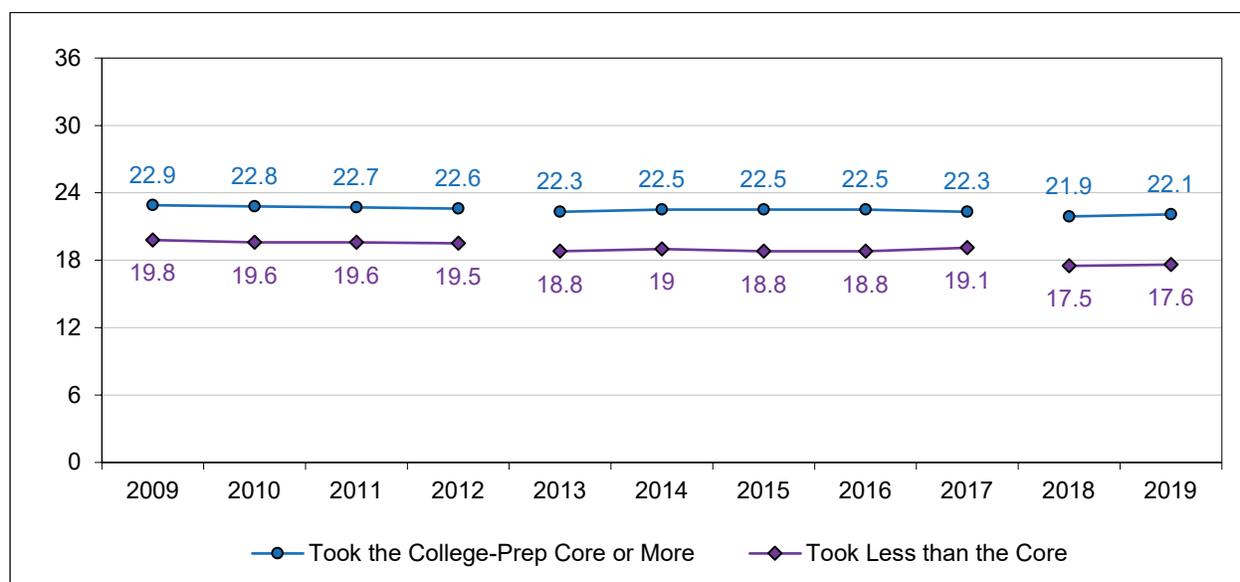
<sup>9</sup> *Mind the Gaps: How College Readiness Narrows Achievement Gaps in College Success*, ACT, Inc., 2010.

**Nebraska ACT Composite Scores of Students Who Take the ACT-Recommended Core and Students Who Take Less than the Core Curriculum<sup>10</sup>**

- As shown in [Figure 1.1.b.6](#), Nebraska students who have taken or plan to take the core college preparatory courses—or more than the core—in high school have consistently scored higher on the ACT than the students who have completed or plan to complete less than the minimum core.
- Of the ACT-tested students in the class of 2019, those who took the core or more had an average composite score of 22.1 compared to an average score of 17.6 for the students who reported that they took courses that did not meet the minimum core requirements.
- The average ACT composite score for the students who took the core or more was 0.8 point lower in 2019 than it was in 2009 while the average score for students who took less than the core was 2.2 points lower in 2019 than it was in 2009.

**Figure 1.1.b.6**

**Nebraska Average ACT Composite Scores of Students Who Took the College-Preparatory Core and Students Who Took Less than the Core 2009 through 2019**



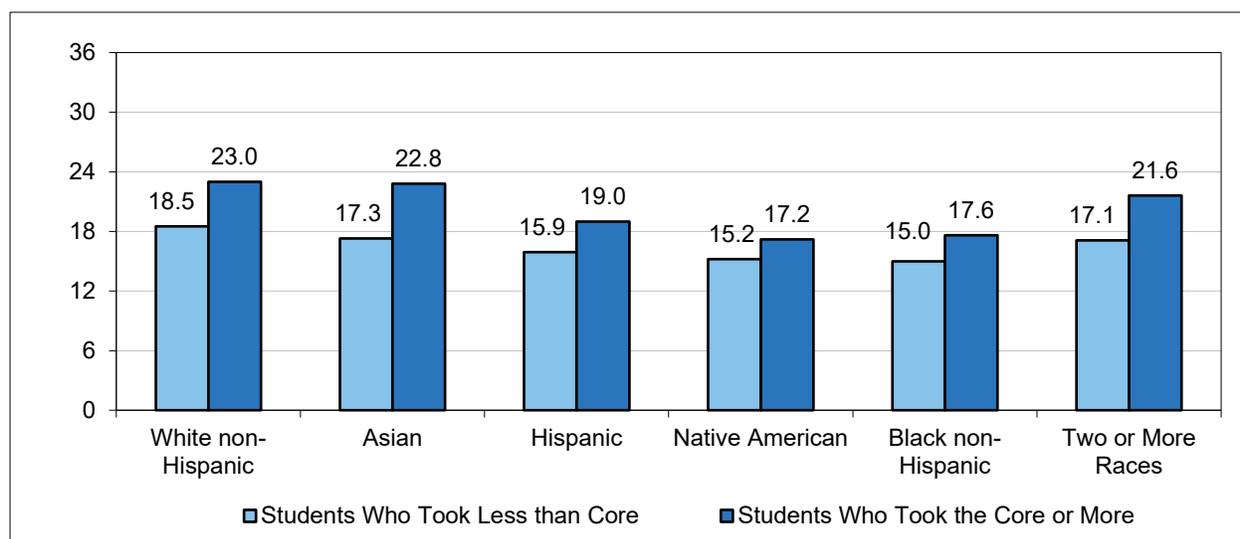
*Note.* Beginning with the graduating class of 2013, scores for extended-time test takers are now included in reported ACT composite scores. Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). Data source: ACT, *High School Profile Report - Nebraska*, 2009 through 2019.

<sup>10</sup> *Note:* Beginning with the 2014-2015 school year, Nebraska school districts are required to adopt and implement graduation requirements that include meeting standards similar to those represented by the core, college-preparatory high school curriculum advocated by ACT, Inc. Prior to adoption of the new statewide standards, Nebraska high school graduation requirements were set by each school district individually and may or may not have included “the core” as defined by ACT, Inc. Data source: Nebraska Department of Education, *Rule 10, Regulations and Procedures for the Accreditation of Schools* (pages 5-6), August 1, 2015.

- Regardless of score variations, the data summarized in [Figure 1.1.b.6](#) provide strong evidence that taking the college-preparatory curriculum continues to have a positive effect on ACT composite scores and improves a student’s chances for achieving academic success in college-level courses.
- **Taking “the core or more” helps students of every race/ethnicity.** Within each of the six racial/ethnic groups, the average ACT composite score was higher for the students in the graduating class of 2019 who took the college-preparatory core than the average score for students who took less than the core, as illustrated in [Figure 1.1.b.7](#).

**Figure 1.1.b.7**

**Nebraska ACT Composite Scores for Students Who Took the College-Preparatory Core or More and Students Who Took Less than the Core by Race/Ethnicity for the High School Graduating Class of 2019**



*Note.* Data for Native Hawaiians and other Pacific Islanders are excluded from this figure due to the small number of individuals in this racial category (32) who took the ACT Assessment. Data source: ACT, *High School Profile Report - Nebraska, 2019*.

### **Percentage of Nebraska ACT-Tested Students Who Take the Core or More**

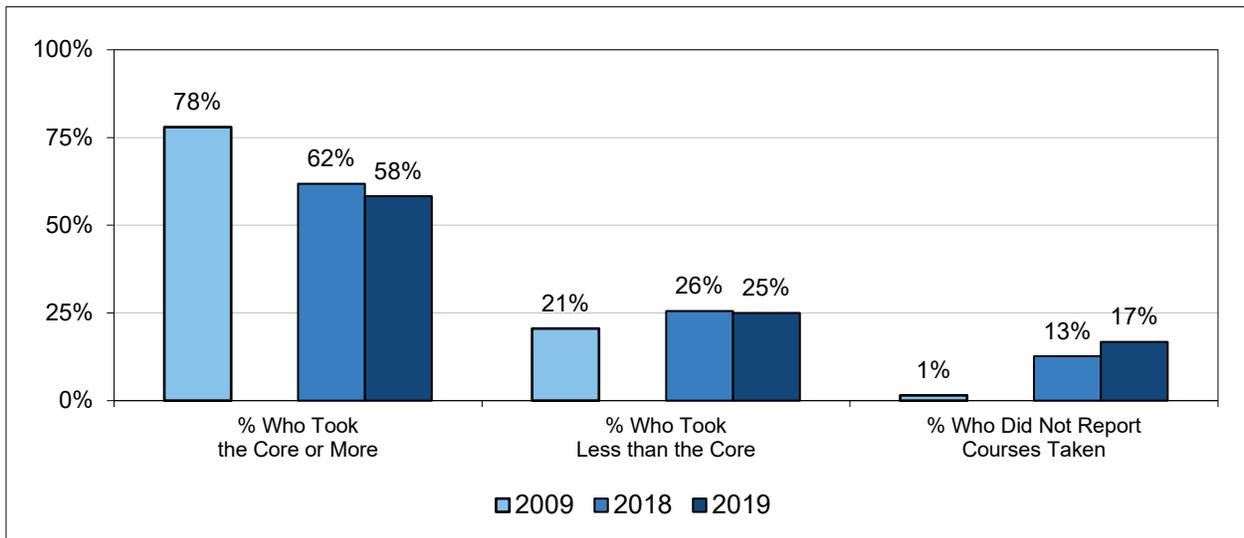
As mentioned earlier in this section, the students themselves report the courses they have taken and plan to take before they graduate from high school when they register for the ACT Assessment. Self-reporting may make the data less accurate and/or less reliable. However, the percentage of ACT-tested students who reported the courses they took or planned to take in high school was 99% in 2009, 87% in 2018, and 83% in 2019.<sup>11</sup>

- A direct comparison of 2018 and 2019 percentages indicates that the percentage of high school students who took the core or more decreased four percentage points over the last year. As shown in [Figure 1.1.b.8](#), the percentage of students who reported that they took the core or more was 20 percentage points lower in 2019 than in 2009.
- [Figure 1.1.b.9](#) shows that for all major racial/ethnic groups, there has been a dramatic decrease since 2009 in the percentage of the ACT-tested students who have reported taking the core or more in high school.

<sup>11</sup> The high school graduating class of 2018 was the first class that had all Nebraska juniors take the ACT test.

**Figure 1.1.b.8**

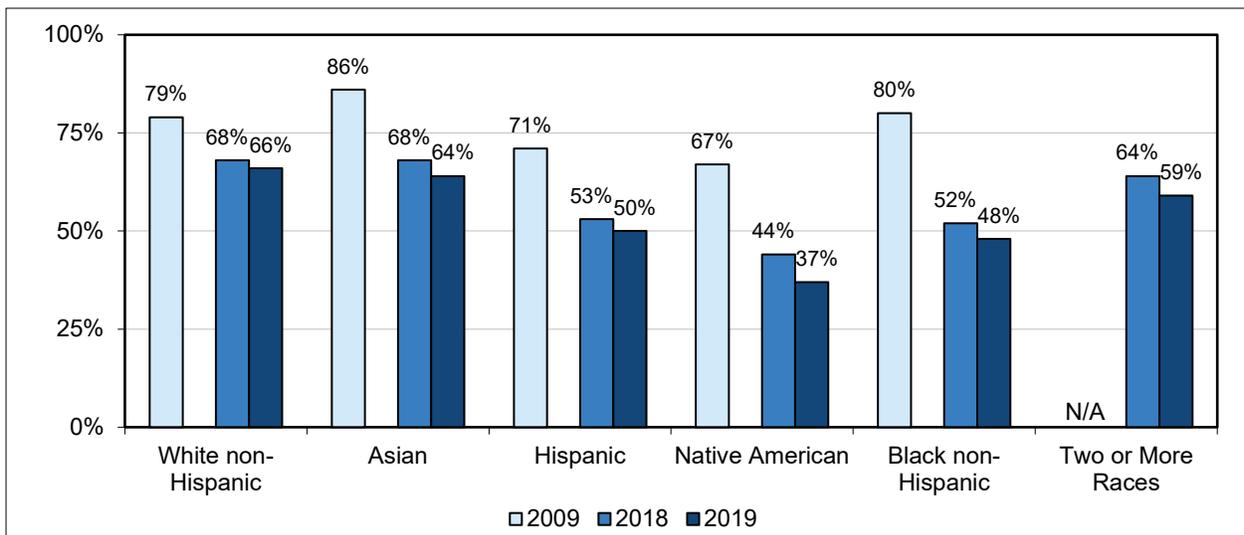
**Percentages of Nebraska’s ACT-Tested Students Who Took the College-Preparatory Core or More and Students Who Took Less than the Core 2018 and 2019 Compared to 2009**



*Note.* Beginning with the graduating class of 2013, scores for extended-time test takers are included in reported ACT composite scores. Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). See [Table A4.2](#) in [Appendix 4](#) for supporting data. Data source: ACT, *High School Profile Report - Nebraska*, 2009, 2018, and 2019.

**Figure 1.1.b.9**

**Percentage of Nebraska ACT-Tested Students Who Reported That They Took the College-Preparatory Core or More by Race/Ethnicity 2018 and 2019 Compared to 2009**



*Note.* Beginning with the graduating class of 2013, scores for extended-time test takers are included in reported ACT composite scores. Prior to 2011, ACT did not have a racial/ethnic category for individuals who were more than one race. Data for Native Hawaiians and other Pacific Islanders are excluded from this figure due to the small number of individuals in this racial category who took the ACT Assessment. Beginning with the 2018 graduating class, Nebraska students are tested using the Nebraska Student-Centered Assessment System (NSCAS ACT). This test is given to all students in the cohort minus one year (typically the 11<sup>th</sup> grade). Data source: ACT, *High School Profile Report - Nebraska*, 2009, 2018, and 2019.