

Summary: ACT Performance Level Cut Scores for Wisconsin

The ACT assessment was administered to almost all 11th graders in Wisconsin for the first time in 2014-15. These statewide data provide important insight into the academic preparedness of students in Wisconsin, particularly related to readiness for postsecondary education. ACT provides college readiness benchmarks for the overall score and certain content areas of the ACT assessment, but Wisconsin is also required to set ACT performance level cut scores for public reporting. This document provides an overview of the purpose of setting performance level cut scores, outlines the key issues to consider when making performance level determinations, and details the final Wisconsin cut scores for the ACT based on feedback from educators and partners statewide.

This document addresses the following questions:

1. What are performance level cut scores?
2. What is the purpose for setting cut scores?
3. The ACT Aspire already has four performance levels; should Wisconsin-specific cut scores be set for the ACT Aspire?
4. How should English/Language Arts be reported?
5. What currently constitutes Proficiency on the ACT assessments?
6. What cut scores should be used for Advanced and Basic cuts?

What are performance level cut scores?

Performance level setting, also known as standard setting, is the process for establishing one or more threshold scores (cut scores) on an assessment, making it possible to create categories of performance. In Wisconsin, we have traditionally used four distinct performance levels for our summative tests. The performance levels are:

- **Advanced**
- **Proficient**
- **Basic**
- **Below Basic**

What is the purpose for setting cut scores?

ACT cut scores need to be established for at least the following reasons:

- Satisfaction of federal requirements
- Consistency in public reporting of assessment results across grade levels

The ACT assessment is widely regarded as a reliable indicator of college readiness. It is important that Wisconsin's cut scores not only reflect this understanding of assessment results, but also greater stakeholder expectations for the use of the assessment.



Who was involved in recommending ACT cut scores?

Staff from the Offices of Educational Accountability and Student Assessment completed initial and ongoing analyses that informed planning and discussion in two meetings with a group of content experts. The group represented a variety of education stakeholders including classroom educators, education administrators, and professional organizations with a wide variety of interests; additional experts were consulted on an ad hoc basis, including internal English Language Arts (ELA) and Mathematics consultants.

The ACT Aspire already has four performance levels; should Wisconsin-specific cut scores be set for the ACT Aspire?

Reports for the ACT Aspire already include four performance levels: In Need of Support; Close; Ready; and Exceeding. Given this existing framework, and the relationship of the results to performance on the ACT (e.g., “Close” is meant to indicate that a student’s predicted ACT score is within 2-3 points of the college readiness benchmark), the participants prefer to use the existing ACT Aspire performance levels. This decision may be revisited at a later time.

How should English language arts be reported?

ACT has not established a benchmark for the ACT Writing test, yet does provide benchmarks for English and Reading. This poses a challenge for DPI because we want to combine the English, Reading, and Writing tests into a single ELA score.

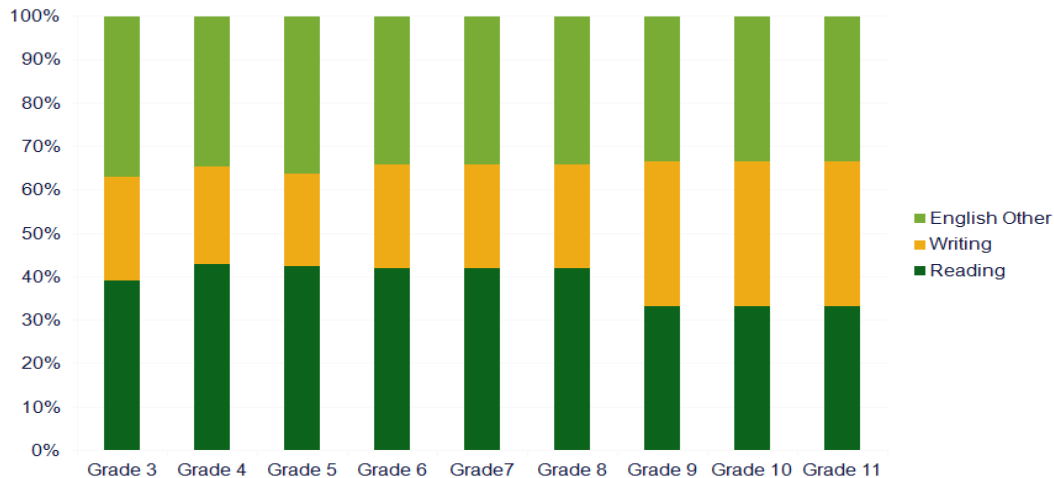
We recently received confirmation from ACT that combined English-Reading-Writing scores will be provided for the 2015-16 administration. As part of that transition, ACT updated the Writing test; the items are different, as are the scoring rubric and scale, which will shift from a 12-point to a 36-point scale. As a result, ACT plans to combine the three tests with equal weighting.

The final recommended scale combination for DPI English language arts combines each test equally to maintain continuity. The reasoning is to better reflect (a) consistency of measurement from early grades and keep a focus of development on writing for more advanced grades and (b) consistency with ACT Aspire tests in 9th and 10th grades. For 2014-15 results, DPI took the recommendations from its stakeholders to set the same weighting, but with the knowledge that we should re-examine cut scores for ELA when we have 2015-16 ACT data. It is currently unclear whether ACT will provide an ELA college readiness benchmark; regardless, DPI plans to examine our existing benchmark given the expected change in the writing test.

Given the considerations above, ELA cut scores are set in such a way as to anticipate, as well as possible, appropriate thresholds for the combined assessments. The same postsecondary outcome data should be used as established the mathematics and science cut scores, though the benchmarks may reflect different outcome probabilities in order to address some concerns in the stakeholder group regarding face validity of the potential outcomes.

Figure 1 depicts the proportion of the Reading score for Badger Exams (in 3rd through 8th grades) and the Reading score for ACT Aspire (in 9th and 10th grades) that is attributed to the English, Reading, and Writing portions respectively, providing DPI, content experts, and the stakeholder group with a firm rationale for keeping a consistent composition.

Figure 1. English/Language Arts Assessment Composition from Badger (3rd-8th), ACT Aspire (9th-10th), and ACT as recommended (11th)



What currently constitutes proficiency on the ACT assessment?

ACT has established college readiness benchmarks for multiple content area assessments. Based on empirical data collected by ACT over several studies, students earning a score at or above the ACT college readiness benchmark have a 50% likelihood of earning a B or better in a related, credit-bearing college course, or about a 75% likelihood of a C or better.

These are the existing ACT benchmarks:

ACT Subject-Area Test	ACT Benchmark
English	18
Reading	22
Mathematics	22
Science	23

These proficiency benchmarks were originally set in 2005 by ACT and modified in 2013 to reflect new studies of first year college, credit-bearing coursework. For English, classes in Composition were surveyed; for Reading, classes in social science that were reading-intensive were surveyed; for Mathematics, first year Algebra was surveyed; and for Science, first year Biology was considered.

Because ACT College Ready thresholds are well known and used throughout the state in K-12 reporting and at postsecondary institutions, maintain a high level of rigor compared to other national proficiency standards, are well-benchmarked for college entrance, and highly agree with career readiness, the standard setting group saw no need to set a competing threshold for proficiency. The group determined that it would be unnecessarily confusing to our public consumers to deviate from this standard without very strong justification. The following figures show the ACT study benchmark decisions which form the basis of the ACT proficiency decision.

Figure 2.a Relationship of ACT scores to postsecondary course performance: mathematics/algebra

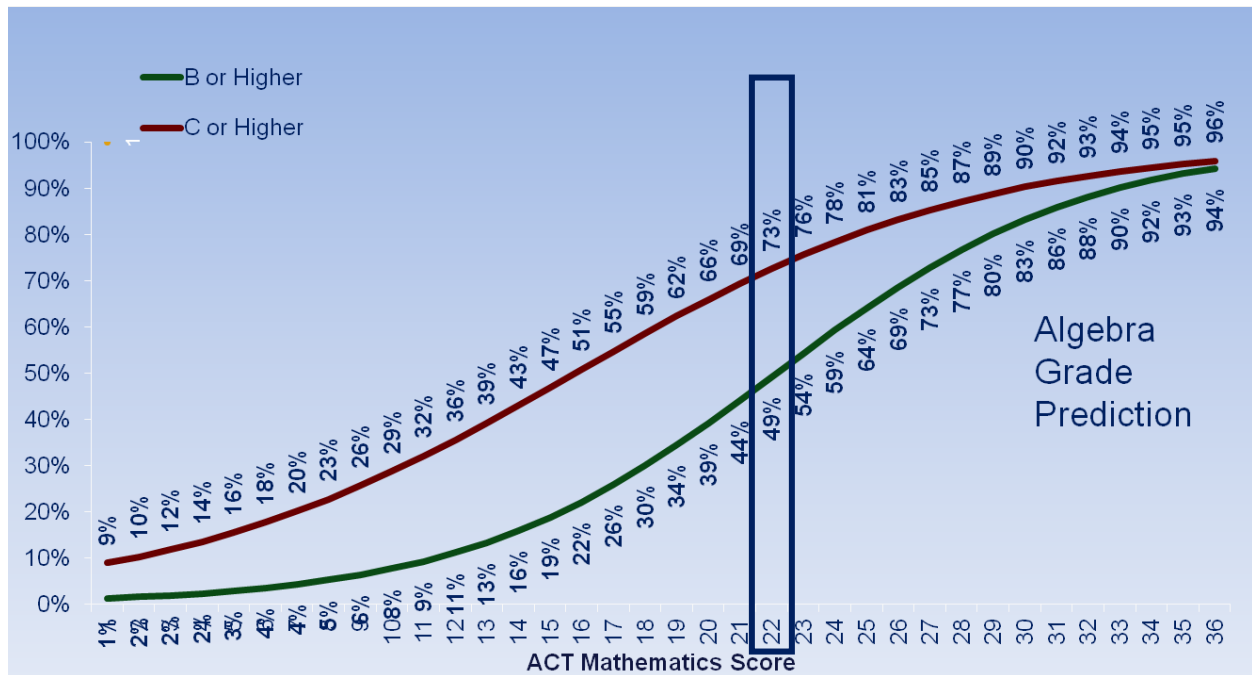
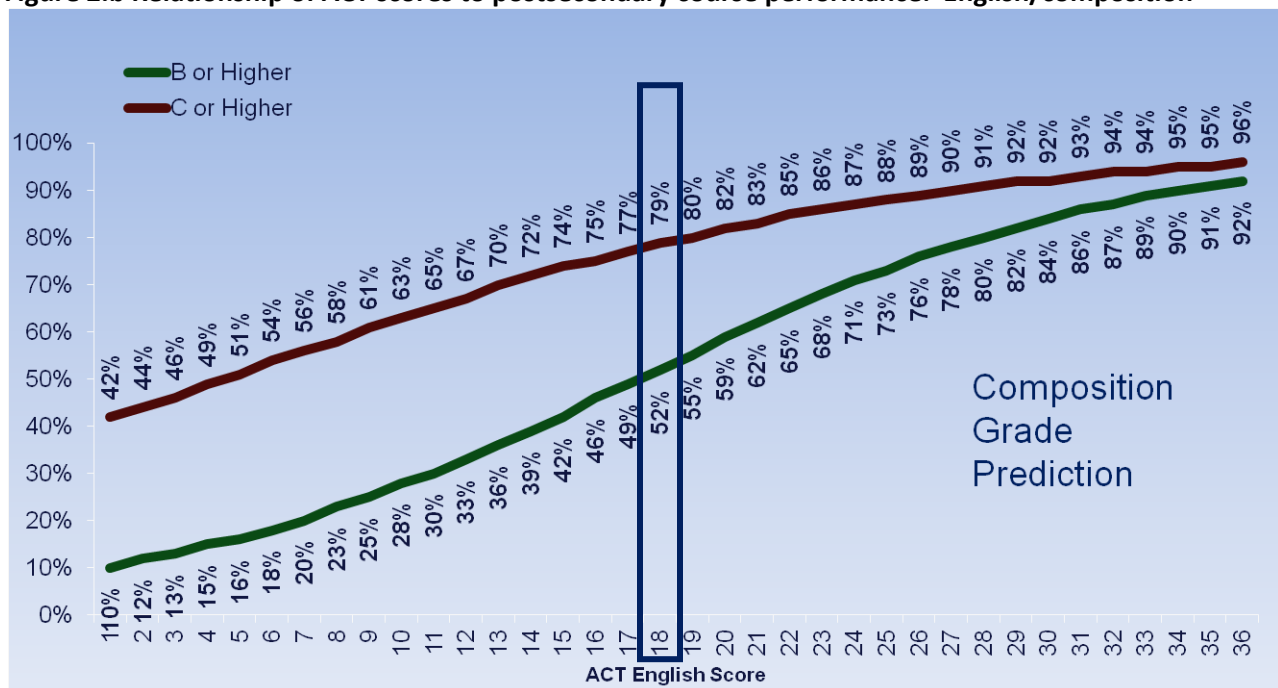
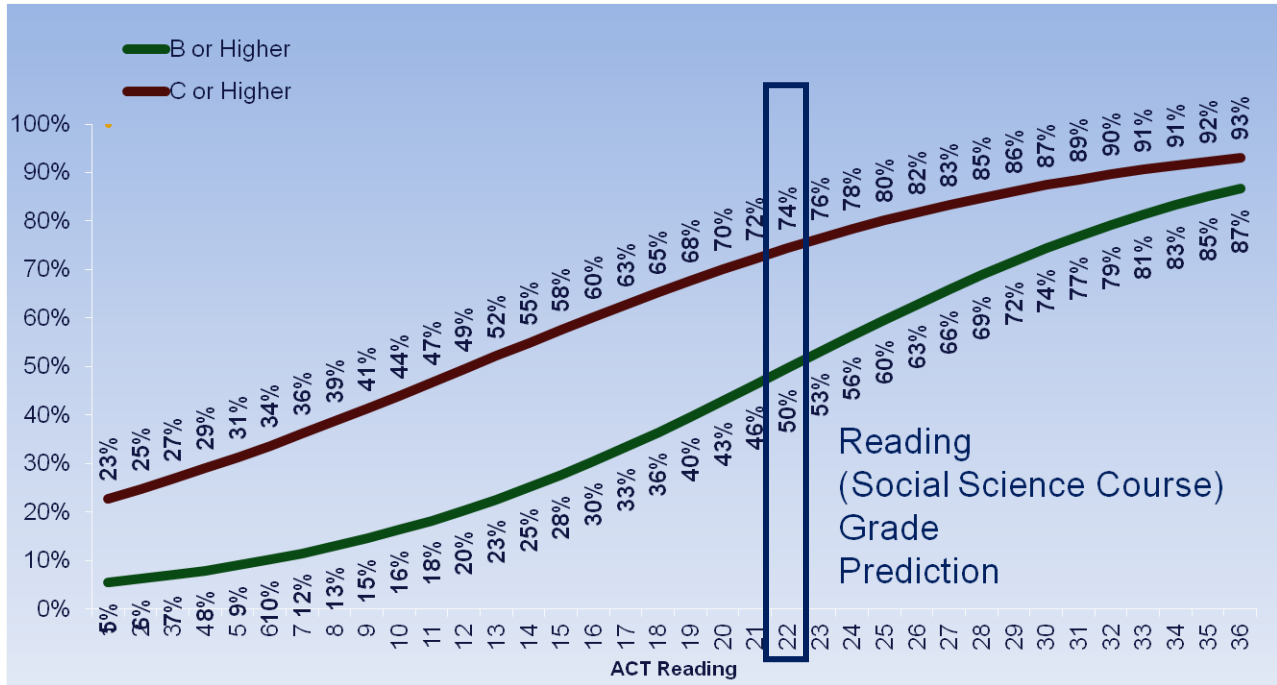


Figure 2.b Relationship of ACT scores to postsecondary course performance: English/composition



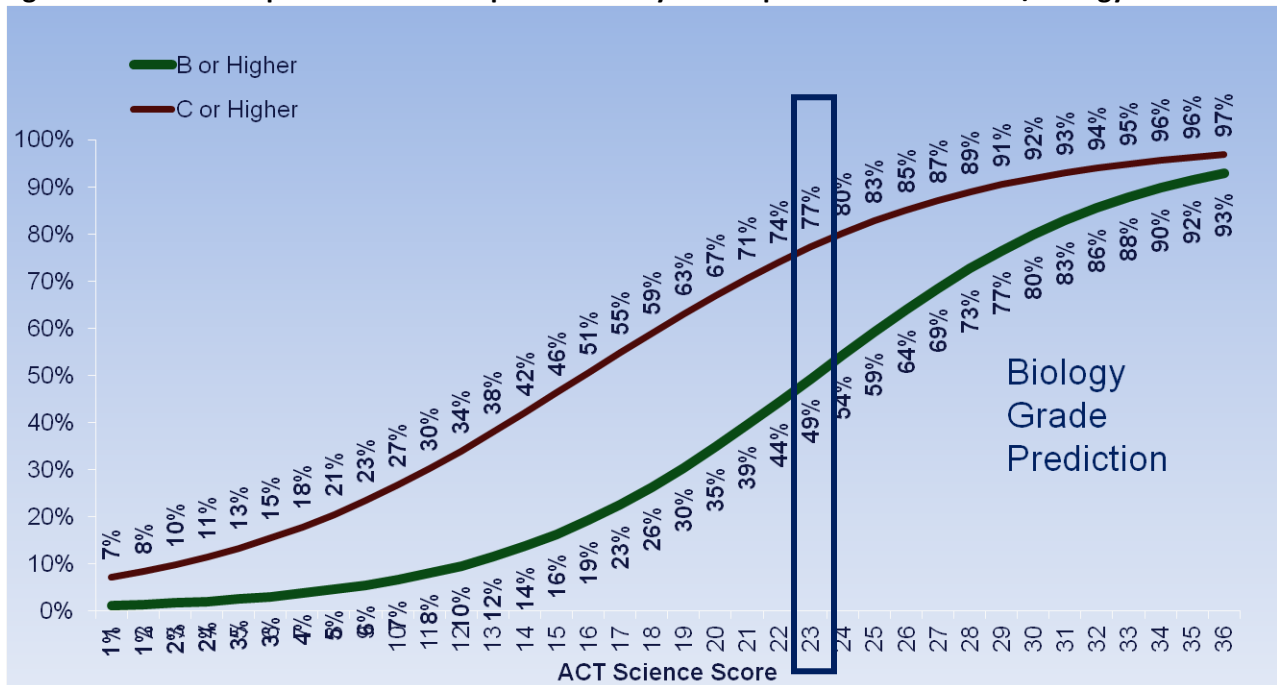
Source: National ACT First Year Course Study (ACT)

Figure 2.c Relationship of ACT scores to postsecondary course performance: reading/reading or social science



Source: National ACT First Year Course Study (ACT)

Figure 2.d Relationship of ACT scores to postsecondary course performance: science/biology



Source: National ACT First Year Course Study (ACT)



Wisconsin will adopt the ACT College and Career Readiness Benchmarks and utilize these benchmarks for setting the proficient cut score for the mathematics, science, and the combined English language arts sections of the ACT assessment. The reasoning centered around the ideals of (a) consistency of reporting between ACT and DPI; (b) a reasonable concurrence with cut score impact in previous grades; (c) a maintenance of high standards; and (d) anticipation of the 2015-16 ACT benchmarks.

What cut scores best reflect Advanced and Basic performance on the ACT?

Several options were examined for establishing Advanced and Basic cuts. Because ACT does not provide guidance on these cut scores, yet we are required to both create and give them meaning toward College and Career Readiness, DPI and the standard setting group needed to discuss and ultimately find grounding in an acceptable rationale. This rationale needed to balance the needs of those who might use them across the state, including educators, postsecondary partners, DPI accountability and reporting staff, and other parties who may be affected.

The strategies considered overtly included setting standards to benchmark other national assessments (WKCE), using ACT's methodology (course prediction), and ACT Aspire's methodology to glean cut scores. Combinations of these strategies were also considered. The group discussed what it means to perform at Basic and Advanced levels - considering impact, enrollment, prospect success in ACT studies, and career readiness data; some interest was expressed around the idea of Basic performance reflecting performance close to or approaching proficiency (ACT Aspire). The group was also aware of the important relationship of results across grade levels (and thus across tests, whether Badger, WKCE, or NAEP), developing a consistent rationale, target, and methodology (First Year Postsecondary Course outcomes), and maintaining expectations at a reasonably high level. Balancing these priorities was and will continue to be challenging.

Ultimately, the preferred methodology for establishing the Basic and Advanced cut scores was the ACT course prediction probability model, consistent with ACT's own benchmark standard setting for proficiency. Preferred probabilities for mathematics and science are 75% probability of a B or higher in a college level credit bearing course to achieve the Advanced cut point and 25% probability of a B or higher in a college level credit bearing course to achieve the Basic cut point. Adjusting the probabilities for ELA cuts allows us to address as best as possible several considerations - the fact that the writing assessment will change and currently lacks a benchmark, the fact that the scale is a combined one, and the need for more reasonable continuity at all levels with previous assessments. As a result, we decided on a 75% probability of a B or higher in college level credit bearing courses for the Advanced cut and a 35% probability of a B or higher for the ELA Basic cut score.

Content area	Basic cut score	Proficient cut score	Advanced cut score
ELA	15	20	28
Mathematics	17	22	28
Science	18	23	28