

Accountability Metric	SCDE Proposed Change	SCDE Rationale	EOC Staff Recommendation
Academic Achievement	Explore changing the denominator from the “Exceeds” and “A” level to reflect the overall state goals of 90% at “Approaches” and above and 70% at “Meets” and above	The current system requires all students to earn “Exceeds” or “A” in achievement in both English language arts and mathematics in order for a school to receive full points. A revision in the denominator could better align to the goals and to public perception of a 100-point system, thereby making the 100 points achievable as required in the EAA. No school received full points; only the Governor’s SSM and the Charleston Academic Magnet scored 29/30 points.	EOC staff recommends no change to the calculation of the Academic Achievement indicator for 2018-19. See attached analysis.
Student Growth	Review the impact of the growth measure on high achieving schools for whether some decision rule should be put in place.	Perception is that high-achieving schools cannot retain high growth scores over time. This is being investigated. If the denominator on achievement is changed, we would implement a business for a school had low growth, similar to previous accountability models.	EOC staff concurs with the recommendation that additional analysis is needed. However, given the March 1 deadline for amendments to the ESSA state plan, revisions will likely not occur for the 2018-19 accountability year.

Accountability Metric	SCDE Proposed Change	SCDE Rationale	EOC Staff Recommendation
College & Career Readiness	Add to career-ready the dual credit courses aligned to a completer pathway (6 hours, “C” or better) and additional certifications + completer status.	Especially in small, rural districts the access to varied CTE pathways and certifications is limited. These additions would make this indicator more equitable and acknowledge the post-secondary readiness of these students.	<p>EOC staff recommends clarifying the definition accordingly:</p> <p>“Students who take six CTE dual credit hours that are a part of a completer pathway connected to post-secondary education.”</p> <p>Regarding the grades that should be earned, Kentucky requires that both academic (college) and career ready students earn a “B” or better in a dual credit course.</p> <p><u>Issue 1:</u> Should all dual credit courses for college or career readiness be a grade of “B” or higher?</p> <p><u>Issue 2:</u> Data by district to determine access to CTE pathway coursework, industry certifications, and district articulation agreements allowing for dual credit CTE courses is limited. EOC staff has requested information from SC Technical College System regarding the number of CTE courses taken by high school students within technical colleges.</p> <p>See attached analysis.</p>

Accountability Metric	SCDE Proposed Change	SCDE Rationale	EOC Staff Recommendation
Preparing for Success	Explore modification of the denominator as with Academic Achievement.	No school scored all points and only 5 scored 9 or above. See Academic Achievement above.	EOC staff recommends no change to the calculation of the Preparing for Success indicator for 2018-19. See attached analysis.
Graduation Rate	Give full points for reaching the state goal of 90%	Superintendents requested that points be distributed based upon meeting the state’s goal and/or percentage of graduation rate. Reviewing a distribution between 50% and 90%.	EOC staff recommends no changes to the calculation of points earned for the Graduation Rate indicator. See attached analysis.
English Language Proficiency	Determine whether 4.0 (approved for some other states) is “proficiency” on the ACCESS assessment.	Level the playing field for our state on this new assessment by not overstating the proficiency score without more data.	The current definition of proficiency was established with input from ESOL (English for Speakers of Other Languages) teachers. The EOC staff supports reviewing the definition of proficiency as long as: (1) data can substantiate the decisions to change the proficiency score; and (2) the professional judgment of ESOL teachers contributes to the decision.

Accountability Metric	SCDE Proposed Change	SCDE Rationale	EOC Staff Recommendation
<p>Student Engagement</p>	<p>Work with the vendor to set a criterion-referenced method of distributing points.</p>	<p>The current “competitive” decile method is not tied to whether a school is “Excellent” or “Unsatisfactory” and does not consider “compliant” students in ranking schools. A school with 50% Committed, 40% Compliant, and 10% disengaged is ranked the same as one with 50%, 10% Compliant and 40% disengaged.</p>	<p>As evidenced by the input from educators at the regional meetings, there is concern about the reliability, validity and usefulness of the student engagement survey. At a minimum, the EOC staff recommends the following:</p> <p>For high schools, remove the student engagement survey entirely from the 2018-19 accountability system. The 5 points that were attributed to the survey would be reallocated to the College/Career Readiness indicator which includes non-assessed metrics like work-based learning.</p> <p>For elementary and middle schools, the SCDE and EOC should consider alternative indicators of school quality/student success as detailed in the attached analysis. Implementation of such indicators likely could not occur until school year 2019-20. Therefore, for the 2018-19 accountability year only, the EOC staff concurs with SCDE on using a criterion-referenced method of distributing points; however only students scoring “Committed” should be considered when determining the levels of student engagement for</p>

			<p>accountability, which is the practice in other states. See attached analysis.</p> <p>Staff notes that the name of this indicator has changed from "School Quality" to "Student Engagement"</p>
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EOC Staff Response to SCDE Proposed Changes to State ESSA Plan

Since publication of the state report cards on November 29, 2018, the Education Oversight Committee (EOC) staff met with the staff of the South Carolina Department of Education (SCDE) regarding changes to the accountability system for 2018-19 and changes to the accountability system beginning in 2019-20. The following analysis provides data to explain implications of the proposals.

Academic Achievement and Preparing for Success

The current system assigns a point value to each student based on the “level” of their score on SC Ready, SC PASS, the End-of-Course Evaluation Program (EOCEP), or the alternate assessments associated with these assessments. Table 1 presents these conversions.

Table 1
Test Score to Points Conversion

Points	SC PASS Level	SC Ready Level	SC-ALT Level	EOCEP Grade Level	EOCEP Alternate Assessment
0	Not Met 1	Does Not Meet	Emerging	F	Level 1 Foundational
1	Not Met 2	Approaches	Foundational	D	Level 2: Emerging
2	Met	Meets	Increasing	C	Level 3: Meets
3	Exemplary 4	Exceeds	Applied	B	Level 4: Exceeds
4	Exemplary 5			A	

Steps in creating the Academic Achievement rating or the Preparing for Success rating:

1. For each student/test combination, points are awarded using Table 1.
2. For each student/test combination, a maximum number of possible points are also assigned, which is 4 for an SC PASS test or an EOCEP test, and 3 for any SC Ready test or an Alternate Assessment.
3. The sum of the points awarded is obtained by summing across students and tests.
4. The sum of the possible points is obtained by summing across students and tests.
5. The percentage of possible points earned is obtained by dividing the total obtained in (3) by the total obtained in (4).
6. The points on an X-point scale are obtained by multiplying the percentage of points obtained in (5) by X, which is then rounded to tenths place.
 - a. For example, points on a 40-point scale are obtained by multiplying the percentage of points obtained in (5) by 40, which is then rounded to tenths place (e.g., 23.7).
 - b. Similarly, points on a 10-point scale are obtained by multiplying the percentage of points obtained in (5) by 10, which is then rounded to tenths place (e.g., 8.6).

The current methodology has been used by the EOC since the creation of state report cards in 2003. The denominator has always been the maximum number of points that a student could receive. Assigning the maximum number of points for a student to the highest level possible puts into action the belief that all students can achieve at the highest level. For the first time in 2018, the overall ratings for schools, however, were based on a 100-point scale.

The Fordham Institute rated each state's ESSA plan on three measures:

1. Assigns to schools annual ratings that are clear and intuitive
2. Encourages schools to focus on all students, not just low performers
3. Measures all schools fairly, including those with high rates of poverty

South Carolina earned the highest rating of "Strong" for assigning to schools annual ratings that are clear and intuitive and for encouraging schools to focus on all students, not just low performers.

There are two primary ways for state accountability systems to encourage schools to focus on all students: (1) use a performance index or scale scores in place of proficiency rates when measuring achievement and (2) measure the growth of all students. South Carolina receives a strong rating because those two components constitute 60 percent of schools' annual ratings. Performance indexes count for 40 percent, which encourages schools to look beyond those pupils who are near the cutoff for proficiency. And a measure of growth for all students constitutes another 20 percent of schools' summative ratings, which should also lead schools to heed the educational needs of every child.

The proposed methodology is to change the denominator or step (2) above by assigning the maximum number of points to be 3 for an SC PASS test or end-of-course assessment and 2 for any SC Ready test. Without changing the numerator, the change results in the total number of points earned under Academic Achievement being increased by a factor of 3/2, and the total number of points earned for Preparing for Success increased by a factor of 4/3. The justification is that the two ESSA goals focus on the following two ESSA goals:

- 90 percent of students will score at Level 2 or higher in English Language Arts (ELA) and mathematics (individually).
- 70 percent of students will score at Level 3 or higher in ELA and mathematics (individually).

Although the proposed changes are based on these ESSA goals, they do not measure either of these goals explicitly, and they remove from the accountability system the clear statement that the goal for individual students is to achieve at the highest level and the belief that students can achieve at these levels. The proposed methodology would encourage schools to focus only on students moving from Does Not Meet Expectations to Approaches Expectations and from Approaches Expectations to Meets Expectations.

These changes also create unanticipated problems for the individual indicators of Academic Achievement and Preparing for Success, and for the overall school rating. The consequences of amending the calculation for Academic Achievement are summarized below in Table 2. A detailed explanation of the conversion tables is in Appendix A.

- 1) The mean score for elementary and middle schools would increase by approximately 9 points, and the mean score for high schools would increase by more than 4 points.
- 2) Without changing the numerator, the proposed methodology would result in schools with high student achievement earning more than the possible maximum points. Fifty-three (53) elementary schools and 16 middle schools would have scores higher than the maximum score of 40. Five high schools would have scores higher than the maximum score of 30.

Table 2
Summary statistics of the current and proposed Academic Achievement scores

Academic Achievement Points	Number of Schools	Mean	Standard Deviation	Min	Max	Number greater than maximum
Elementary						
Current	657	18.19	5.55	4.18	33.54	0
Proposed		27.29	8.33	6.27	50.31	53
Middle						
Current	327	16.40	5.58	5.39	38.15	0
Proposed		24.60	8.38	8.09	57.23	16
High						
Current	231	13.22	4.17	3.49	29.36	
Proposed		17.62	5.57	4.65	39.15	5

Figures 1 through 3 present the current and proposed score distributions for elementary, middle, and high schools. Also presented in Figures 1 through 3 are vertical lines showing the current Good/Excellent cut-score, the Good/Excellent cut-score adjusted to the proposed score scale, and the maximum Academic Achievement score as the accountability system was designed (40-points).

Figure 1.

Current and Proposed Achievement Scores - Elementary Schools
Cut-Scores shown for: Good/Excellent

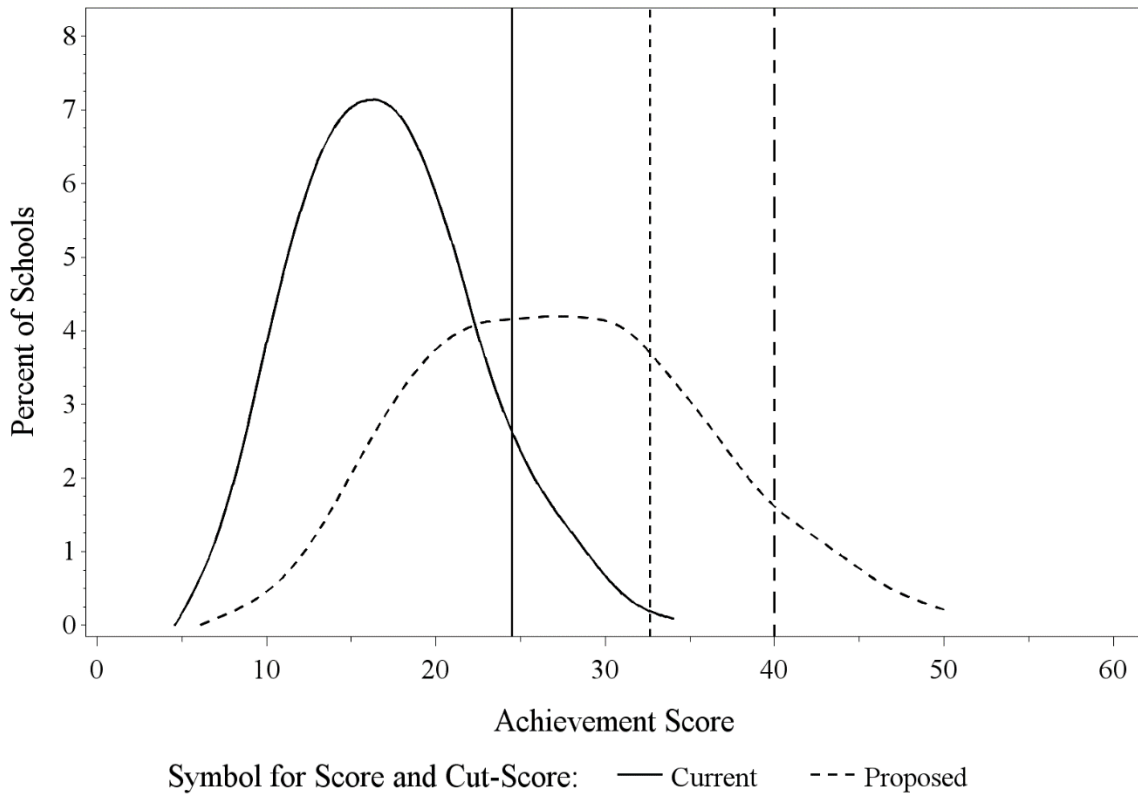


Figure 1 presents the current and proposed score distributions for Elementary School Academic Achievement. First, notice the vertical line included at the Achievement Score of 40, the current maximum number of points. The proposed score distribution has 53 (8%) scores to the right of the current maximum score of 40. Second, the solid vertical lines in Figure 1 show the cut-scores that define the boundaries between Good and Excellent (24.49). Notice that many more schools are to the right of the Good/Excellent cut-score in the Proposed Distribution. Table 3 presents the Academic Achievement Indicator ratings if cut-scores for Academic Achievement are not changed. Without changing cut scores, the percentage of schools that would receive Academic Achievement ratings of Average or higher would change from approximately 66 percent to 94%.

Table 3
Percent of Elementary Schools with each Academic Achievement Rating without changing cut-scores

Rating	Current	Proposed
Excellent	14%	60%
Good	15%	14%
Average	37%	20%
Below Average	24%	5%
Unsatisfactory	10%	1%

To maintain corresponding percentages to those created for the 2018 ratings, the cut-scores for any proposed distribution would have to change. The new cut-score is presented in Figure 1 as a dashed vertical line at 36.74. If the proposed score changes are adopted and the cut-scores are changed, there will be no change to the ratings that schools would receive; however, the number of points schools receive for the Academic Achievement indicator will increase by approximately 10 points. Lower-performing schools would gain fewer points and higher-performing schools would gain more points.

The same argument can be made for Middle Schools (Figure 2) and for High Schools (Figure 3). Adopting the proposed score changes without changing the numerator or the cut-scores would increase the percentage of middle schools with Excellent ratings from 11% to 53%, and the percentage of High Schools from 8% to 36%. Again, adopting the proposed scores and changing cut-scores would not change the ratings that schools would receive, but would increase the number of points schools receive for the Academic Achievement Indicator, with lower-performing schools gaining fewer points and higher-performing schools gaining more points.

Figure 2
Current and Proposed Achievement Scores - Middle Schools
Cut-Scores shown for: Good/Excellent

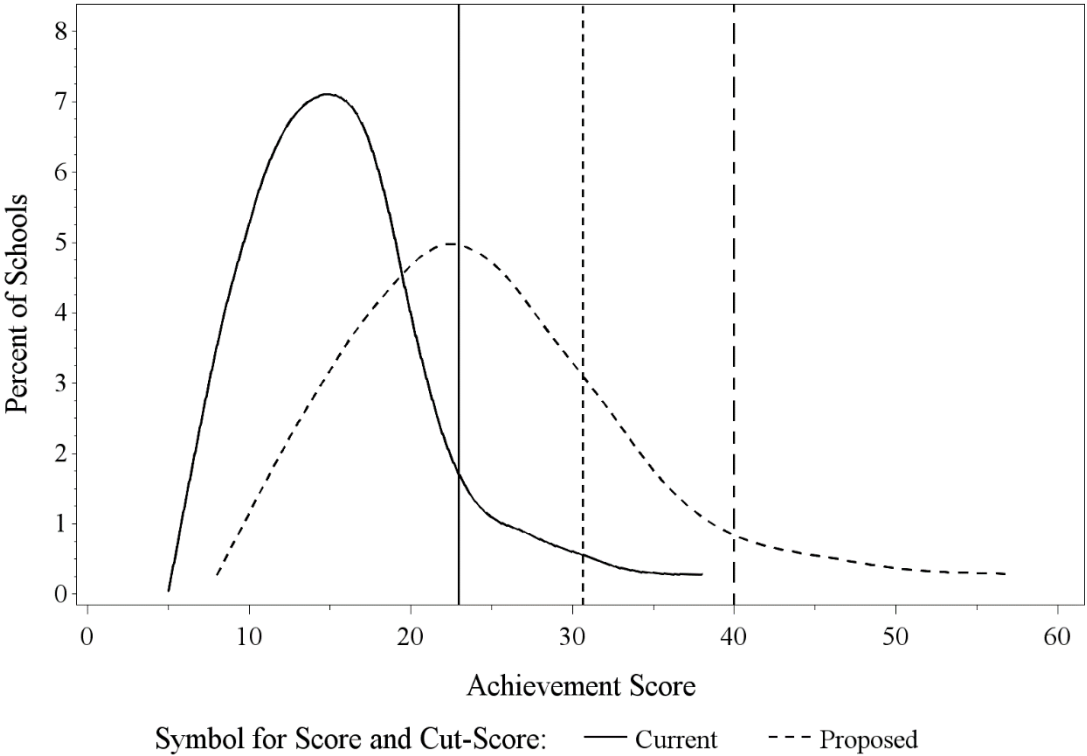
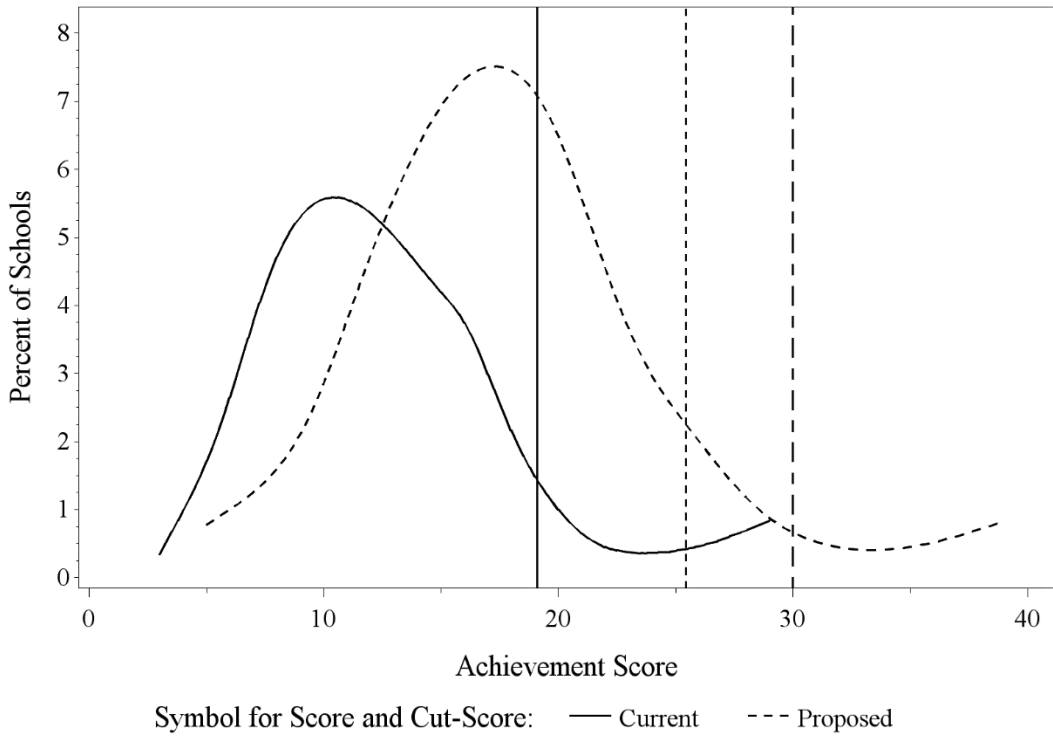


Figure 3
Current and Proposed Achievement Scores - High Schools
 Cut-Scores shown for: Good/Excellent



Should the proposed changes be adopted, along with the corresponding changes in the cut-scores, the net effect for the Academic Achievement Indicator would only be an increase in the number of points earned. There would not be changes to the ratings obtained on the indicator. Approximate values for cut-scores that would have to be in place for the proposed score scale is presented in Table 4.

Table 4
Changes to Academic Achievement Cut-Scores

Achievement Score	Cut Scores that Define the Boundaries between. . .			
	Unsatisfactory and Below Average	Below Average and Average	Average and Good	Good and Excellent
Elementary Schools				
Current	10.99	15.27	21.19	24.49
Proposed	16.49	22.91	31.79	36.74
Middle Schools				
Current	9.57	13.71	19.11	22.97
Proposed	14.36	20.57	28.67	34.46
High Schools				
Current	8.66	12.26	16.14	19.09
Proposed	11.55	16.35	21.52	25.45

Similar results are obtained when considering the Preparing for Success Indicator and for the Overall rating of the school. Results for the Preparing for Success Indicator are not presented here. It can be noted, however, that the proposed changes would multiply the current Preparing for Success scores and the cut-scores by the ratio 4/3. This would result in the maximum number of points obtained for all schools from 10 to 13.3. Again, this analysis does not address changing the numerator.

Other Proposal

The EOC understands that there are proposals for amending the numerator **and** denominator. For example, schools could earn points accordingly:

- 1 point for students scoring Meets or Exceeds Expectations;
- 0.5 points for students scoring Approaches Expectations; and
- 0 points for students scoring Does Not Meet Expectations.

The above example would result in the following two schools earning the same number of points for Academic Achievement. While overall student performance is very different in the two schools, the overall points earned and ratings would be the same, Excellent.

Number of Students Scoring:	School A	School B
Exceeds Expectations (1 point)	20	0
Meets Expectations (1 point)	40	60
Approaches Expectations (0.5 point)	20	20
Does Not Meet Expectations (0 point)	<u>20</u>	<u>20</u>
Total Number of Students:	100	100
Total Points for Numerator	70	70
Total Points for Denominator	100	100
% of Maximum Points Earned	70%	70%
Indicator Rating	Excellent	Excellent

Note: Rating based on current conversion scales.

Under the current methodology for converting points to ratings, School A would be Good and School B Average.

Number of Students Scoring:	School A	School B
Exceeds Expectations (3 point)	20	0
Meets Expectations (2 point)	40	60
Approaches Expectations (1.0 point)	20	20
Does Not Meet Expectations (0 points)	<u>20</u>	<u>20</u>
Total Number of Students:	100	100
Total Points for Numerator	160	140
Total Points for Denominator	300	300
% of Maximum Points Earned	53%	46%
Indicator Rating	Good	Average

Impact on Overall School Rating

If the scores for the Academic Achievement and Preparing for Success Indicators are changed, the scores for the overall school rating would also need to change. These changes cannot be described by as simple ratio multiplication because they result from adding two scores that have been changed by different ratios.

Results that describe changes to the overall school rating are presented in Table 5 and Figures 4, 5, and 6. In Table 5, differences between the current and proposed scores can be seen. The average score for Elementary schools increases by approximately 12 points, for Middle schools the increase is approximately 7 points, and for high schools the average score increases by approximately 7 points. One elementary school would receive 101 points, and 3 high schools would receive overall scores greater than 100 points, one with 110 points. Presuming the score scale would be capped at 100 points as prescribed in state law, these schools have no room to demonstrate improvement.

Table 5
Summary Statistics for Overall School Rating – All Schools

Overall Points	Number of Schools	Mean	Standard Deviation	Min	Max
Elementary					
Current	657	48.7	11.2	18	84
Proposed		60.5	14.2	24	101
Middle					
Current	320	43.6	12.2	0	80
Proposed		54.4	14.4	19	100
High					
Current	227	55.6	13.7	0	97
Proposed		63.1	15.0	16	110

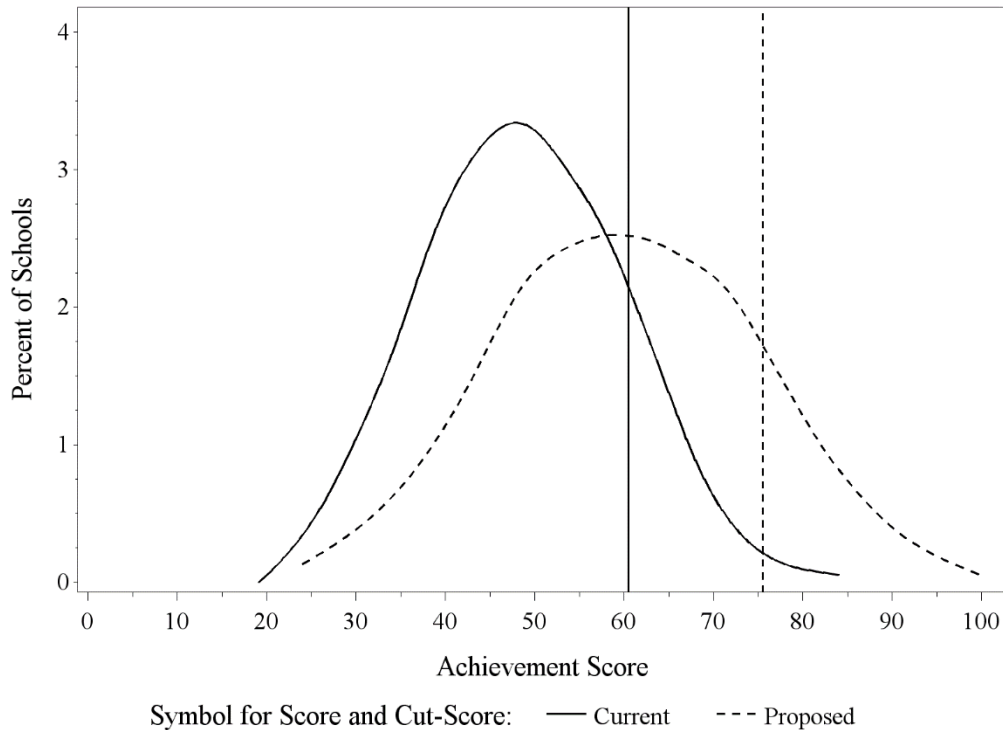
As was discussed with the Academic Achievement Indicator, changing the scores for the overall school rating without changing the cut-scores that define each rating would result in many more schools with higher overall ratings. Data presented in Table 6 show that without changing the cut-scores, the percentage of elementary schools that receive an Excellent rating would increase to approximately 49 percent. In Figure 4, the proposed overall scores for approximately 49 percent of elementary schools would be higher than the current Good/Excellent cut-score of 60.5.

Table 6
Percent of Elementary Schools with each Overall Rating without changing cut-scores

Rating	Current	Proposed
Excellent	15	49
Good	21	20
Average	36	22
Below Average	18	7
Unsatisfactory	10	2

Figure 4.

Current and Proposed Overall Scores - Elementary Schools



In Figure 5, approximately 44 percent of middle schools would have proposed overall scores that are higher than the current Good/Excellent cut-score of 55.5. In Figure 6, approximately 44 percent of middle schools would have proposed overall scores that are higher than the current Good/Excellent cut-score of 65.5.

The changes in cut-scores that would be necessary to preserve the percentages of schools receiving each Overall rating are presented in Table 7.

Figure 5.

Current and Proposed Overall Scores - Middle Schools

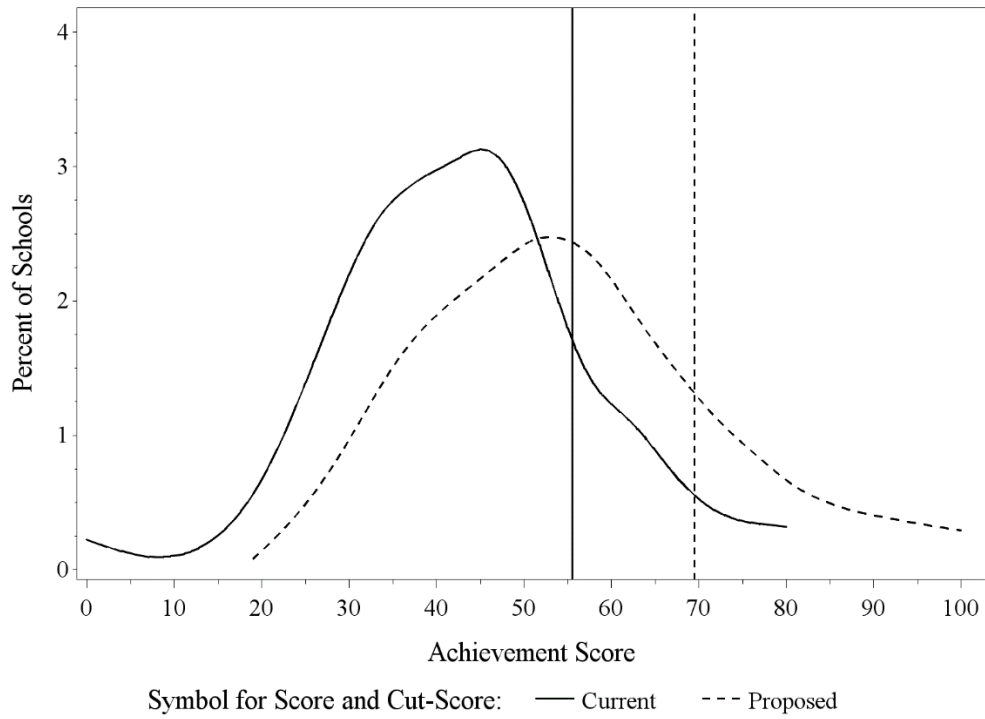
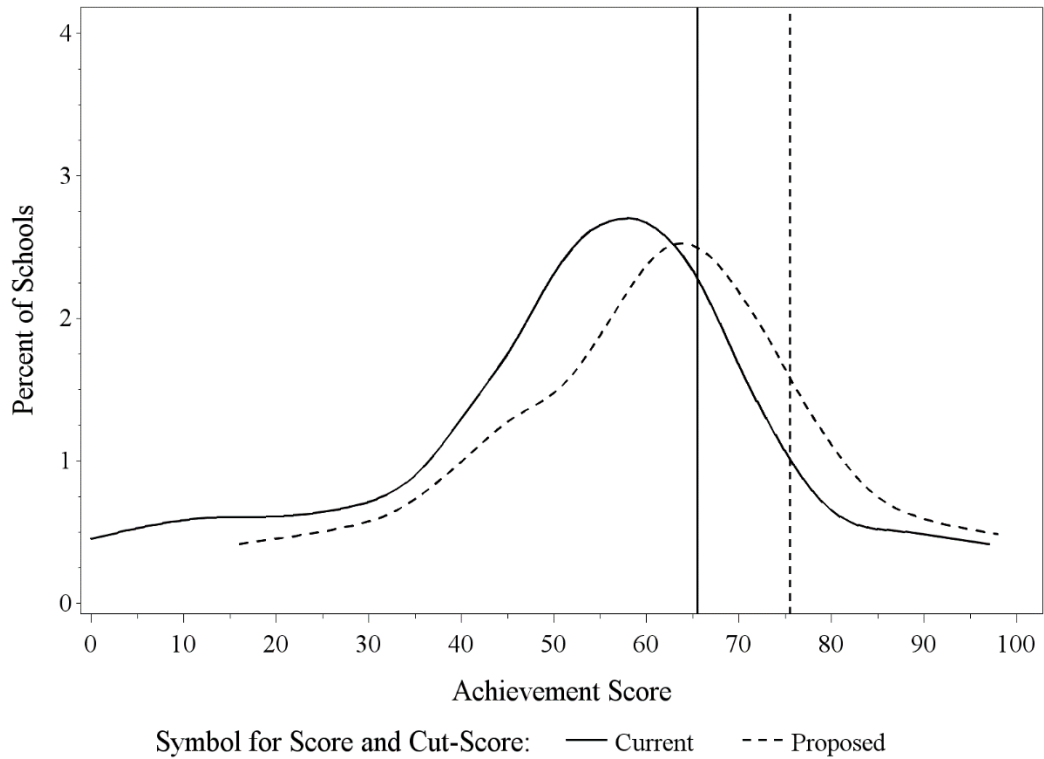


Figure 6

Current and Proposed Overall Scores - High Schools



**Table 7
Changes to Cut-Scores for the Overall Index – All Schools**

Score Scale	Cut Scores between...			
	Unsatisfactory and Below Average	Below Average and Average	Average and Good	Good and Excellent
Elementary Schools				
Current	33.5	41.5	53.5	60.5
Proposed	39.5	47.5	60.5	69.5
Middle Schools				
Current	28.5	35.5	47.5	55.5
Proposed	33.5	42.5	54.5	63.5
High Schools				
Current	37.5	48.5	59.5	65.5
Proposed	43.5	55.5	65.5	72.5

Summary

Throughout the development of the current report cards, schools have been assured that once the cut-scores and corresponding range of scores that define the overall rating (Unsatisfactory, Below Average, Average, Good, Excellent) were established, these ranges would remain constant at least for five years. The changes proposed would create changes for 6 elements of the accountability system: the score scales and the cut-points for the Academic Achievement, Preparing for Success, and the overall school ratings. If the proposed score changes are accompanied by corresponding changes in cut-scores, the result is an increase in scores of 10 to 15 points, with lower-performing schools increasing less and higher-performing schools increasing more. If the proposed score changes are not accompanied by corresponding changes in overall cut-scores, scores will increase, and schools will receive much higher ratings.

The Subcommittee must consider the following:

- 1) Schools have been told that no changes would be made to the number of points earned out of 100 to receive a rating of Excellent, Good, Average, Below Average or Unsatisfactory for five years. Adopting the proposed changes will result in the following changes to the overall school rating:
 - a. The number of points for the Academic Achievement Indicator changes from 40 to 60 for Elementary and Middle schools.
 - b. The number of points for the Academic Achievement Indicator changes from 30 to 40 for High schools.
 - c. Cut-scores for the Academic Achievement Indicator will change, or more than 50% or schools will have ratings of Excellent.
 - d. The number of points for the Preparing for Success Indicator changes from 10 to 13.3.

- e. Cut-scores for the Preparing for Success Indicator will change, or more schools will have ratings of Excellent.
 - f. As the relationships between the total number of points for each indicator have changes, the relative contributions each of the indicators makes to the overall indicator would also change.
 - g. If the proposed changes are adopted with no changes to cut-scores for the overall ratings, schools will receive higher overall ratings.
 - h. If the proposed changes are adopted with changes to cut-scores, schools will receive the same overall ratings, only the scores will increase.
 - i. The number of possible points for the Overall Indicator is no longer 100 points - it is 123.3.
- 2) The proposed changes would affect the Academic Achievement Indicator in the following ways:
- a. The goal for each student level goal of striving to receive the highest level score for each assessment is no longer represents the highest score.
 - b. It would change the score scale from a 35- or 40-point scale to a 60-point scale.
 - c. In order to maintain the targeted percentages of schools at each level, the cut-scores would have to be changed.
 - d. Adopting the proposed changes and NOT changing the cut-scores would result in more than 50% of Elementary and Middle schools receiving a rating of Excellent.
 - e. Adopting the proposed changes and changing the cut-scores would result in increased scores, but no changes to the ratings schools would be receive.
- 3) The proposed changes would affect the Preparing for Success Indicator in the following ways:
- a. It would change the score scale from a 10-point scale to a 13-point scale.
 - b. In order to maintain the targeted percentages of schools at each level, the cut-scores would have to be changed.
 - c. Adopting the proposed changes and changing the cut-scores would result in increased scores, but no changes to the ratings schools would be receive.

Graduation Rate

The proposal is to assign full points to any high school that has a graduation rate of 90 percent or more. Currently, high schools earn points accordingly on the two scales:

$$\text{Points (25-point scale)} = (\text{On-Time Graduation Rate} - 50) / 2$$

$$\text{Points (30-point scale)} = \text{Points (25 point scale)} \times (30/25)$$

There are two issues with the proposed change:

1. One of the overarching goals of an accountability system is to impact positive behavior. There would be no incentive for schools to improve the high school graduation rate above 90 percent. A school that has a 100 percent graduation rate would receive the same number of points as a high school with a graduation rate of 90 percent. There were six high schools that had a graduation rate of 100 percent, including Lamar High School in Darlington County, a high school with a poverty index of 80.7 percent.
2. Indicators must be able to meaningfully differentiate performance across schools. If all schools with a graduation rate of 90 percent or higher earned full points, the number of points would be artificially high for one in five high schools. Moreover, if the high schools with a graduation rate of 85 to 89.9% increased their graduation rate to 90.0% then over half of the high schools would receive the same number of points.

Graduation Rate	Number of High Schools	Percentage of High Schools
90.0 to 100%	51	22%
85.0 to 89.9%	73	31%
80.0 to 87.9%	50	22%
75.0 to 79.9%	34	14%
70.0 to 74.9%	10	5%
Less than 70.0%	17	7%
TOTAL:	235	

Student Engagement

Educators from across the state have questioned the reliability, validity, and usefulness of the student engagement survey as an accountability measure for schools. The EOC staff has no data or independent documentation to verify or disprove the concerns. And, because only two other states use the AdvancED survey, North Dakota and Idaho, learning from other states is limited.

If the South Carolina Department of Education (SCDE) insists on using in 2018-19 the student engagement survey as an accountability metric for the School Quality/Student Success indicator, the EOC staff concurs a need to revise the distribution of points earned. A criterion-referenced method of distributing points that meaningfully disaggregates between is one option. However, the EOC staff is concerned with including “Compliant” in the formula for schools. Based on technical materials¹ produced by the survey vendor, only “Committed” is seen as “authentic” engagement. The two levels of “Compliant” are defined below:

Compliant:

Level 1: Strategic Compliance - The student allocates only as much time, energy, and resources as are required to get the reward offered or desired. The student is attentive to the task because he/she perceives the receipt of some desired extrinsic reward which is conditionally available to those who pay attention to the task and do what is required of them. The student persists with the task only up to the point of ensuring that the desired reward is offered, and the student is willing to accept the reward and abandon the task even though he/she may not be personally satisfied that the work done is the quality that he/she could produce.

Level 2: Ritual Compliance – The student does only those things that must be done and does little or nothing outside the context of direct supervision by the teacher. The student pays minimal attention to the work, is easily distracted, and is constantly seeking alternative activities to pursue. For example, it appears that texting has now become a favorite pastime for those who are ritually compliant. The student is easily discouraged from completing the task and regularly tries to avoid the task or get the requirements of the work waived or compromised.

Furthermore, North Dakota and Idaho **only include students scoring “Committed” in their accountability formulas.**

- a. North Dakota only considers Percent Committed when determining the level of student engagement. Student engagement = Percent Committed X (Maximum Point Value for Student Engagement (185))²

¹ <https://www.nd.gov/dpi/uploads/1566/2017.10.23SESFAQ.pdf>

² <https://www.nd.gov/dpi/uploads/1543/2018.4.23NorthDakotaAccountabilityIndex.pdf>

- b. Idaho only considers Percent Committed when calculating student engagement for school accountability. At the school level, the state first calculates the percent of students who are Committed in each of the three domains to calculate the average number of students who are committed.
- $$\frac{\text{Number of students committed in behavioral domain} + \text{number of students committed in cognitive domain} + \text{number of students committed in emotional domain}}{3}$$

The state then uses the average number of students committed to identify an overall percent of students identified as committed:

$$\frac{\text{Average number of students Committed from step 1}}{\text{Total number of students completing the survey}^3}$$

2. There are lingering concerns about the overall validity and reliability of the AdvancED student survey which have not been properly addressed. In a psychometric summary of AdvancED's Student Engagement Survey included in Idaho's ESSA plan, there are specific concerns with reliability and validity. While the Middle and High student groups in sample (of which SC students were included), fell within the "good" range for reliability, the reliability for Elementary students was closer to "adequate." According to the study, "it is theorized that drop (sic) in reliability may actually be a byproduct of the respondents ages and mental capacity as opposed to survey content." ⁴ This comment begs the question, is the survey appropriate for elementary school students?
3. It should also be noted that the choice of student engagement survey vendors is not without controversy in other states. The Idaho State Board of Education switched from the use of the Panorama Student Survey to AdvancED after school administrators expressed a belief that the Panorama survey was biased and would be "weaponized" against educators.⁵

At a minimum, the EOC staff recommends the following:

1. For **high schools**, the EOC staff recommends removing the student engagement survey entirely from the 2018-19 accountability system. The 5-points that were attributed to the survey would be reallocated to the College/Career Readiness indicator which includes non-assessed metrics like work-based learning.
2. For **elementary and middle schools**, the SCDE and EOC should consider alternative indicators of school quality/student success as described below. Implementation of such indicators likely could not occur until 2019-20. Therefore,

³ <http://www.sde.idaho.gov/assessment/accountability/files/accountability-results/2018/Student-Engagement.pdf>

⁴ <http://www.sde.idaho.gov/topics/consolidated-plan/files/Idaho-Consolidated-State-Plan-2019-Amendment.pdf>

⁵ <https://www.idahoednews.org/news/student-survey-plan-still-go-despite-reservations/>

for the 2018-19 accountability year only, the EOC staff concurs with SCDE on using a criterion-referenced method of distributing points that takes into account only the percentage of students committed and that meaningfully differentiates between schools.

Alternative Indicators of School Quality/Student Success:

Chronic Absenteeism

According to FutureEd, an independent, think tank at Georgetown University's McCourt School of Public Policy, Thirty-six (36) states and the District of Columbia are using some form of chronic student absenteeism in their accountability formulas. Rhode Island includes teacher absenteeism. At least 27 of the states that have included chronic absenteeism use the same definition: missing 10 percent or more of enrolled days. Five more will measure the inverse, attending 90 percent or more of days. Two states set tougher standards, and three define the metric as missing a set number of days.

The issue is this: State must standardize the definition of chronic absenteeism to make comparisons across districts and schools. The recommendation of States should define the metric as a percentage of a school year that students miss, rather than a set number of days that students are not in schools.

Access to Arts and Foreign Language Instruction

The South Carolina Arts Commission is working with SCDE and others to determine how to measure and report access to arts instruction in schools. A working group has been formed, and meetings are anticipated in the near future. The focus is first ensuring equitable access to arts and foreign language instruction across schools while working toward measuring quality within this indicator. On January 24, 2019, EOC staff attended a briefing conducted by Gallup leadership regarding the use of the Gallup Student Survey, which measures student engagement as well as hope, financial leadership, and entrepreneurship. The survey was given to 30 arts-rich schools in South Carolina.

Physical Fitness – Vermont and Connecticut

Vermont elected to include the physical fitness indicator in their state ESSA plan. Stakeholders valued the idea of including an assessment of fitness because they believe it will provide incentives to maintain required time for activity, physical education, and health education. They also felt that including the physical fitness assessment would support schools in attending to the whole child and supporting school nutrition programs and instruction that will promote a life time of healthy living. Vermont elected to adopt FitnessGram as their physical fitness assessment, the same assessment used in South Carolina. See the attached information. The Brockport Physical Fitness Test is also used

in Vermont schools as an alternate assessment for students with disabilities. The assessments will be required for students in grades 4, 7 and 10. Vermont will measure:

- a. The percentage of students who are assessed as being within a Presidential Youth Fitness Program-aligned “healthy zone” and
- b. The percentage of students who are assessed as making sufficient progress towards that “healthy zone”

Connecticut also includes a Physical Fitness indicator within its current ESSA Plan, where it counts 3.7% of a school’s rating. The CN Physical Fitness Assessment (described in the ESSA Plan as “like FitnessGram”) is administered in grades 4,6, and 8, and once in high school. The indicator measures the % of students meeting or exceeding the “Health Fitness Zone Standard” in all 4 areas of the assessment with assesses muscular strength and endurance as well as flexibility and cardiovascular fitness.

The following information was provided to the EOC staff by the Department of Health and Environmental Control.

All South Carolina public schools serving grades K-12 are eligible to participate in the SC FitnessGram system. For the 2018-2019 school year, 74 of 83 (89%) public school districts in South Carolina are participating in the SC FitnessGram system. These 83 public school districts include the 81 geographical public school districts as well as the SC Public Charter School District and the Charter Institute at Erskine. In these districts, 1,055 schools reaching approximately 689,364 students (88%) are participating.

There are nine public school districts not participating in the SC FitnessGram system. Three school districts (York 4-Fort Mill, Lexington-Richland 5, and Berkeley) are implementing fitness testing and using either district level FitStats or FitnessGram software to manage their data. Three school districts declined participation (Dillon 3, Dillon 4, and the Charter Institute of Erskine) and three school districts have not responded to multiple forms of outreach over the four-year project period (Calhoun, Dorchester, and Orangeburg 3).

What does the assessment look like in South Carolina? (What do we gather or know about the student from the assessment; is it an online assessment?)

SC FitnessGram is a statewide web-based fitness testing and data management system used to capture health-related fitness data from public schools across the state. The data is used to support planning and implementation of evidence-based programs and policies to improve health-related fitness.

Physical Education (PE) teachers for all grade levels can use the SC FitnessGram system for fitness instruction and testing. PE teachers in the participating school districts

administer the required FitnessGram tests and enter the testing data for fifth- and eighth-graders, and those enrolled in the high school PE course required for graduation. These responsibilities align with the fitness education, testing, and reporting currently required by the Students Health and Fitness Act of 2005. In addition, PE teachers enter height and weight only for students in second grade to calculate body mass index (BMI).

The six FitnessGram test items measure whether a student is meeting the specific criterion for health-related fitness for their age and gender in body composition, aerobic capacity, muscular strength and endurance, and flexibility. The information gathered is the evidence of whether students are meeting SC Physical Education Learning Standard Three: the physically literate individual achieves and maintains a health-enhancing level of physical activity and fitness.

The six FitnessGram test items include:

- PACER or one-mile run (measures aerobic capacity)
- Push-ups (measures upper body muscular strength/endurance)
- Curl-ups (measures abdominal muscular strength/endurance)
- Trunk lift (measures trunk extensor muscle strength and flexibility)
- Back-saver sit and reach (measures flexibility)
- Body Mass Index (measures body composition and appropriateness of weight relative to height)

In order for PE teachers to enter fitness test scores, school districts must first complete a Power School import which aligns the fitness data with the students' ID and school file. All data is loaded into the SC FitnessGram state system and a de-identified research extract file is downloaded by the SC Department of Education and shared with the University of South Carolina Children's Physical Activity Research Group for analysis.

More information can be found at <http://scaledown.org/fitnessgram/>.

How is the program funded?

The SC FitnessGram system is supported through funding from the BlueCross BlueShield of SC Foundation through October 31, 2019. In 2015, SC Department of Health and Environmental Control (DHEC) received a grant from the foundation for \$2,508,735 to work with partners to establish the system for use by all South Carolina public schools. The funding covers the cost of a full-time SC FitnessGram Coordinator position at DHEC, fitness testing equipment, training, and FitnessGram site licenses for all participating schools, evaluation (contract with the University of South Carolina Core for Applied Research and Evaluation), and data analysis (University of South Carolina Children's Physical Activity Research Group). In-kind services are provided by DHEC (indirect costs of the SC FitnessGram Coordinator position and program management support) and by SC Department of Education Office of Research and Data Analysis.

College and Career Ready

The SCDE rationale for adding an additional option to the existing paths affirming that a student is “career-ready” for accountability purposes states that access to CTE pathways and industry certifications is limited and adding a dual credit CTE option would make this indicator more equitable. The EOC staff does not have access to data that supports this rationale.

Superintendent Spearman testified to the Senate Education Committee on January 23, 2019, reporting that in school year 2017-18, 22,000 industry certifications were awarded to South Carolina students, a 56% increase from the previous school year. Staff from the SC Technical College System provided the attached summary (ATTACH) of CTE courses taken by Dual Enrollment students by college for the last three years. According to SCTCS staff, in 2017-18, the technical college system had 13,560 high school students (unduplicated) taking college courses.

Obtaining an industry certification in a chosen field gives students a marketable, portable, competitive advantage; data regarding the quality of dual credit CTE options in post-secondary institutions is not available to EOC staff. During meetings around the state with CTE directors, EOC staff was often asked about adding this option to improve a school’s CCR rating. Staff does not have the data to support that adding this option would improve outcomes for students or denote career “readiness”.

Given the limited data, the EOC staff recommends the following:

1. The definition of career ready for students who take CTE courses should be: “Students who take six CTE dual credit hours that are a part of a complete pathway connected to post-secondary education.”
2. Regarding the grade that students should earn, the state of Kentucky requires that both academic (college) and career ready students earn a “B” or better in a dual credit course.⁶ The question that the EOC should consider: Should students who take all dual credit courses for college or career readiness be required to earn a grade of “B” or higher?

⁶ <https://careertech.org/resource/kentucky-career-readiness-accountability-system>.

Appendix A

Methodology for Assigning Points as Proposed by SCDE

Data used for these analyses are contained in the data file:

ReportCardRatings_112818_v2 obtained from the SCDE on 11/28/2018.

- 1) For elementary and middle schools (all comparisons are to made on 40-point scales):
 - a. Convert scores on the 35-point scale to the 40-point scale.
 - b. Create proposed scores by multiplying the current scores by $2/3$.
 - c. Determine the number of proposed scores greater than 40.
 - d. Convert cut-scores on the 40-point scale by multiplying by $2/3$.

- 2) For high schools (all comparisons are to made on 30-point scales):
 - e. Convert scores on the 25-point scale to the 30-point scale.
 - f. Create proposed scores by multiplying the current scores by $3/4$. Note: this conversion is not correct for Alternate Assessment students, however, they are not a large part of the student population.
 - g. Determine the number of proposed scores greater than 30.
 - h. Convert cut-scores on the 30-point scale by multiplying by $3/4$.

Note: In this process, scores from students taking an Alternate Assessment are not treated differently from students not taking an Alternate Assessment. This difference affects proposed scores obtained for the Preparing for Success Indicator, and for the Overall Indicator because it includes the Preparing for Success Indicator as a component.



CTE Courses Taken by Dual Enrollment Students by College, 2015-2018

College	CTE Courses
Aiken Technical College	<ul style="list-style-type: none"> • AHS102 - Medical Terminology • AHS120 – Responding to Emergencies • BUS130 - Business Communications • CIM131 – Computer Integrated Manufacturing • CPT101 - Introduction to Computers • CPT209 – Computer Systems Management • CPT232 - C++ Programming I • CPT257 - Operating Systems • CRJ101 – Introduction to Criminal Justice • EEM145 – Control Circuits • EET113 – Electrical Circuits I • EET114 – Electrical Circuits II • EET140 – Digital Electronics • EGR105 – Safety in Workplace • EGR130 – Engineering Technology Applications & Programming • EGT152 – Fundamentals of CAD • IMT113 – Power Tools Operations • IMT121 – Drive Systems • IST201 – Cisco Internetworking Concepts • IST202 – Cisco Router Configuration • IST291 - Fundamentals Of Network Security • WLD108 – Gas Metal ARC Welding I • WLD130 - Welding Fundamentals
Central Carolina Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • AHS102 - Medical Terminology • AHS180 – Health Careers Preparation • BUS121 – Business Law I • CPT101 – Introduction to Computers • CPT174 – Microcomputer Spreadsheets • CRJ101 – Introduction to Criminal Justice • CRJ115 – Criminal Law I • CRJ120 - Constitutional Law • ECD101 - Introduction to Early Childhood • EEM117 - AC/DC Circuits I • EGR170 – Engineering Materials • EGR175 – Manufacturing Processes • EGT106 – Print Reading & Sketching • EGT130 – Geometric Dimensioning • EGT151 – Introduction to CAD • EGT152 – Fundamentals of CAD

College	CTE Courses
	<ul style="list-style-type: none"> • EGT156 – Intermediate CAD Applications • EVT102 – Basic Water Treatment • EVT103 – Basic Water Distribution • EVT108 – Basic Physical Chemical • EVT109 – Basic Biological Wastewater • EVT110 – Intro to Treatment Facilities • EVT206 – Introduction to Environmental Compliance • EVT254 - Industrial Safety/Emergency Response • EVT255 – Solid and Hazardous Waste • IMT104 - Schematics • IMT131 – Hydraulics and Pneumatics • MGT101 – Principles of Management
Denmark Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • CIM131 – Computer Integrated Manufacturing • CPT101 – Introduction to Computers • CPT104 – Introduction to Information Technology • CPT168 – Programming Logic & Design • CPT170 – Microcomputer Applications • CRJ101 – Introduction to Criminal Justice • CRJ115 – Criminal Law • CRJ222 – Ethics in Criminal Justice • CRJ236 - Criminal Evidence • EET113 - Electrical Circuits I • EET140 - Digital Electronics • EGR130 – Engineering Technology Applications & Programming • EGT151 – Introduction to CAD • IMT102 - Industrial Safety • IMT131 – Hydraulics & Pneumatics • IMT171 – Manufacturing Skills Standards Council Certification I • WLD102 – Introduction to Welding • WLD103 - Print Reading • WLD104 – Gas Welding & Cutting • WLD106 – Gas & Arc Welding • WLD108 – Gas Metal Arc Welding • WLD111 – Arc Welding I • WLD113 – Arc Welding II • WLD136 – Advanced Inert Gas Welding • WLD141 – Weld Quality • WLD154 – Pipefitting and Welding
Florence-Darlington Technical College	<ul style="list-style-type: none"> • ABR101 – Structural Repair I • ABR102 – MIG Welding

College	CTE Courses
	<ul style="list-style-type: none"> • ABR103 - Sheet Metal Repair I • ABR108 - Refinishing I • ABR111 – Structural Repair II • ABR113 – Sheet Metal Repair II • ACC101 – Accounting Principles I • ACC111 – Accounting Concepts • ACC112 – Organizational Accounting • ACC240 - Computerized Accounting • AHS102 - Medical Terminology • AHS180 – Health Careers Preparation • AHS205 – Ethics & Law for Allied Health Professions • AOT133 - Professional Development • AOT141 – Office Procedures I • AUT131 - Electrical Systems • AUT149 – Ignition And Fuel System • BAF101 - Personal Finance • BUS123 – Business Law II • BUS250 - Introduction to International Business • CPT162 – Introduction to Web Page Publishing • CPT168 – Programming Logic & Design • CPT170 – Microcomputer Applications • CRJ101 – Introduction to Criminal Justice • CRJ120 - Constitutional Law • CRJ230 – Criminal Investigation I • EGT101 – Basic Technical Drawing • EGT106 – Print Reading & Sketching • EGT151 - Introduction to CAD • IMT160 – Preventive Maintenance • IMT210 – Basic Industrial Skills I • IMT211 – Basic Industrial Skills II • IMT212 - Electrical Theory • MGT101 – Principles of Management • MGT240 – Management Decision Making • MKT101 - Marketing • MKT240 - Advertising • MKT250 – Consumer Behavior • MTT105 - Machine Tool Math Applications • MTT111 - Machine Tool Theory and Practice I • MTT112 - Machine Tool Theory and Practice II • MTT250 – Principles of CNC • WLD102 – Introduction to Welding • WLD103 – Print Reading I • WLD104 – Gas Welding and Cutting

College	CTE Courses
	<ul style="list-style-type: none"> • WLD105 – Print Reading II • WLD110 – Welding Safety and Health • WLD111 – ARC Welding I • WLD113 – ARC Welding II • WLD134 – Inert Gas Welding Non-Ferrous • WLD140 – Weld Testing • WLD145 – Field Welding • WLD160 – Fabrication Welding • WLD201 - Metallurgy
Greenville Technical College	<ul style="list-style-type: none"> • ABR102 – MIG Welding • ABR104 – Auto Body Fundamentals • ABR105 - Structural Measuring and Analysis • ABR106 - Non-Structural Plastic and Metal Repairs • ABR107 - Refinishing Fundamentals • ABR114 - Estimating Fundamentals • ABR115 - Structural Repair Planning and Correction • ABR116 - Non-Structural Panel Replacement and Trim • ABR117 - Refinishing Application Processes • ABR124 - Advanced Estimating Procedures • ABR126 - Non-Structural Advanced Materials • ABR127 - Refinishing Color Tinting and Blending • ABR132 - Shop Management Concepts • ABR135 - Structural Sectioning and Frame Replacement • ABR136 - Metal Shaping and Fabrication • ABR137 – Advanced Refinishing Processes • ABR142 – Mechanical Systems • ABR143 – Auto Body Electrical Systems • ABR144 - Heating, Cooling, and Air Conditioning Systems • ACC101 – Accounting Principles I • ACC102 – Accounting Principles II • ACM101 - General Regulations • ACM102 - Aviation Sciences • ACM105 – Basic Aircraft Electricity • ACM110 - Aircraft Drawings • ACM115 – Ground Handling & Service • ACM120 – Materials & Corrosion Control • ACM130 – Sheet Metal Layout & Repair • ACR102 – Tools and Service Techniques • ACR150 – Basic Sheet Metal • ACR160 – Service Customer Relations • AET103 - International Building and Residential Codes • AET110 – Architectural Graphics I • AET111 - Architectural Computer Graphics I

College	CTE Courses
	<ul style="list-style-type: none"> • AET120 – Architectural Graphics II • AET125 – Revit Architecture • AET150 - Preliminary Project Estimating • AET231 - Architectural Computer Graphics III • AGR201 – Introduction to Sustainable Agriculture • AHS102 - Medical Terminology • AHS119 - Health Careers • ARV110 - Computer Graphics I • ARV121 - Design • AUT112 - Braking Systems • AUT159 - Tools, Equipment, and Reference Manuals • BAF101 - Personal Finance • BCT101 - Introduction to Building Construction • BCT102 - Fundamentals of Building Construction • BCT113 - Fundamentals of Construction Prints • BCT115 - Construction Safety and Equipment • BCT119 - Plumbing Inspector Certification • BCT131 - Estimating/Quantity Take Off • BCT151 - Introduction to Residential Plumbing • BCT201 – Principles of Roof Construction • BCT203 – Exterior & Interior Finishes • BCT205 - Roof Construction I • BCT206 - Roof Construction II • BCT231 – Construction Labor & Expediting • BKP120 – Bakeshop Production • BKP121 - Cake Decorating and Finishing Techniques • BUS110 - Entrepreneurship • BUS121 – Business Law I • BUS220 – Business Ethics • BUS250 – Introduction to International Business • CET120 - Construction Materials • CPT113 – Information Systems • CPT170 – Microcomputer Applications • CPT209 – Computer Systems Management • CPT230 - C# Programming I • CPT234 – C Programming I • CPT257 - Operating Systems • CRJ101 – Introduction to Criminal Justice • CRJ102 – Introduction to Security • CRJ115 – Criminal Law I • CRJ125 - Criminology • CRJ130 - Police Administration • CRJ222 – Ethics in Criminal Justice

College	CTE Courses
	<ul style="list-style-type: none"> • CRJ224 – Police Community Relations • CRJ230 – Criminal Investigation I • CRJ236 - Criminal Evidence • CRJ242 - Correctional Systems • CUL101 – Principles of Food Production I • CUL102 – Principles of Food Production II • CUL155 - Sanitation • DHM107 - Diesel Equipment Service and Diagnosis • DHM125 – Diesel Fuel Systems • DHM173 – Electrical Systems I • DHM273 – Electrical Systems II • ECD101 – Introduction to Early Childhood • ECE205 - Electrical and Computer Lab I • EDU230 – Schools in Communities • EEM105 - Basic Electricity • EEM117 - AC/DC Circuits I • EEM118 - AC/DC Circuits II • EET111 - DC Circuits • EET112 – AC Circuits • EET145 - Digital Circuits • EGR130 - Engineering Technology Applications & Programming • EGR175 – Manufacturing Processes • EGR210 – Introduction to Engineering CAD • EGR269 - Engineering Disciplines and Skills • EGR270 – Introduction to Engineering • EGR275 – Introduction to Engineering/Computer Graphics • EGT110 – Engineering Graphics I • EGT151 – Introduction to CAD • EGT251 – Principles of CAD • EMS105 – Emergency Medical Care I • EMS106 – Emergency Medical Care II • HOS140 – The Hospitality Industry • HOS245 – Hospitality Marketing • HOS256 - Hospitality Management Concepts • HUS101 - Introduction to Human Services • HUS102 - Personal and Professional Development in Helping Professions • IMT112 – Hand Tool Operations • IMT170 – Statistical Process Control • IST220 - Data Communications • LEG121 - Business Law I • LEG135 – Introduction to Law and Ethics

College	CTE Courses
	<ul style="list-style-type: none"> • MGT101 – Principles of Management • MGT150 – Fundamentals of Supervision • MKT101 - Marketing • MKT123 – Event Planning & Promotion • MKT130 - Customer Service Principles • MKT240 - Advertising • MKT245 - Promotional Strategies • MKT260 - Marketing Management • MSY101 - Masonry Fundamentals • MTT105 – Machine Tool Math Applications • MTT120 – Machine Tool Print Reading • MTT121 – Machine Tool Theory I • MTT122 - Machine Tool Practice I • MTT123 – Machine Tool Theory II • TDR101 – Introduction to Truck Driver Training • TDR102 - Fundamentals of Truck Driver Training • TDR103 – Preparation for CDL Examination • VET103 - Veterinary Medical Terminology • VET105 - Orientation to Veterinary Technology • WLD102 – Introduction to Welding • WLD103 – Print Reading I • WLD108 – Gas Metal Arc Welding I • WLD110 - Welding Safety and Health • WLD111 – Arc Welding I • WLD113 – Arc Welding II • WLD132 – Inert Gas Welding Ferrous • WLD136 – Advanced Inert Gas Welding • WLD141 – Weld Quality • WLD154 - Pipefitting and Welding • WLD160 – Fabrication Welding
Horry-Georgetown Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • AET101 – Building Systems I • AHS102 – Medical Terminology • AHS141 – Phlebotomy for Health Care Provider • AOT165 – Information Processing Software • BAF101 – Personal Finance • COS114 – Hair Shaping • COS116 – Hair Styling I • COS155 – Sanitation Procedures in Cosmetology • COS206 - Chemical Hair Waving • COS210 – Hair Coloring • CPT101 – Introduction to Computers • CPT170 – Microcomputer Applications

College	CTE Courses
	<ul style="list-style-type: none"> • CPT176 - Microcomputer Operating Systems • CPT187 - Object-Oriented Logic & Design • CPT209 - Computer Systems Management • CRJ101 – Introduction to Criminal Justice • EGR170 – Engineering Materials • EGR190 - Statics • EGR270 – Introduction to Engineering • EGT101 – Basic Technical Drawing • EMS104 – Emergency Care I • FOR102 - Multiple Use of Forest Lands • NRM230 – Wildlife Management I • WLD103 - Print Reading I • WLD106 – Gas and Arc Welding • WLD110 – Welding Safety and Health • WLD111 – Arc Welding I • WLD201 - Welding Metallurgy
Midlands Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • AHS102 - Medical Terminology • AHS119 - Health Careers • AOT105 - Keyboarding • BAF101 - Personal Finance • BCT101 – Introduction to Building Construction • BUS101 – Introduction to Business • BUS121 – Business Law I • BUS130 - Business Communications • CPT101 – Introduction to Computers • CPT104 – Introduction to Information Technology • CPT114 – Computers and Programming • CPT170 – Microcomputer Applications • CPT236 – Introduction to Java Programming • CRJ101 – Introduction to Criminal Justice • CRJ210 – The Juvenile and the Law • ECD101 – Introduction to Early Childhood • EET102 – Introduction to Data Acquisition • EET103 – Introduction to Electronics • EET113 – Electrical Circuits I • EET210 - Digital Integrated Circuits • EGR110 – Introduction to Computer Environment • EGR120 – Engineering Computer Applications • IST225 - Internet Communications • MGT101 – Principles of Management • MGT120 – Small Business Management • MKT101 - Marketing

College	CTE Courses
	<ul style="list-style-type: none"> • WLD102 - Introduction to Welding • WLD103 - Print Reading I • WLD104 – Gas Welding & Cutting
Northeastern Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • ACC102 – Accounting Principles II • AHS102 – Medical Terminology • AMT101 - Automated Manufacturing Overview • AOT115 – Medical Office Terminology • BUS124 – Business Law III • CPT101 – Introduction to Computers • CRJ101 – Introduction to Criminal Justice • ECD101 – Introduction to Early Childhood • ECD132 – Creative Experiences • EEM105 - Basic Electricity • EEM201 – Electronic Devices I • EGR130 - Engineering Technology Applications & Programming • EGT106 – Print Reading & Sketching • EGT151 – Introduction to CAD • IMT101 – Introduction to Industrial Maintenance • IMT102 - Industrial Safety • IMT132 - Hydraulics • MGT101 – Principles of Management • MKT101 - Marketing • MTT101 – Introduction to Machine Tool
Orangeburg-Calhoun Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • AET101 - Building Systems I • AGR201 - Introduction to Sustainable Agriculture • AGR204 – Introduction to Plant Sciences • AHS104 - Medical Vocabulary/Anatomy • AHS106 - Cardiopulmonary Resuscitation • AHS114 – Basic First Aid • AHS119 – Health Careers • AHS149 – Health Care Skills I • AHS155 – Special Topics in Health Care • AHS163 - Long-Term Care • AMT105 - Robotics and Automated Control I • AMT155 – Principles of Maintenance • AMT160 - Principles of Quality and Continuous Improvement • AMT205 - Robotics and Automated Control II • AUT111 - Brakes • AUT131 – Electrical Systems

College	CTE Courses
	<ul style="list-style-type: none"> • AUT159 - Tools, Equipment, and Reference Manuals • BAF101 – Personal Finance • BUS101 – Introduction to Business • CIM131 - Computer Integrated Manufacturing • CPT101 - Introduction to Computers • CPT104 - Introduction to Information Technology • CPT167 - Introduction to Programming Logic • CPT170 - Microcomputer Applications • CPT209 - Computer Systems Management • CRJ101 - Introduction to Criminal Justice • CRJ102 – Introduction to Security • CRJ110 – Police Patrol • CRJ125 - Criminology • CRJ202 - Criminalistics • CRJ224 – Police Community Relations • CRJ230 – Criminal Investigation I • CRJ238 - Industrial and Retail Security • CRJ246 - Special Problems in Criminal Justice • ECD101 - Introduction to Early Childhood • ECD102 – Growth & Development I • ECD107 - Exceptional Children • ECD132 - Creative Experiences • EDU201 - Classroom Inquiry with Technology • EDU230 – Schools in Communities • EDU241 – Learners & Diversity • EEM117 - AC\DC Circuits I • EEM140 – National Electrical Code • EEM165 - Residential/Commercial Wiring • EET113 – Electrical Circuits I • EET140 - Digital Electronics • EET141 - Electronic Circuits • EET145 - Digital Circuits • EET227 - Electrical Machinery • EET235 – Programmable Controllers • EGR108 – Engineering Ethics • EGR112 – Engineering Programming • EGR130 - Engineering Technology Applications & Programming • EGT152 – Fundamentals of CAD • EGT220 – Structural & Piping Applications • EGT265 - CAD/CAM Applications • EIT110 - Principles of Instrumentation • EIT211 - Introduction to Electronic Instrumentation I

College	CTE Courses
	<ul style="list-style-type: none"> • EIT212 - Introduction to Electronic Instrumentation II • EIT215 - Fundamentals of Industrial Instrumentation Procedures • EIT220 – Control Principles • EIT242 - Senior Project in Electronic Instrumentation • EIT244 - Computers and PLC's in Instrumentation • IMT131 - Hydraulics and Pneumatics • IMT170 – Statistical Process Control • IMT210 – Basic Industrial Skills I • IMT211 - Basic Industrial Skills II • IST235 - Handheld Computer Programming • IST245 – Local Area Networks • LEG121 – Business Law I • LEG132 – Legal Bibliography • LEG135 - Introduction to Law and Ethics • MGT101 – Principles of Management • MKT101 - Marketing • MTT105 - Machine Tool Math Applications • MTT111 - Machine Tool Theory and Practice I • MTT112 - Machine Tool Theory and Practice II • MTT120 - Machine Tool Print Reading • MTT123 - Machine Tool Theory II • MTT126 - Machine Tool Practice III • MTT249 – Introduction to Cam • MTT250 - Principles of CNC • MTT258 – Machine Tool Cam • WLD106 - Gas and Arc Welding • WLD111 – Arc Welding I
Piedmont Technical College	<ul style="list-style-type: none"> • ACC101 - Accounting Principles I • ACC102 - Accounting Principles II • ACR101 - Fundamentals of Refrigeration • AET101 - Building Systems I • AGR201 - Introduction to Sustainable Agriculture • AGR208 - Introduction to Agricultural Economics • AGR209 - Introduction to Agricultural Marketing • AGR211 - Applied Agriculture Calculations • AHS102 – Medical Terminology • AHS116 – Patient Care Relations • AHS163 - Long-Term Care • AHS170 – Fundamentals of Disease • AHS205 - Ethics and Law for Allied Health Professions • ARV114 – Photography I • ARV121 - Design

College	CTE Courses
	<ul style="list-style-type: none"> • AUT101 – Engine Fundamentals • AUT102 – Engine Repair • AUT112 - Braking Systems • AUT122 – Suspension and Alignment • BAF101 - Personal Finance • BUS101 – Introduction to Business • BUS121 – Business Law I • CIM131 - Computer Integrated Manufacturing • CPT101 - Introduction to Computers • CPT114 - Computers and Programming • CPT169 - Industrial Computer Applications • CPT186 - VisualBasic.NET I • CPT207 – Complex Computer Applications • CPT209 – Computer Systems Management • CPT247 – UNIX Operating System • CPT257 – Operating Systems • CPT267 - Technical Support Concepts • CPT282 - Information Systems Security • CRJ101 - Introduction to Criminal Justice • CRJ125 - Criminology • CRJ222 - Ethics in Criminal Justice • CRJ230 - Criminal Investigation I • CRJ242 – Correctional Systems • ECD107 – Exceptional Child • EEM107 - Industrial Computer Techniques • EEM117 - AC/DC Circuits I • EEM118 - AC/DC Circuits II • EEM151 – Motor Controls I • EEM231 - Digital Circuits I • EGR130 - Engineering Technology Applications & Programming • EGT151 – Introduction to CAD • EGT152 – Fundamentals of CAD • EMS101 - Emergency Medical Responder • HRT101 – Introduction to Horticulture • HRT110 – Plant Form and Function • HRT127 – Soil and Water Management • HRT230 - Greenhouse Technology • IMT102 - Industrial Safety • IMT112 – Hand Tool Operations • IMT131 - Hydraulics and Pneumatics • IST150 - Project Management Essentials for IT Professionals • IST220 - Data Communications

College	CTE Courses
	<ul style="list-style-type: none"> • IST268 - Computer Forensics • IST272 - Relational Database • MGT101 – Principles of Management • MGT120 – Small Business Management • MGT201 – Human Resource Management • MTT120 - Machine Tool Print Reading • MTT121 - Machine Tool Theory I • MTT122 - Machine Tool Practice I • MTT123 - Machine Tool Theory II • MTT124 – Machine Tool Practice II • MTT126 - Machine Tool Practice III • MTT141 - Metals & Heat Treatment • MTT143 - Precision Measurements • MTT161 - Machine Tool Maintenance Theory • MTT250 – Principles of CNC • TUF172 – Turf Management I • WLD102 – Introduction to Welding • WLD103 - Print Reading I • WLD105 - Print Reading II • WLD106 – Gas and Arc Welding • WLD113 – Arc Welding II • WLD115 – Arc Welding III • WLD117 – Specialized Arc Welding • WLD142 – Maintenance Welding
Spartanburg Community College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • ACC102 - Accounting Principles II • AET111 - Architectural Computer Graphics I • AET235 - Architectural Three-D Rendering • AHS101 - Introduction to Health Professions • AHS102 – Medical Terminology • AHS104 - Medical Vocabulary/Anatomy • AHS106 - Cardiopulmonary Resuscitation • AHS163 - Long-Term Care • AMT105 - Robotics and Automated Control I • ARV121 - Design • AUT160 - Introduction to Automotive Technology • BAF101 – Personal Finance • BUS121-BusinessLawI • CGC115-DigitalPhotography • CPT101 - Introduction to Computers • CPT168 - Programming Logic & Design • CRJ101 - Introduction to Criminal Justice • CUL104 - Introduction to Culinary

College	CTE Courses
	<ul style="list-style-type: none"> • CUL129 - Storeroom • CUL155 - Sanitation • EEM117 - AC/DC Circuits I • EEM118 - AC/DC Circuits II • EEM151-MotorControlsI • EEM201 – Electronic Devices I • EEM202 - Electronic Devices II • EEM231 – Digital Circuits I • EGT102 – Technical Drawing • EGT104 - Print Reading • EGT151 – Introduction to CAD • EGT155 - Intermediate CAD • EGT245 – Principles of Parametric CAD • MGT101 – Principles of Management • MKT101 - Marketing • MKT240 - Advertising • MTT111 - Machine Tool Theory and Practice I • WLD103 – Print Reading I • WLD105 – Print Reading II • WLD106 – Gas and Arc Welding • WLD113 – Arc Welding II • WLD115 – Arc Welding III • WLD117 – Specialized Arc Welding • WLD212 – Destructive Testing
Technical College of the Lowcountry	<ul style="list-style-type: none"> • ACC101 - Accounting Principles I • ACC102 - Accounting Principles II • AET101 – Building Systems I • AHS102 - Medical Terminology • AHS103 - Bio-Medical Vocabulary • AHS205 - Ethics & Law for Allied Health Professions • AOT105 - Keyboarding • AVT102 – Introduction to Avionics • BAF101 – Personal Finance • BUS101 – Introduction to Business • BUS121 – Business Law I • BUS140 – Business Mathematics • CPT101 - Introduction to Computers • CPT168 - Programming Logic & Design • CPT170 – Microcomputer Applications • CPT172 – Microcomputer Database • CPT212 – Visual Basic Programming • CRJ101 - Introduction to Criminal Justice • CRJ120 - Constitutional Law

College	CTE Courses
	<ul style="list-style-type: none"> • CRJ125 - Criminology • CRJ243 - Criminal Profiling • ECD101 – Introduction to Early Childhood • EEM105 – Basic Electricity • EEM117 - AC/DC Circuits I • EEM241 – Microprocessors I • EGT151 – Introduction to CAD • EGT152 - Fundamentals of CAD • IST162 - Introduction to Workstation Networking Administration • MGT101 – Principles of Management • MKT101 - Marketing
Tri-County Technical College	<ul style="list-style-type: none"> • ACC101 - Accounting Principles I • ACR101 - Fundamentals of Refrigeration • ACR104 – Print Reading for HVAC • ACR105 – Tools and Service Techniques I • ACR111 – Gas Heating Principles • ACR122 – Principles of Air Conditioning • ACR131 - Commercial Refrigeration • ACR140 – Automatic Controls • ACR160 – Service Customer Relations • ACR201 - Troubleshooting and Maintenance • ACR210 – Heat Pumps • ACR221 - Residential Load Calculations • ACR224 – Codes and Ordinances • ACR225 - Industrial Air Conditioning • ACR250 – Duct Fabrication • ACR251 – SCWE in HVAC • AHS102 – Medical Terminology • AHS104 - Medical Vocabulary/Anatomy • AOT105 - Keyboarding • AOT133 - Professional Development • AOT167 - Information Processing Applications • ARV114 – Photography I • ARV212 – Digital Photography • AUT100 - Introduction to Automotive Hazardous Materials • AUT101 – Engine Fundamentals • AUT111 - Brakes • AUT116 - Manual Transmission and Axle • AUT132 – Automotive Electricity • AUT145 – Engine Performance • AUT152 – Automatic Transmission • AUT156 - Automotive Diagnosis and Repair

College	CTE Courses
	<ul style="list-style-type: none"> • AUT231 – Automotive Electronics • AUT241 - Automotive Air Conditioning • BAF101 - Personal Finance • BUS101 – Introduction to Business • BUS110 - Entrepreneurship • CPT167 - Introduction to Programming Logic • CPT170 - Microcomputer Applications • CPT270 - Advanced Microcomputer Applications • CRJ101 - Introduction to Criminal Justice • CRJ110 – Police Patrol • CRJ116 – Criminal Law II • CRJ125 - Criminology • CRJ130 - Police Administration • CRJ222 – Ethics in Criminal Justice • CRJ236 – Criminal Evidence • EEM117 - AC/DC Circuits I • EEM118 - AC/DC Circuits II • EEM131 - Solid-State Devices • EEM161 – Industrial Instruments • EEM217 - AC/DC Machines With Electrical Codes • EEM221 - DC/AC Drives • EEM230 - Digital Electronics • EET175 – Introduction to Photonics • EGR110 - Introduction to Computer Environment • EGR269 - Engineering Disciplines and Skills • EGR270 - Introduction to Engineering • EGR275 - Intro to Robotics Manufacturing Technology • EGT115 – Engineering Graphics II • EGT123 – Industrial Print Reading • EGT152 – Fundamentals of CAD • ELT251 - Special Topics in Electronics • IMG115 – Industrial Management Safety • IMT112 – Hand Tool Operations • IMT131 – Hydraulics and Pneumatics • IMT141 –Electrical Control Devices • IMT161 - Mechanical Power Applications • IMT224 – Basic Electronic Theory • IMT230 - Reliability Centered Maintenance • LEG135 - Introduction to Law and Ethics • MAP101 – Audio Techniques I • MAP126 – Media Arts Photography • MAP150 – Studio Production I • MAP161 – Media Literacy

College	CTE Courses
	<ul style="list-style-type: none"> • MGT101 – Principles of Management • MKT101 - Marketing • QAT101 - Introduction to Quality Assurance • VET103 - Veterinary Medical Terminology • VET105 - Orientation to Veterinary Technology • WLD109 – Gas Metal Arc Welding II • WLD111 – Arc Welding I • WLD113 – Arc Welding II • WLD115 – Arc Welding III • WLD132 - Inert Gas Welding Ferrous • WLD154 – Pipefitting and Welding • WLD204 - Metallurgy • WLD225 – Arc Welding Pipe I
Trident Technical College	<ul style="list-style-type: none"> • ACC101 - Accounting Principles I • ACC102 - Accounting Principles II • ACC111- Accounting Concepts • ACR106 - Basic Electricity for HVAC/R • ACR108 - Refrigeration Fundamentals • ACR109 – Tools & Service Techniques II • ACR111 – Gas Heating Principles • AET202 – History of Architecture • AHS104 - Medical Vocabulary/Anatomy • AHS105 – Medical Ethics and Law • AHS106 - Cardiopulmonary Resuscitation • AHS121 – Basic Pharmacology • AOT105 - Keyboarding • AOT110 – Document Formatting • AOT134 – Office Communications • AOT161 - Records Management • AOT252 – Medical Systems and Procedures • AOT256 – Office Management Skills • ARV110 – Computer Graphics I • ARV114 – Photography I • ARV115 – Aesthetics of Photography • ARV121 - Design • ARV123 – Composition and Color • ARV136 – Motion Graphics I • ARV210 – Computer Graphics II • ARV212 – Digital Photography • ARV217 – Computer Imagery • ARV219 – Multimedia Techniques • ARV279 – Portfolio Preparation • AUT101 - Engine Fundamentals

College	CTE Courses
	<ul style="list-style-type: none"> • AUT111 - Brakes • AUT131 – Electrical Systems • AUT133 – Electrical Fundamentals • BAF101 – Personal Finance • BKP101 – Introduction to Baking • BKP102 – Introduction to Pastries • BKP109 - Introduction to Cakes & Decorating • BUS101 – Introduction to Business • BUS110 - Entrepreneurship • BUS121 – Business Law I • BUS220 – Business Ethics • BUS250 - Introduction to International Business • COS101 – Fundamentals of Cosmetology • COS108 – Nail Care • COS110 – Scalp and Hair Care • COS112 - Shampoo and Rinses • COS120 – Manikin Practice • COS131 - Bacteria and Other Infectious Agents • COS132 – Science of Nail Technology • COS133 - Basic Procedures • COS135 – Business of Nail Technology • COS136 - Fundamentals of Artificial Nail Application • COS137 – Fundamentals of Nail Art • COS210 – Hair Coloring • COS220 - Cosmetology Clinical Practice I • COS224 – Nail Practice I • CPT101 - Introduction to Computers • CPT102 – Basic Computer Concepts • CPT114 - Computers and Programming • CPT162 - Introduction to Web Page Publishing • CPT167 - Introduction to Programming Logic • CPT172 – Microcomputer Database • CPT174 – Microcomputer Spreadsheets • CPT179 – Microcomputer Word Processing • CPT187 - Object-Oriented Logic & Design • CPT209 – Computer Systems Management • CPT210 – Computer Resource Management • CPT220 - e-Commerce • CPT237 - Advanced Java Programming • CPT238 – Internet Scripting • CPT242 - Database • CPT244 - Data Structures • CPT282 - Information Systems Security

College	CTE Courses
	<ul style="list-style-type: none"> • CPT288 – Computer Game Development I • CPT290 - Microcomputer Multimedia Concepts and Applications • CRJ101 - Introduction to Criminal Justice • CRJ102 – Introduction to Security • CRJ115 – Criminal Law I • CRJ120 – Constitutional Law • CRJ125 - Criminology • CRJ130 - Police Administration • CRJ140 - Criminal Justice Report Writing • CRJ202 - Criminalistics • CRJ232 – White Collar Crime Investigation • CRJ233 – Cyber Crimes and the Law • CRJ236 - Criminal Evidence • CUL104 – Introduction to Culinary • CUL105 – Kitchen Fundamentals • CUL112 – Classical Foundations of Cooking • CUL118 – Nutritional Cooking • CUL123 – American Bistro • CUL127 - History of Diets in World Cultures • CUL128 - Culinary Management and Human Resources • CUL129- Storeroom and Purchasing • CUL135 - Introduction to Dining Room Service • CUL171 – Food & Beverage Controls • CUL215 – Cuisine of the Americas • CUL238 - Culinary Marketing • CUL277 – SCWE in Culinary Arts • CUL280 – Butchery and Charcuterie • ECD101 - Introduction to Early Childhood • ECD132 – Creative Experiences • EGR104 - Engineering Technology Foundations • EGR275 - Introduction to Engineering/Computer Graphics • EGT106 - Print Reading & Sketching • EGT151 – Introduction to CAD • EGT152 - Fundamentals of CAD • EGT252 – Advanced CAD • EMS102 – Principles of Emergency Medical Care I • EMS103 – Principles of Emergency Medical Care II • EMS107 – Advanced Emergency Care I • EMS108 – Advanced Emergency Care II • EMS115 - International Trauma Life Support • EMS212 - EMS Field Internship • EMS219 - Advanced EMS Field Internship II

College	CTE Courses
	<ul style="list-style-type: none"> • FLM101 - Filmmaking Fundamentals • FLM138 – Film Editing I • HOS132 - Hospitality Communications and Leadership • HOS140 – The Hospitality Industry • HOS150 – Hotel Management • HOS157 – Hospitality Service • HOS161 – Event Management • HOS164 – Travel and Tourism • HOS258 – Convention Management • HOS262 - Hospitality Software Applications • HOS265 - Hotel, Restaurant, and Travel Law • HOS272 - SCWE in Hospitality/Tourism Management • HOS298 - Special Topics in Hospitality and Tourism • HSM104 - Terrorism and Homeland Security • HUS208 – Alcohol and Drug Abuse • IET223 – Industrial Safety • IMT105 - Mechanical Sketching • IMT124 - Pumps • IMT132 - Hydraulics • IMT133 - Pneumatics • IMT151 – Piping Systems • IMT160 – Preventive Maintenance • IMT161 - Mechanical Power Applications • IMT163 - Problem Solving for Mechanical Applications • IMT210 - Basic Industrial Skills I • IMT211 - Basic Industrial Skills II • IST161 – Introduction to Network Administration • IST165 - Implementing and Administering Windows Directory Services • IST166 - Network Fundamentals • IST190 – LINUX Essentials • IST191 – LINUX System Administration • IST201 – Cisco Internetworking Concepts • IST202 – Cisco Router Configuration • IST220 - Data Communications • IST239 – Datum and JavaScript • IST253 – LAN Service and Support • IST268 - Computer Forensics • IST269 – Digital Forensics • IST272 - Relational Database • IST291 – Fundamentals of Network Security I • IST292 - Fundamentals of Network Security II • IST293 – IT and Data Assurance I

College	CTE Courses
	<ul style="list-style-type: none"> • IST294 – IT and Data Assurance II • JOU101 - Introduction to Journalism • MAP101 – Audio Techniques I • MAP110 – Editing I • MAP112 – Media Graphics I • MAP130 – Lighting Fundamentals • MAP190 – Introduction to Animation • MAP191 - 3D Modeling • MAP192 - Character Animation • MAP193 – Animation Workflow • MAP201 – Audio Techniques II • MAP210 – Editing II • MAP212 – Motion Graphics I • MGT101 – Principles of Management • MGT120 - Small Business Management • MGT121 - Small Business Operations • MGT201 – Human Resource Management • MGT255 – Organizational Behavior • MGT270 – Managerial Communication • MKT101 - Marketing • MKT110 - Retailing • MKT120 – Sales Principles • MKT135 – Customer Service Techniques • MKT140 - E-Marketing • MKT245 - Promotional Strategies • MKT260 – Marketing Management • MTT111 - Machine Tool Theory and Practice I • MTT112 - Machine Tool Theory and Practice II • MTT143 – Precision Measurements • MTT145 - Machining of Metals • MTT250 – Principles of CNC • MTT251 - CNC Operations • MTT253 - CNC Programming and Operations • QAT101 - Introduction to Quality • VET105 - Orientation to Veterinary Technology
Williamsburg Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • ACC102 – Accounting Principles II • ACR101 - Fundamentals of Refrigeration • ACR106 - Basic Electricity for HVAC/R • ACR107 – Wiring Diagrams • ACR110 – Heating Fundamentals • ACR120 – Basic Air Conditioning • ACR131 – Commercial Refrigeration

College	CTE Courses
	<ul style="list-style-type: none"> • ACR140 – Automatic Controls • ACR210 – Heat Pumps • AHS101 - Introduction to Health Professions • AHS102 – Medical Terminology • AHS104 - Medical Vocabulary/Anatomy • AHS106 - Cardiopulmonary Resuscitation • AHS108 - Nutrition • AHS110 – Patient Care Procedures • AHS116 – Patient Care Relations • AHS117 – The Care of Patients • AHS125 – Allied Health Sciences • AHS136 - Essentials of Anatomy and Physiology • AHS160 - Introduction to Health • AUT100 - Introduction to Automotive Hazardous Materials • AUT102 – Engine Repair • AUT111 - Brakes • AUT133 – Electrical Fundamentals • AUT159 - Tools, Equipment, and Reference Manuals • AUT160 - Introduction to Automotive Technology • AUT161 - Introduction to Automotive Maintenance • AUT162 - Personal Automotive Maintenance • BCT101 - Introduction to Building Construction • BCT102 - Fundamentals of Building Construction • BCT105 – Tool Usage and Safety • BCT106 – Beginning Woodworking • BCT112 - Construction Print Reading • BCT151 - Introduction to Residential Plumbing • BCT201 - Principles of Roof Construction • BCT203 - Exterior & Interior Finishes • CPT101 - Introduction to Computers • CPT170 – Microcomputer Applications • ECD101 - Introduction to Early Childhood • EEM107 - Industrial Computer Techniques • EEM115 – DC Circuits • EEM116 - AC Circuits • EEM121 - Electrical Measurements • EEM140 – National Electrical Code • EEM145 – Control Circuits • EEM165 - Residential/Commercial Wiring • EEM170 - Electrical Installation • EEM215 - DC/AC Machines • EEM235 – Power Systems • EGR105 – Safety in Workplace

College	CTE Courses
	<ul style="list-style-type: none"> • EGT123 – Industrial Print Reading • IET223 – Industrial Safety • IMT103 - Precision Measuring Instruments • MGT201 – Human Resource Management • MSY101 – Masonry Fundamentals • WLD101 – Cutting Processes • WLD102 – Introduction to Welding • WLD103 – Print Reading I • WLD104 – Gas Welding and Cutting • WLD106 – Gas and Arc Welding • WLD116 - Welding • WLD132 – Inert Gas Welding Ferrous • WLD204 – Metallurgy
York Technical College	<ul style="list-style-type: none"> • ACC101 – Accounting Principles I • ACC111 – Accounting Concepts • ACR108 - Refrigeration Fundamentals • ACR150 – Basic Sheet Metal • AHS102 – Medical Terminology • AHS108 - Nutrition • AHS117 – The Care of Patients • AHS120 – Responding to Emergencies • AOT105 - Keyboarding • ARV110 – Computer Graphics I • ARV123 – Composition and Color • ARV205 – Graphic Illustration • ARV219 – Multimedia Techniques • ARV223 - 3D Animation I • ARV227 - Web Site Design I • AUT112 – Braking Systems • AUT158 – Auto Diagnosis • AUT161 - Introduction to Automotive Maintenance • AUT241 - Automotive Air Conditioning • BCT112 - Construction Print Reading • BUS101 – Introduction to Business • BUS121 – Business Law I • CPE107 - Computer Applications for Electronics • CPT101 – Introduction to Computers • CPT168 - Programming Logic & Design • CPT170 – Microcomputer Applications • CRJ101 - Introduction to Criminal Justice • CRJ110 – Police Patrol • CRJ115 – Criminal Law I • CRJ202 - Criminalistics

College	CTE Courses
	<ul style="list-style-type: none"> • ECD101 - Introduction to Early Childhood • ECD135 - Health, Safety and Nutrition • ECE102 – Instrument Control • EEM105 – Basic Electricity • EEM117 - AC/DC Circuits I • EEM121 – Electrical Measurements • EEM140 – National Electrical Code • EEM145 – Control Circuits • EEM215 - DC/AC Machines • EEM221 - DC/AC Drives • EEM250 - Programmable Logic Controllers • EEM251 – Programmable Controllers • EEM252 - Programmable Controllers Applications • EGR270 - Introduction to Engineering • EGT128 - Machine Tool Print Layout • IMT102 – Industrial Safety • IST188 - Hardware Basics and Operating Systems • IST220 – Data Communications • IST226 – Internet Programming • IST251 - LAN Networking Technologies • LEG213 – Family Law • MGT101 – Principles of Management • MGT120 – Small Business Management • MKT101 - Marketing • MTT111 - Machine Tool Theory and Practice I • MTT124 – Machine Tool Practice II • MTT141 – Metals & Heat Treatment • WLD104 - Gas Welding and Cutting • WLD110 – Welding Safety and Health • WLD111 – Arc Welding I • WLD113 – Arc Welding II • WLD136 - Advanced Inert Gas Welding • WLD142 – Maintenance Welding • WLD152 - Tungsten Arc Welding • WLD201 - Metallurgy • WLD208 – Advanced Pipe Welding • WLD212 – Destructive Testing • WLD214 - Non-Destructive Testing • WLD228 – Inert Gas Welding Pipe I