AGENDA

Joint
Academic Standards and Assessments & Public Awareness
Subcommittee Meeting
Monday, September 20, 2021
Blatt Building, Room 433
1:00 P.M.

I.   Welcome ....Neil Robinson

II.   Approval of ASA Minutes, May 17, 2021 ....Neil Robinson

III.   *Discussion Items for Accountability:*

        Overview of 2021 School Report Card Results............. Matthew Ferguson

        Career Readiness Measures:
        Stackable Credentials... Angel Malone, SCDE
                                                                    Ivy Alford, SREB

        SC High School Credential ....Dr. Jenny May

        College Readiness Measures:
        Cambridge Weighting ....Dr. Jenny May

        Student Engagement Measures:
        Chronic Abseentism ....Dr. Matthew Lavery

IV.   Adjournment

Academic Standards and Assessments   Public Awareness
Neil Robinson, Vice Chair   Barbara Hairfield, Chair
Barbara Hairfield   Rep. Terry Alexander
Sen. Greg Hembree   Rep. Raye Felder
Sidney Locke
Patti Tate
Dr. Scott Turner

Ellen Weaver
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Neil C. Robinson, Jr.

Jamie Shuster

Molly Spearman

Patti J. Tate

Scott Turner

C. Matthew Ferguson, Esq.
EXECUTIVE DIRECTOR

SOUTH CAROLINA EDUCATION OVERSIGHT COMMITTEE

Academic Standards and Assessments (ASA) Subcommittee Meeting

Minutes of the Meeting

May 17, 2021

Members Present (in-person or remote): Neil Robinson, Subcommittee Vice-Chair; Barbara Hairfield (remote); Patti Tate; Dr. Scott Turner; Sidney Locke (remote); and Sen. Greg Hembree (remote)

EOC Staff Present: Dr. Kevin Andrews; Matthew Ferguson; Dr. Matt Lavery; Hope Johnson-Jones; Dr. Rainey Knight; Diane Sigmon; Dr. Valerie Harrison; and Dana Yow.

Members, guests, and staff were welcomed by Mr. Ferguson, and the meeting was officially called to order at 10:06 a.m. Traffic issues delayed the arrival of EOC members. Mr. Ferguson announced that the EOC Retreat would be held August 8-9 in Anderson, SC; it will be hosted by Dr. Couch at the Anderson Institute of Technology. Members should expect information about making arrangements to arrive the following day.

For the retreat, Dr. David Steiner, Executive Director of the John's Hopkins School of Education, will speak on Sunday on acceleration versus remediation. On Monday, members will be working through strategic planning and receiving an update on accountability.

Ms. Hairfield made a motion to approve the ASA minutes from March 15, 2021. Sen. Hembree seconded the motion. The motion to approve the minutes was approved unanimously.

Ms. Hairfield asked Dr. Knight to present the SC College- and Career-Ready Science Academic Standards, 2021. Dr. Knight presented the draft standards to the subcommittee. She reviewed the process that has led to the draft standards. The SC Dept. of Education did apply all the EOC's recommendations when developing the standards. Sen. Hembree made a motion for approval of the standards, which Dr. Turner seconded.

Dr. Turner asked if the standards were similar in the way they are changed; did they included critical thinking like ELA and math standards? Dr. Knight said the standards seem to go a step further and standard writers have done a really good job with the final document. She said to expect a heavy need for professional development for teachers, particularly those who were not prepared with a science background.

Dr. Turner asked if we know if anyone did a fiscal impact, i.e., resources / materials that will be needed. Dr. Knight said the Learning Object Repository (LOR) will house a significant number of resources, to which Dr. Mathis concurred.

Sen Hembree asked if we are to assume this will require teachers to do new lesson plans? What about the materials? He said the Gen. Assembly just allocated a significant amount of money for teaching materials; he wants to be sure we are not purchasing obsolete textbooks. Dr Knight stated for years, we have tried to get away from a specific textbook because one textbook cannot do it all. We are expecting many resources to be electronic. Additionally, the LOR and science kits should provide significant resources for these standards.

Sen Hembree said some districts invested significant money in putting together elaborate resources that they wouldn't share. Dr. Knight stated that the standards are very comprehensive which should help level the field; what the department has done is to make it easier for teachers to use.

Ms. Hairfield stated that the most powerful thing about this document is having teacher resources embedded; in many places they are foregoing textbooks and have digital collections that align with standards.

Ms. Hairfield then asked if there were any topics that were hard to address or controversial. Dr. Knight stated that she thinks the review/writing committee was careful as they worked through inclusion of these topics.

The science standards were approved unanimously.

In Dr. Harrison's initial absence, Mr. Ferguson presented the Military Connected Students Report, 2021. There do appear to be some issues with the number of students with wounded parents; EOC staff is investigating the data. Also, since End-of-Course exams were not given at the end of last year, the report only shows what was done in the fall.

Mr. Robinson asked what the purpose of the report was. Dr. Harrison referred to state statute which requires the publication of the report annually.

Sen Hembree stated he is curious about having seven years of data now -- it looks like military connected children are holding their own or better. Does this report still have value? Also, why are we able to get this data for military connected children but not for all our students?

Dr. Harrison stated that she thinks the military community is concerned about these data and it may need to continue. Mr. Ferguson stated that when they were looking at closing military bases, they did call for data like this to make data-informed decisions.

Ms. Hairfield made a motion to approve the report; Dr. Turner seconded. The report was approved unanimously.

Dr. Andrews then presented the Parent Survey Report, 2020. There was no parent survey report administered last spring; the report published is current as of March 11, 2021. Prior years were administered in hard copy. In 2021, parents can take the survey either online

or by smartphone. In prior years, the survey was administered to parents of students in the highest grade level in a school; now the survey is available to all parents. In prior years, the typical respondent was a white female college graduate; now we do not know that information.

As for the content of the survey, there were no changes to questions in Learning Environment or bullying. The Parent Involvement section went from 13 to 6 items; student items deleted 1 item. With the format of the new survey, changes can be made more easily. There is still a concern of accessibility for all parents.

Dr. Turner made a motion to approve the minutes, Sen. Hembree seconded. The report was approved unanimously.

Finally, Mr. Ferguson reviewed information from the first of the meeting for those who were not able to join until after the meeting began. An email will go out the following day regarding retreat plans.

With no additional business, the meeting adjourned.

SC EDUCATION OVERSIGHT COMMITTEE

Reporting facts. Measuring change. Promoting progress.

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SC Report Card results show disappointing, not surprising declines in year impacted by pandemic

EOC stresses need to learn from data and improve student outcomes, not "normalize" poor performance

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COLUMBIA, SC, September 1, 2021 - Today, the South Carolina School Report Cards for school year 2020-21 were released. Though indicator and overall ratings are not included this year, the School Report Cards provide the first, comprehensive statewide data points of how students performed after the COVID-19 pandemic disrupted schools and student learning across South Carolina and the nation.

"The results are disappointing, but not surprising. We expected and predicted declines in academic performance in a year so full of disruption for students, families, and educators. Without the hard work of many educators equipped with student assessment data throughout last year, the results would have been even worse," stated Matthew Ferguson, EOC Executive Director. "While the pandemic has us all living in a 'new normal', it is important that we not normalize poor outcomes for students."

"We have the student test results. Now, we need a treatment plan to move schools forward," stressed Ferguson. "Even if we must do it while dealing with COVID-19 for the foreseeable future, we have a responsibility to fully re-commit to the goal of the system – ensuring each student in South Carolina graduates ready for college or a career."

Most South Carolina students participated in end-of-year, in-school assessments, despite remote learning and pandemic related disruptions. Overall, 612,369 SC READY assessments in grades 3-8 were administered in English Language Arts (ELA) and Mathematics in 2020-21, down from 712,007 similar assessments administered in 2019. School districts serving more students in poverty administered far fewer tests in 2021 compared to districts serving fewer students in poverty, "a concerning point in the data," according to Ferguson. Despite these limitations, it is important to provide comparisons when available and appropriate.

"Though there were no ratings given this year on the School Report Card and missingness within the student participation rate still needs to be fully analyzed, these data provide a crucial snapshot necessary to inform efforts by the State, school districts, educators and families to ensure all students are able to accelerate their learning and fully recover from the pandemic," stated Ferguson.

In the 2020-21 school year, only 43% of South Carolina elementary and middle students were on grade level in ELA, and even fewer students – 37% – were on grade-level in math. Declines in student performance were greatest in mathematics across all grade levels. In ELA, the proportion of students who meet or exceed grade level standards fell more sharply in the younger grades. Fewer than 3 out of 10 students in the Class of 2021 were college and career ready, a statistic Ferguson asserts is "unacceptable and unfair to the students, many of whom leave the system with a high school diploma."

Ferguson credited the forward-thinking of SC policymakers for requiring student assessment data during the fall and winter of 2020. A report released by the EOC in March 2021 based on these fall / winter student assessments warned that as many as 7 out of 10 students might not meet grade level proficiency in grades 3 through 8 without accelerated progress toward grade level proficiency. Ferguson noted that "because educators were equipped with these data and worked tirelessly, student outcomes at the end-of-the year were stronger than we might have otherwise seen."

Ferguson continued, "the pandemic caused an unprecedented disruption in schooling that is being followed by a once-in-a-lifetime influx of funding. We must ensure that we leverage this experience through purposeful investments that reimagine and raise the expectations for what is possible in public education across South Carolina."

2021 Report Cards
The results from this Report Card are different than in previous years. The Student Progress indicator is not reported out in this year's cards as summative testing did not occur in school year 2019-20, preventing the measurement of annual progress. Additionally, the Student Engagement indicator, which contained the results of a Student Engagement Survey, does not contain those data as that vendor contract was terminated.

School Report Card Indicator Results
Academic Achievement: This indicator determines if students in a school are meeting state standards in English Language Arts (Reading and Writing) and Math.

Percent tested who Met or Exceeded Expectations on SC READY by school year
State Performance (Elementary and Middle Schools)

English Language Arts			Mathematics		
2017-18	2018-19	2020-21	2017-18	2018-19	2020-21
41.7%	45.4%	42.6%	44.6%	45.1%	37.3%

Percent of cohort earning a C or better on End-of-Course exams by school year
State Performance (High Schools)

English I			Algebra I		
2017-18	2018-19	2020-21	2017-18	2018-19	2020-21
53.9%	56.3%	63.0%	60.5%	54.9%	46.9%

Note: These End-of-Course exam pass rates are calculated for the four-year cohort (first-time ninth graders who graduate high school within four years) during the school year reported, regardless of when they took English I or Algebra I.

Preparing for Success: This indicator determines if students in a school are meeting state standards in Science for elementary and middle schools. Science (Biology I End-of-Course) and Social Studies (U.S. History and the Constitution End-of-Course) are included for high school.

Percent tested Who Met or Exceeded Expectations in Science by school year -- State Performance (Elementary and Middle Schools)

Science		
2017-18	2018-19	2020-21
49.4%	49.1%	43.3%

Percent of Students earning a C or better on End-of-Course exams by school year State Performance (High Schools)

Biology I			U.S. History and the Constitution		
2017-18	2018-19	2020-21	2017-18	2018-19	2020-21
59.5%	54.4%	50.2%	48.9%	47.7%	37.7%

Note: Biology I End-of-Course (EOC) exam pass rates are calculated for the four-year cohort (first-time ninth graders who graduate high school within four years) during the current school year, regardless of when they took Biology I. However, U.S. History and Constitution pass rates are calculated from all U.S. History EOC exams taken by high school students during the current school year, regardless of cohort.

English Learners' Proficiency: Indicator determines if students in a school who are non-native-English speakers are meeting growth targets to learn the English Language.

Percent of English Learners who met progress toward proficiency target

2017-18	2018-19	2020-21
48.6%	49.8%	31.7%

Graduation Rate: Indicator determines what percentage of students who entered the high school in the ninth grade graduated in at least 4 years.

State Graduation Rate

2016	2017	2018	2019	2020	2021
82.6%	84.6%	81.0%	81.1%	82.2%	83.3%

College and Career Ready: Indicator determines if students who are graduating from a high school are prepared for college or careers after graduating. These are preliminary numbers that will be periodically updated and may not include final data on some measures.

Comparison data in previous years is not included since the calculation methodology changed; the percentages are based on students in the four-year cohort, not the graduation cohort, as had been previously reported.

Percent of Students College AND Career Ready

2020-21
28.8%

Percent of Students College OR Career Ready

2020-21
64.9%

Percent of Students College Ready

2020-21
38.2%

College Ready Detail

Measure	2020-21
ACT: 20 or higher	14.4%
SAT: 1020 or higher	19.9%
AP: 3 or higher	15.2%
IB: 4 or higher	1.1%
Dual Credit: C or better	13.6%

*Students can be counted more than once as they may meet more than one option.

Percent of Students Career Ready

2020-21
55.6%

Career Ready Detail

Measure	2020-21
CTE completer with certification	13.8%
Work-based learning	3.1%
Silver or higher on Career Readiness assessment	48.0%
Armed Services Vocational Aptitude Battery (ASVAB)	6.6%

*Students can be counted more than once as they may meet more than one option.

The SC Education Oversight Committee is an independent, non-partisan group made up of 18 educators, business persons, and elected leaders. Created in 1998, the committee is dedicated to reporting facts, measuring change, and promoting progress within South Carolina's education system.

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INDICATOR: College/Career Readiness

School Level: High

This indicator measures the proportion of students in a high school's graduation cohort who are college or career ready. For all students in the current 9GR cohort, regardless of graduation status, determine college and career readiness using one or more of the indicators below.

Is the student college-ready?

A student is deemed "college-ready" if the student met one or more of the following criteria:
● Scores a composite score of 20 or higher on the ACT;
● Scores a composite score of 1020 or higher on the SAT;
● Scores a 3 or higher on an Advanced Placement (AP) exam;
● Scores a C or higher in any Advanced Level (A) Cambridge International Exam or if the student earns a C or higher in an Advanced Subsidiary (AS) Level Cambridge International Exam in: Biology, Chemistry, Computer Science, Economics, English, Environmental Science/Management, History, Politics, Psychology, or foreign language (Chinese, French, German, Japanese or Spanish)
● Scores a 4 or higher on any International Baccalaureate (IB) assessment. Only higher learning (HL) exams may count; or
● Completes at least six (6) credit hours in approved dual enrollment courses with a grade of C or higher.

Is the student career-ready?

A student is deemed "career-ready" if the student met one or more of the following criteria:
● Is a CTE completer and earns a national industry credential or a state industry credential as determined by the business community (https://ed.sc.gov/instruction/career-and-technical-education/programs-and-courses/cate-programs/2020-21-cte-career-ready-certifications/); or
● Earns a Silver, Gold or Platinum National Career Readiness Certificate on the WorkKeys exam or Silver, Gold or Platinum Credential on the WIN Ready to Work Career Assessment; or
● Earns a scale score of 31 or higher on the ASVAB; or
● Successfully completes a state-approved work-based learning exit evaluation from an employer. The work-based learning program must include:
  o Training agreement which defines a combination of objectives and a minimum of 40 practical experience hours or the highest number of hours required by industry defined competencies in a career pathway;
  o Be aligned with state IGP career clusters;
  o Include an industry evaluation that is created from the training agreement, which includes the world-class skills from the Profile of the South Carolina Graduate;
  o The student must have earned a minimum of one unit in the pathway related to the work-based placement or completed a personal pathway of study.

South Carolina Program Credentials Report

September 20, 2021

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SREB | School Improvement

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SREB | Southern Regional Education Board

South Carolina Department of Education
Division of Career and Technical Education
Program Credentials Report Prepared by SREB

Section 1: Why Study Credentials of Value?

Many American workers find themselves in a continuous struggle to keep up with advances in automation and artificial intelligence that could potentially displace them from a growing list of occupations. New articles and online videos are released nearly every day that highlight new and emerging technologies that will impact the workforce. We learn about machines being tested to deliver packages to homes autonomously. A robotic interviewer in Sweden now questions job applicants to eliminate human bias from the hiring process. And researchers are working on an ocular implant for humans to record everything their eyes see during the day.

As companies continue to incorporate new technologies, making machine learning and robotics common in almost all workplaces, more and more working adults need to adapt to computerized work activities. Many need to move into new jobs raising their skill levels, or they will be out of a job altogether.

Figure 1: 2019 Regional Workforce Outlook
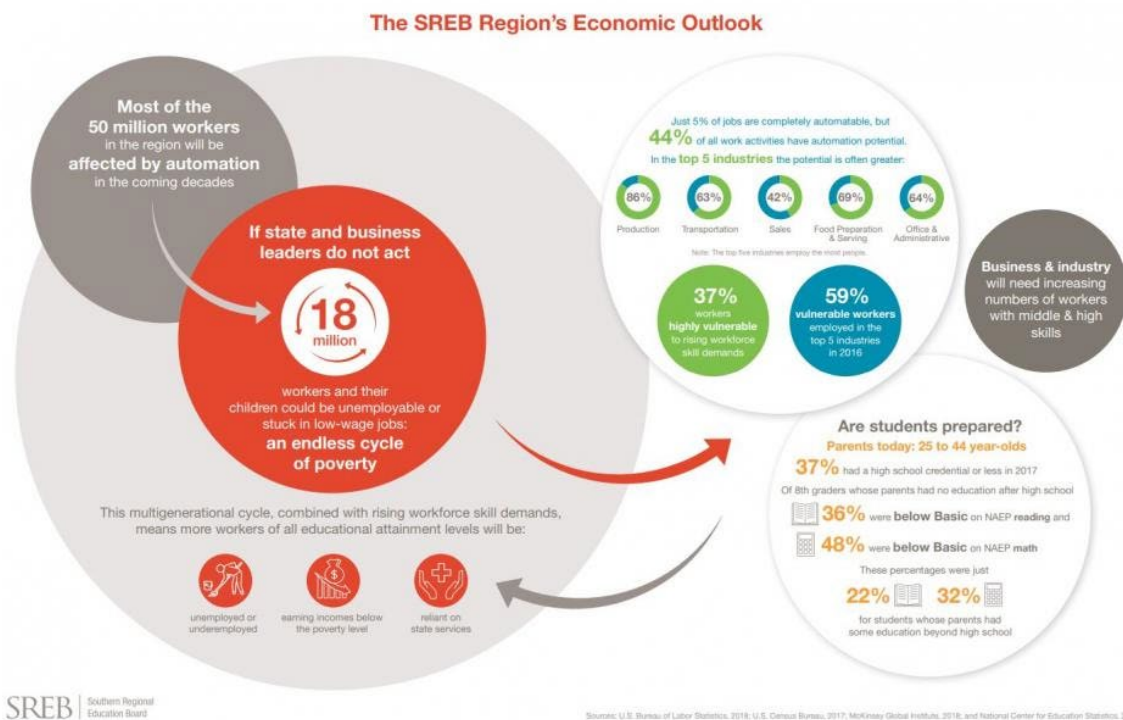
According to SREB's Unprepared and Unaware: Upskilling the Workforce for a Decade of Uncertainty[1], adults with the lowest levels of skills — typically those with a high school

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[1] Southern Regional Education Board (2019). https://www.sreb.org/publication/unprepared-and-unaware.

credential or less — are most vulnerable to these changes. Workers and their children could be unemployable or stuck in low-wage jobs, creating an endless cycle of poverty. If states and industry leaders do not act quickly to prepare employees for these workplace transformations, 18 million or more adults will find themselves in low-paying positions or out of a job and increasingly reliant on public services. Businesses will struggle to fill middle- and high-skilled positions. Children — future workers — will face similar struggles and likely be unprepared for future positions, worsening these problems for states and businesses.

According to SREB's recent analysis of the impacts of the pandemic, nearly one-third of work activities could be automated across the SREB region by 2025. The response to the pandemic has changed the way that job duties are completed, accelerating the need for and use of automation across all industries. McKinsey and Company has reported that more than two-thirds of South Carolina's workers have a high school diploma or less and are significantly more vulnerable to automation, and in May 2020, McKinsey's analysts found that over just eight weeks at the beginning of the pandemic, consumer and business digital adoption had advanced as much as had been projected for the next five years.

Figure 2: 2020 South Carolina State Workforce Outlook
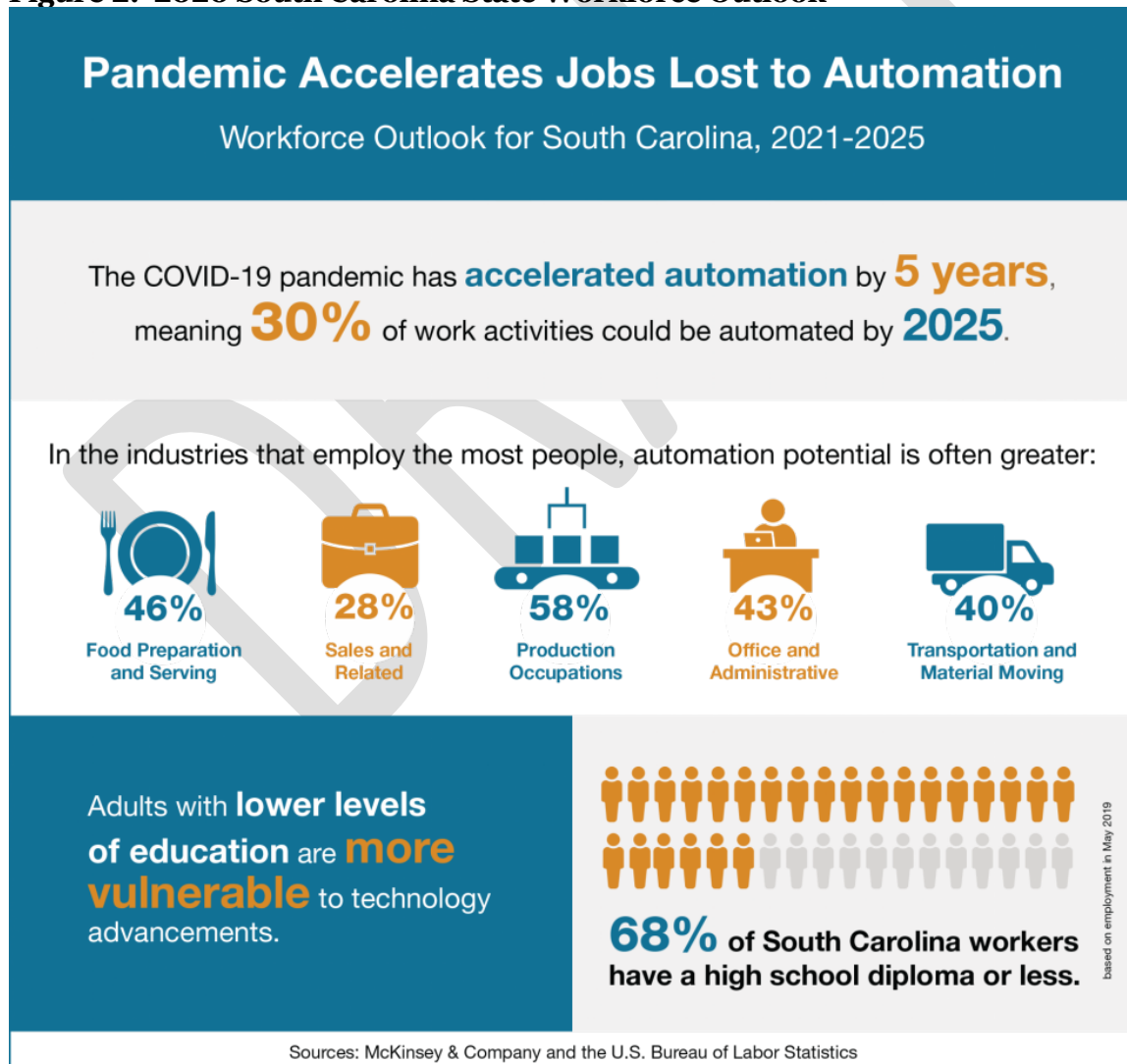
In addition to analyzing the workforce outlook for the region, SREB has analyzed the impact of the pandemic by state. Figure 2 (above) highlights the most recent analysis for the state of South Carolina. The data presented in the infographic paint a clear picture of the current employment statistics for the state by industry.

Figure 3: Unemployment Potential to South Carolina

Pandemic Exacerbates Risk for Vulnerable Workers
Unemployment Potential in South Carolina

Workers most **vulnerable to automation** are also those with the **greatest risk** for work disruptions during the pandemic:

Those with the lowest levels of education

Women and people of color

Workers ages 16-23 and 56-74

1.1 million workers —
51% of the workforce
— **are at risk** for unemployment, reduced work hours or exiting the labor force due to economic impacts from the pandemic.

16% of workers are considered essential

29% of workers can work from home

and are therefore highly unlikely to be out of work in the pandemic.

based on employment in May 2019

The **percentage of vulnerable workers** varies by industry:

100%
Food Preparation and Serving

76%
Sales and Related

100%
Installation and Maintenance

93%
Production Occupations

59%
Transportation and Material Moving

300 thousand workers were officially **unemployed** while **144 thousand more** were likely **out of work** or left the labor force. Of these, **240 thousand** are highly **unlikely to be called back** to work.

SREB analysis based on May 2019 employment data from the U.S. Bureau of Labor Statistics
Other sources: The Economic Policy Institute and the Federal Reserve Bank of St. Louis

Figure 3 highlights the state's unemployment potential, clearly highlighting that the state's vulnerable workers — especially the oldest and youngest, those without postsecondary education, women, and Black, Hispanic and Asian workers — are at greater risk of being unemployed from the pandemic.

Both the workforce outlook and unemployment potential signal the need to educate families, both students and adults, about the changing landscape of occupations and the need to engage in training programs that provide opportunities to learn needed skills and earn related certifications of value.

In 2015 SREB convened a commission of educators, policy makers, and business leaders to study career and technical education and how career pathways could address some of the above-mentioned issues.[2] The study found the future looks bleak for young people with a high school diploma or less and no postsecondary credential of value in the workplace. The number of jobs available to those with a high school diploma or less has steadily declined for decades, and the Great Recession of 2008 hit these individuals hard, particularly in SREB states. Workers with a high school diploma or less continue to lose jobs despite the economic recovery.[3] For young people born into poverty, educational attainment may offer the only means of moving up the economic ladder. Research shows that 42 percent of young people born to families in the lowest fifth of income distribution will remain there — a considerably higher percentage than countries like Great Britain (about 30 percent) or northern European countries like Denmark, Finland, and Sweden (about 15 percent). Even youth born to middle-income families are as likely to move down the economic ladder as they are to move up. The future looks brighter for young people with the right postsecondary credentials. Higher education attainment of any kind benefits individuals in the labor market. Post-recession, jobs for those with bachelor's degrees have increased, and jobs for workers with some college or a postsecondary credential have mostly recovered.

Skill development that leads to a credential has been a priority across the SREB region. The 2015 commission highlighted the need to expand understanding and awareness of middle-skill jobs. Middle-skill jobs, which are typically defined by a person's level of education, require more than a high school education but less than a bachelor's degree. People with middle-skill jobs often have associate degrees, postsecondary vocational certificates, or significant on-the-job training. They earn mid-level incomes — usually between $35,000 and $75,000 (2015 Commission Report). These middle-skill jobs provide opportunities, for both students and adults, to enter and advance within the workforce. According to the National Skills Coalition, vacancies in middle-skill jobs will be the greatest threat to state economies in the South. Every high-skill job generally requires a team of middle-skilled supporters. Doctors, lawyers, and scientists need teams of qualified, technically trained workers to support their work, such as licensed nurses and paralegals. Manufacturing plants likewise need highly skilled workers to support their technical equipment. In 2016, middle-skill jobs accounted for 54 percent of the U.S. labor market, but just 44 percent of working-age adults nationwide were trained to a

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[2] Southern Regional Education Board (2015). "Credentials for All: An Imperative for SREB States." https://www.sreb.org/publication/credentials-all-imperative-sreb-states.
[3].Carnevale, A. P., Strohl, J., Ridley, N., and Gulish, A. (2018). *Three Educational Pathways to Good Jobs: High School, Middle Skills, and Bachelor's Degree.* Georgetown University Center on Education and the Workforce.

middle-skill level.

In South Carolina and the South as a whole, many jobs — 55 percent by one estimate — are middle-skill jobs that require less than a four-year degree and pay at least the national median wage of $37,000 per year.[4] At present, however, the Lumina Foundation has found that just 47.6 percent of South Carolinians aged 25 to 64 hold a quality workforce credential or a postsecondary certificate, credential, or degree.[5]

Career pathways can help close South Carolina's credential attainment gap. In high school, career pathways connect a college-ready academic core with postsecondary studies and opportunities to explore careers. Career pathways don't just teach the broad mix of academic, technical and workplace skills employers prefer — they also keep students engaged and achieving at higher levels, prevent dropout and promote transitions to postsecondary education and training programs and good jobs. Research shows that career and technical education benefits all students without detracting from a college-preparatory focus.[6] It also offers special benefits to students from low-income families, minority students and young men.[7] Overall, high-quality career pathway programs offer students early opportunities to earn college credits, engage in experiential learning and gain lifelong learning skills. Rigorous pathway curricula also help students master academic, technical, cognitive and workplace skills and gain a clearer understanding of their interests, aptitudes, and career goals.

To help students progress through career pathways, educators are embedding "stackable" credentials that align with skills required by employers. The goal is to identify and embed credentials that have value in the labor market. Stackable credentials allow education institutions to extend achievements to students along the path. It allows for multiple entry and exit points that allow students to address personal life needs.

The U.S. Department of Education defines a credential as "an overarching term associated with a broad range of awards, including degrees, badges, certifications and micro-credentials." The department states, "a credential is considered stackable when it is part of a sequence of industry-recognized credentials that can be accumulated over time to demonstrate an individual's expanded knowledge and competencies, help him or her advance within a career pathway, and enable the learner to earn family-sustaining wages."[8]

It is imperative that state accountability systems recognize credentials with real labor market value. Many states are developing systems and processes for evaluating credentials offered through CTE programs of study. There is a growing number of credentials being offered to CTE concentrators, but the credentials are often too confusing to students, parents, educators,

[4] From an analysis of Bureau of Labor Statistics Occupational Employment Statistics conducted by the National Skills Coalition. See National Skills Coalition. (2018). *Building a skilled workforce for a stronger southern economy*. Washington, DC: Author.
[5] Lumina Foundation. (2018). Georgia's progress toward the goal. *A stronger nation: Learning beyond high school builds American talent.* http://strongernation.luminafoundation.org/ .
[6] Kemple, J. J., & Snipes, J. C. (2000). *Career academies: Impacts on students' engagement and performance in high school.* New York, NY: MDRC. Kemple, J. J., & Willner, J. (2008). *Career academies: Long-term impacts on labor market outcomes, educational attainment, and transitions to adulthood.* New York: MDRC.
[7] Stone, J. R. III. (2017). Introduction to pathways to a productive adulthood: The role of CTE in the American high school. *Peabody Journal of Education.* http://dx.doi.org/10.1080/0161956X.2017.1302207. Aliaga, O. A., Kotamraju, P., & Stone, J. R., III. (2012, October). *A typology for understanding the career and technical education credit-taking experience of high school students.* Louisville, KY: National Research Center for Career and Technical Education, University of Louisville.
[8] U.S. Department of Education, Office of Career, Technical, and Adult Education (2021). *Introduction to Stackable Credentials.* Prepared by Center for Occupational Research and Development.

and business representatives.

SREB applauds the state's initiative to analyze, organize and promote credentials of value. This work is intended to remove the confusion that currently exists for students, families, educators and business representatives and provide clear roadmaps that communicate the connections between training opportunities, both secondary and postsecondary, resulting credentials and employment opportunities within the state. This focus on stackable credentials can be used as a communication tool that educates shareholders across the state, showcasing the unique opportunities for the citizens of South Carolina by level of training.

Figure 4: A Tiered and Visible System of Skill and Credential Attainment*
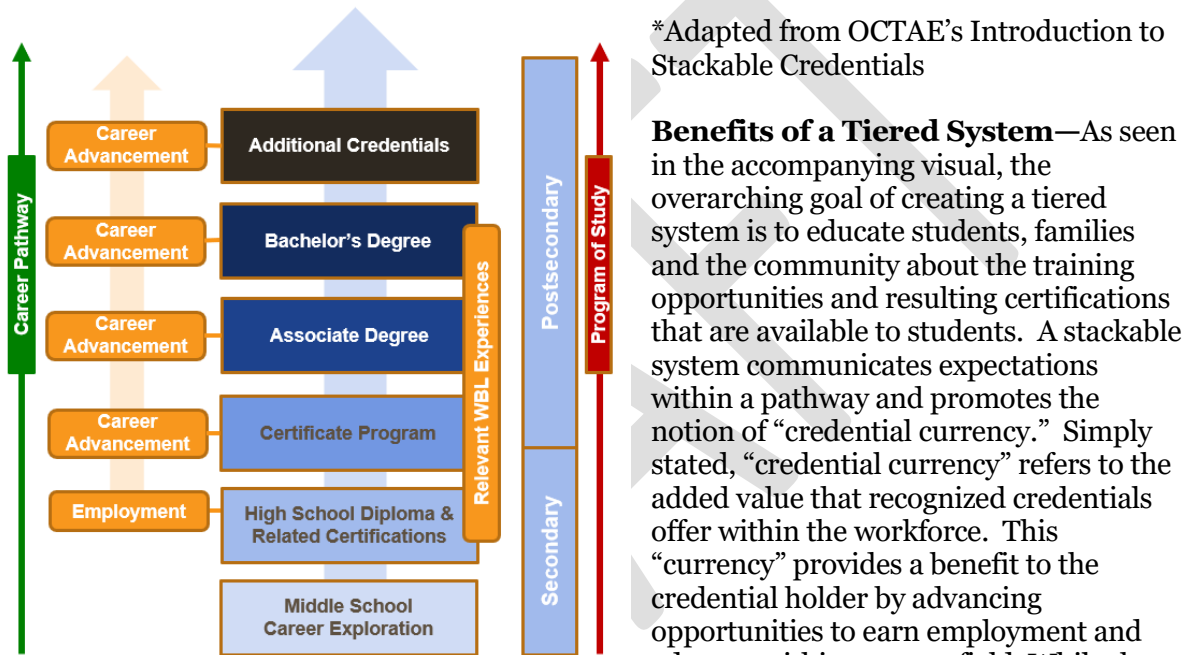
*Adapted from OCTAE's Introduction to Stackable Credentials

Benefits of a Tiered System—As seen in the accompanying visual, the overarching goal of creating a tiered system is to educate students, families and the community about the training opportunities and resulting certifications that are available to students. A stackable system communicates expectations within a pathway and promotes the notion of "credential currency." Simply stated, "credential currency" refers to the added value that recognized credentials offer within the workforce. This "currency" provides a benefit to the credential holder by advancing opportunities to earn employment and advance within a career field. While the idea of "credential currency" resonates with workforce and education leaders, the options for earning credentials vary, from state to state and within regions, and are unclear at best. Creating a stackable system will be an essential tool in supporting the future workforce to understand these credentials and prioritize their efforts to complete training programs.

According to 2019 research completed by Excel*in*Ed, most states do not have consistent definitions for what constitutes a "credential." Only 19 percent of the credentials earned by high school students are in demand with employers. Only 28 states collect data on student credential attainment at the secondary level; 10 states currently collect data at both the secondary and postsecondary levels. Of the states where data is available and analyzed, no state is highly aligned in terms of supply of credentials earned by high school students and the demand for those credentials in the job market. (https://excelined.org/2019/07/15/building-credential-currency-to-ensure-credentials-matter/)

This credential study shows the need to organize credentials so that more students and adults understand how to attain credentials and their related currency in the workplace. The proposed stackable system will launch efforts to connect high school and postsecondary

training opportunities with much needed credentials. It will also provide context to enhance existing collaboration efforts with business and industry. Excel*in*Ed found that many credentials were not explicitly requested in employer job listings, even though the credentials may be desired or even required for employment.

The stackable, or tiered, system will have many long-lasting benefits. First, the system will be used as a tool to communicate opportunities for skill development, connecting courses and programs to occupations within a pathway. Next, stackable visuals can be used to promote in-demand and priority sectors and occupations within the state, providing tools to support middle school career exploration to support the selection of high school programs of study. The visuals and tiers will directly benefit students, both K-12 and adult, by providing clear roadmaps to gain entry level employment and support advancement. Tiered credentials can showcase multiple entry and exit points for students, highlighting skills developed by course and opportunities for employment along the way, ultimately increasing the strength of the high school diploma and safeguarding career readiness.

The data collected through the development of a stackable credential provides a benefit to districts and employers. Stackable credentials allow districts to be nimble in meeting the needs of regional industry partners, identify opportunities to provide flexible learning plans and provide attainment data that validates course milestones as they apply to placement within the workforce. The stackable credential system, and discussions surrounding them, will allow employers to collaborate with districts and postsecondary leaders more effectively to close existing skills gaps and ensure that graduates are career ready. Credential progressions (stacks) will also assist employers to communicate skills that are needed to advance within the field.

Section 2: The Analysis Process

SREB launched efforts to analyze and review all existing credentials offered through South Carolina's Career and Technical Education System. CTE leaders provided SREB with the list of available certifications and proposed tier designations gathered from in-state discussions with district, postsecondary and industry representatives. The initial list provided in March of 2021 consisted of 465 credentials.

SREB started the analysis process by reviewing language, resources and credential tiering currently used in our SREB states and Making Schools Work partner states. SREB compared the proposed tier designations to those of other states, identifying where tier designations were similar and different. SREB used examples from other states and national organizations to justify the placement of credentials within the tiered system. This initial process was used to validate the proposed tier designations and propose edits needed within the system.

Through the review process, SREB paid close attention to the language and criteria used by other states and national organizations. These resources were used to draft a set of criteria to communicate the placement of credentials within each tier. The draft language was used within shareholder feedback sessions, allowing district CTE leaders, district and postsecondary leaders, teachers and business representatives opportunities to provide feedback and suggestions to strengthen the language.

After reviewing the proposed tier designations and drafting the proposed tier language, SREB

prepared and facilitated three shareholder feedback sessions to gather input and recommendations on the tiered list of credentials. The virtual shareholder feedback sessions were hosted in April of 2021 and organized to gather input from the following shareholder groups:

- Directors of CTE Programs
- Postsecondary Partners and Other Educators (including superintendents and other district leaders)
- Business and Industry Partners and the Education Oversight Committee

Each feedback session was scheduled for 90 minutes and structured in a way to provide participating shareholders opportunities to review the proposed tiering of credentials and provide both written and verbal feedback. While these sessions were intended to gather additional input, they also served as a critical communication component, providing context and background about the needed changes to the current system and providing opportunities to gather questions from shareholders.

Each of the feedback sessions was structured to expand understanding and refine communicated expectations within South Carolina's Proposed Tiered Credentialing System. Each session began with an overview of the importance of structured credentialing systems. Next SREB provided an overview of credentials frequently requested in current South Carolina job postings for the state's top industry sectors. JobsEQ data was analyzed to determine the most requested credentials for Business Services, IT Services, Health Care, Transportation, Logistics and Wholesale Trade, Construction and Architecture and Diversified Manufacturing. Participants were also provided with an overview of the (2019-2020) Top 25 Credentials Earned by SC high school students. These data points were used to describe the current opportunities and requests for the state, painting an early picture of supply (via student outcomes) and demand (via requests from job posting) data for the industry.

After reviewing the current state, participants engaged in discussions intended to build background knowledge about the need and organization of "stackable" credentials. SREB facilitators provided the USDOE formal definition of stackable credential and samples of vertical and horizontal stacks were provided. SREB also provided initial draft visuals for the top industry sectors. Participants were then provided examples of tiered credentials and language used by Ohio, Louisiana, and North Carolina. After reviewing the examples from other states, participants were asked to react to the state's draft tier language, identifying positives and proposing changes to the language to strengthen communication efforts. Participants were divided into breakout rooms (selecting one of the state's top industry sectors) and asked to determine credential designations using the proposed tier definitions. This breakout room activity engaged participants in the use of the language while supporting an active review of credentials from the state's list.

SREB used the gathered feedback to further refine the placement of credentials into the tiered system and strengthen the proposed tiering language.

The gathered feedback was used to further refine the placement of credentials into the tiered system and strengthen the proposed tiering language.

Section 3: Presentation of the Findings

The analysis and discussions (described above) resulted in the following three major findings.

1. **SC tier designations differ from those of other states and were not consistently ranked by shareholders (during feedback sessions).**

SREB's review of the proposed tier designation identified that many South Carolina tier designations are higher than those of other states. A sample of "inflated" tier designations has been provided in the table below. SREB's review of the full list of certifications has been provided in Appendix A.

Table 1: Examples of Tier Inflation

Primary Cluster Area(s)	CTE Certification	ID	Career Ready Designation	SC Initial Proposed Tier	Tier Designation of Other States
ALL	OSHA-10 General	63	Y	3	1
ART/IT	Adobe Certifications	All related certifications	Y	3	2
BUS	MOS: Microsoft Office Suite of Certifications	All MOS certifications	Y (for Expert Levels) N (otherwise)	3 (for Expert Levels) 2 (otherwise)	At most a level 2 and bundled with other certifications
STEM, HOSP, HUM	ServeSafe Food Handler	49	Y	3	At most a level 2
MAN	MSSC: CPT Certifications	236, 237, 238 and 239	Y	3	2
TRA	Snap-on/NC3 Certifications	241, 243, 244,245	Y	3	2
HLTH, HUM, EDU	First Aid	418	N	2	1

In addition to the observed ranking/tiering differences, feedback session participants provided varied responses when asked to identify tier designations for the state's top industry sectors. In some cases, participants selected the "I am unfamiliar with this certification" option, highlighting the need to provide additional opportunities for shareholders to be engaged in the review of the available certifications.

2. Significant gaps exist between the credentials requested within job postings and those earned by high school students.

SREB analyzed the high growth occupations for the state's top industry sectors using JobsEQ analytics. Results were based on the most recent job postings (Quarter 3 of 2020), focusing on occupations that met the state's threshold for a living wage ($11.26/hour). SREB then analyzed occupational reports for the sectors, identifying the most requested credentials for each sector. The table below provides a sample of the certification gap data for occupations within the health careers sector. From the list below, the certifications in **bold font** represent those currently available to high school students. The occupational gap summaries for the other top industry sectors have been provided in Appendix C.

Table 2: High-Value (Most Requested) Credentials for the Health Career Sector

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Basic Life Support (BLS)	**2,166**	**2,323**
Registered Nurse (RN)	**1,707**	**1,801**
Certification in Cardiopulmonary Resuscitation (CPR)	**1,438**	**1,575**
Certified Nursing Assistant (CNA)	**1,328**	**1,026**
Licensed Practical Nurse (LPN)	**702**	**759**
Advanced Cardiac Life Support Certification (ACLS)	**626**	**756**
First Aid Certification	**154**	**210**
National Phlebotomy Association Certified Phlebotomist	**175**	**133**
Certified Dental Assistant (CDA)	**140**	**128**
Nationally Certified Medical Assistant (NCMA)	33	113

SREB analyzed data on the number of certifications attempted and earned by SC high school students. Table 4 (below) provides the list of 2019-2020 Certifications Earned for the Health Careers Cluster, with the numbers in parentheses representing the number of certifications earned for each. As we compare Tables 3 and 4, it is evident that SC students are attempting and earning certifications; however, those certifications are not aligning with those requested by industry.

Table 4: 2019-2020 Certifications Earned within the Health Careers Cluster

Biotechnician Assistant Credentialing Exam (BACE) **(4)**	Emergency Medical Technician **(19)**	Heat Illness Prevention **(391)**	Phlebotomist **(8)**
Certified Clinical Medical Assistant **(7)**	First Aid/CPR/AED* **(2,310)**	National Health Science Assessment **(336)**	Sports Nutrition **(14)**
Certified Medical Administrative Assistant **(12)**	First Responder **(200)**	OSHA 10– Healthcare – Online Modules **(1,095)**	Sudden Cardiac Arrest **(72)**
Certified Nurse Aide **(225)**	Heads Up: Concussion in Youth Sports **(279)**	Paid Feeding Assistants **(31)**	
Certified Patient Care Technician (CPCT) **(17)**	Healthcare Providers Basic Life Support (BLS) **(2,649)**	Pharmacy Technician **(18)**	

3. **The state has opportunities to align the efforts of districts, postsecondary institutions and industry to strengthen workforce development efforts.**

As a result of the feedback sessions, SREB provided opportunities for shareholders to engage in the design of the pathway and stackable credential visuals for the top industry sectors. SREB designed "Builder's Sessions" for each of the top industry sectors and invited secondary and postsecondary shareholders. Through this process, participants were asked to provide the recommended sequence or "stacks" for available credentials. Secondary "stacks" were created for programs within each cluster, highlighting attainable certifications by course. However, postsecondary program visual components were more challenging, with many naming attained degrees without identifying related certifications. Appendix B (attached as PDFs) provide a foundation for visuals that can be developed to show the alignment among education and training programs, related credentials and occupations.

As SREB compared the CTE enrollment data provided by the state and the number of postsecondary awards summarized by JobsEQ, gaps are noticed highlighting the opportunities to enhance transition efforts and share data to support workforce development. SREB provided a summary of "supply data" for each of the top industry sectors. This "supply data" refers to the number of secondary and postsecondary students who were engaged related programs, highlighting the expected number of future workers within that industry's talent development pipeline.

Table 5: Overview of Supply Data for the Health Careers Cluster

Secondary High School Health Cluster Enrollment*	32,046
Two-Year Awards	4,122
Four-Year Awards	3,033

*Secondary Enrollment Numbers were provided for 2019-2020.
**Postsecondary Awards were pulled from JobsEQ Reports, representing data from 2018-2019.

Supply Data Overviews were provided for each of the top industry sectors and can be found in Appendix D.

Section 4: Recommendations and Next Steps

When starting this study, there were 465 credentials on the state's approved list. Since that time, state CTE leaders and shareholders have reviewed and modified the list, adding approximately 40 certifications and deleting 39. Appendix A provides a summary of the most current list, organized by career cluster area. The recommendations that follow are intended to provide leaders key points to consider that will advance the importance of credentials and strengthen workforce development options.

RECOMMENDATION #1—Collaborate with Shareholders to Refine and Adopt the Proposed System of Tiered (Stackable) Credentials

SREB applauds state leaders for seeing the need to advance the importance of credential attainment and supporting this study. Through this study, SREB has provided recommendations for tier designations (see Appendix A) and draft language that can be used to determine a certification's tier status (below).

During the feedback sessions, SREB provided examples of tier designations and language from Ohio, Louisiana and North Carolina. Feedback session participants responded positively to the structure communicated in Ohio's system, using a point structure to provide both flexibility and safeguard career readiness.

Ohio Industry Recognized Credentials Key Points

While Ohio does not use a three-tiered system, the state does assign a point value to all available CTE credentials. The Ohio model requires that students earn a minimum of 12 points within a single career field to meet state graduation requirements. The state has developed a structured review process that results in the assignment of point values to each certificate. Point values are determined through industry feedback survey results, committee member recommendations and the overall industry demand for the credential. Credential point values range between 1 and 12. Ohio has set a goal for students to exit high school with a coherent bundle of credentials that leads to meaningful employment and postsecondary options.

A sample of point designations has been provided below:

- 1—CPR First Aid, OSHA 10, Forklift Operation, Google Analytics, 3M Protection Certificates, Forklift Operation, HAZWOPER Awareness Level Certification
- 2—Certified Secure Computer User, Certified Medical Administrative Specialist
- 3—Microsoft Office Suite Certifications, Lean Six Sigma Yellow Belt, Certified Personal Trainer, Leadership Excellence -Student
- 4—Adobe Suite Certifications, Elder Care Certificate, Certified Solid Works Associate
- 6—CompTIA Certifications, RISE Up Certifications, NCCER Level 1 Certifications, AutoCAD Professional
- 9—Certified Network Defender
- 12—Microsoft Certified Solutions Associate/Expert Certifications, Lean Six Sigma Black Belt, NCCER Level 2 Certifications, AMCA Certifications, AMT Medical Assistant, AWS Certified Welder

While the Ohio system provides great flexibility for students to meaningfully earn (and stack) credentials within a career cluster area, SREB feels that the launch of a 12-point system would be overwhelming and undermine the initial success of the state's tiered system.

According to the state's Accountability Manual, students are deemed "career-ready" if they meet one or more of the following criteria:
- Is a CTE completer and earns a national industry credential or a state industry credential as determined by the business community (https://ed.sc.gov/instruction/career-and-technicaleducation/programs-and-courses/cate-programs/2020-21-cte-career-ready-certifications/); or
- Earns a Silver, Gold or Platinum National Career Readiness Certificate on the WorkKeys exam or Silver, Gold or Platinum Credential on the WIN Ready to Work Career Assessment; or
- Earns a scale score of 31 or higher on the ASVAB; or
- Successfully completes a state-approved work-based learning exit evaluation from an employer.

The structure of the proposed tiered credential system will enhance the focus on career readiness for students meeting the first criteria (described above). The system is intended to support students to progress through and complete CTE programs, earning high-value credentials along the way. SREB recommends the SCDOE adopt a three-tiered system of credentials. To achieve career ready status a student must earn a minimum of three points. They would receive one point for Tier 1 credentials, two points for Tier 2 credentials, and three points for Tier 3 credentials. This point structure is a simplified version of that used by Ohio, allowing for flexibility and a focus on career readiness.

To support the tier designations, SREB has drafted potential criteria for each tier. The language below was created using collected language from other states and the input provided during the SC feedback sessions.

Tier III (3 Points)—Career Ready
1. There is transparent evidence the competencies held by the credential holder align with the anticipated job opportunities.
2. The credential is required for employment or advanced training.
3. The outcomes for credential holders are wage gains, promotion, or retention. (Family sustaining wage for South Carolina)
4. The credential leads to additional education and training. (Stackable)
5. The credential is granted to those that complete a training program, and related assessments are administered by a third party with no connection to the test-taker.

Tier II (2 Points) –Intermediate
1. The credential is aligned with industry-recognized standards.
2. The credential is endorsed by a national industry or trade association or a major employer in the state.
3. The credential holder is given job consideration.
4. The credential leads to improved social outcomes such as improved health and well-being.

Tier I (1 Point)—Introductory
1. The credential measures basic skills.
2. The credential is recognized by local/regional industries.
3. The credential can be obtained in the early stages (first or second course) of a program of study.

RECOMMENDATION #2—Provide a System to Support Shareholder Engagement for All Career Cluster Areas

Through this study, SREB completed the analysis of the list of certifications and proposed tier designations, comparing language, tiers and designations from other states and national groups. While SREB has been emerged in this work, South Carolina shareholders only had the opportunity to review the certifications for the top industry sectors in the state. These feedback sessions served two purposes: 1.) to communicate the need and purpose of a tiered system and 2.) to gather initial perception data and feedback on proposed tier designations. Feedback session participants engaged in the review process, discussing the available certifications and identifying gaps with those requested for employment. While these sessions launched this important work, they did not address all Career Cluster Areas (due to time limitations). The table below captures the number of feedback responses by industry sector.

Table 6: Summary of Feedback Responses by Group and Event

Industry Sector	Number of Responses from CTE Directors (4-26-2021)	Number of Responses from District and Postsecondary Leaders (4-28-2021)	Number of Responses from Industry and EOC (4-30-2021)	Number of Responses from CTE Instructors
Business Services	10	8	2	4
Diversified Manufacturing	11	4	1	2
Health Careers	14	8	3	46
IT Services	6	6	5	0
Transportation, Logistics and Wholesale Trade	9	5	1	3
Architecture and Construction	8	6	4	2

The number of participants for these initial sessions provided a starting point, but additional activities will be needed to educate shareholders on the vision for this work and the benefits to students, districts/institutions and industry within the 2021-2022 (transition year).

Step 1: Establish virtual sessions, based on the previously provided feedback sessions (April of 2021) to educate shareholders on the tier designation, language and process. Consider using established state and regional events to support in-person discussions and meaningfully schedule virtual sessions (by region) to provide all shareholders with opportunities to review the expected outcomes, tier designations and language. Structure these meetings to establish the need for the new system, share trend data on the number of students attempting and earning certifications and provide overviews of occupational needs (demands) and certification gaps. Ensure that these regional meetings (both in-person and virtual) provide opportunities for shareholders to engage with the certification list and proposed tiered language, using Google Forms or similar collection tool. Use the results to further validate and edit the state's list, modifying tier designations and removing credentials as needed.

Step 2: Due to time limitations, deeper analysis was completed on the state's top industry sectors. The state will now need to determine a structure and timeline that provides the same level of analysis for all other career cluster areas. These sessions can be structured like the "Builders' Sessions" that were held in May of 2021 and can be used to support visuals and resources to communicate the opportunities to earn certifications for each sector. The state will want to promote these events across all shareholder groups, especially seeking participation from postsecondary and business representatives to enhance transition efforts. SREB suggests focusing on five to six career cluster areas within the current school year (2021-2022) and addressing the remaining career cluster areas through summer conferences or sessions.

Step 3: Work with regions or clusters to expand the draft visuals that were created through

this study. While the draft visuals showcase high school programs of study, the communication of postsecondary opportunities is limited. Many of the two- and four-year programs provided information about degrees earned, without highlighting related certifications. As this tiered system moves forward, the state will want to partner with regions to create communication resources (visuals, brochures, etc.) that can be used with students, adults and families. A regional approach for the development of these sample resource will make the development more meaningful and provide an opportunity to engage business and industry representatives in the process. At a minimum, the "stackable" visuals should communicate the alignment between program courses, certifications earned and opportunities for employment, highlighting employment opportunities by training level beyond high school. Training levels are commonly designated as 1, 2, 4 or more, designating the variety of postsecondary training options available after high school graduation.

1, 2, 4 or More Training Level Summary

1—Available training that requires one year or less, including on the job training offered by industry, short courses and one year certification programs offered through technical colleges or other postsecondary institutions.
2—Training that typically requires up to two years for completion, including both certificate and associates degree programs.
4—Training that requires up to four years for completion, typically four-year degree programs offered within a university setting.
More—Advanced training that builds upon those previously stated, including course work that supports the attainment of masters or doctoral degrees.

RECOMMENDATION #3—Strengthen the Certification Screening and Approval Process to Ensure Alignment with Labor Market Demands

As highlighted in the second finding (above), **there are significant gaps between the credentials requested within job postings and those earned by high school students.** This gap provides a unique opportunity for the state of South Carolina to use this study and lessons learned from other states to revise the screening and approval process. The goal of these revisions is to safeguard the number and type of certifications that are available to SC high school students, providing opportunities to remove certifications that do not have high value (or credential currency) and prioritize efforts to ensure that earned certifications accelerate opportunities for students to gain initial employment and advance within the workforce.

SREB reviewed the processes used by other states and has provided potential steps for an updated approval process below.

Step 1: – Initial Screening by SC DOE
SCDOE staff should apply the following three questions to determine whether a credential, licensure or exam is eligible for further review by internal and external shareholders. These questions are intended as a "first cut" for a minimum threshold of eligibility.

1. Does the third-party developer of the credential, licensure or certification exam provide a detailed exam blueprint that shows how the credential aligns with state and/or national academic, technical and workplace standards?

2. Is the credential, licensure, or certification exam an appropriate end-of-program assessment for a high school student who has completed a three- to four-course career pathway program of study? An appropriate Tier 3 assessment is one that a student could pass only after mastering the academic (literacy and math), occupational and employability skills taught in three, four or more related CTAE courses. Can a student pass the assessment after completing only one or two courses in the program of study?

3. Does the credential, licensure or certification exam have a credible link to postsecondary certificate, credential and degree programs offered by state and regional two- and four-year institutions, apprenticeships or similar learn-and-earn programs offered by employers in the state?

In the future, to be eligible for full review by an independent industry council or review board, all credentials, licensures, and certification exams that pass the initial screening described in Step 1 should be further screened by SCDOE using the checklist of essential criteria below. Critically, third-party industry credentialing bodies must be willing to provide detailed blueprints and additional information about their exams. Per the first question in the initial screening list, **any exam for which detailed blueprints and additional information are not provided should not be reviewed.**

Essential Criteria Checklist. Credentials, licensures and certification exams must meet the 10 items on this checklist to be considered for external review. Credentials must:

- ☑ be standardized
- ☑ be available and recognized nationally
- ☑ follow appropriate psychometric and test development procedures
- ☑ provide cut scores
- ☑ be independently graded
- ☑ assess candidates' academic (literacy and math), occupational and employability skills at a level appropriate with the requirements of entry-level or higher jobs in the field
- ☑ be regularly reviewed and updated to ensure high quality
- ☑ provide results to the candidate and the state in a secure and timely manner
- ☑ protect candidates' identities
- ☑ offer accommodations for individuals with physical and learning disabilities

Step 2:   Screening by South Carolina Department of Commerce
After the initial screening by SC DOE, if the answer is "yes" to the three above mentioned questions, the credential should be screened by the South Carolina Department of Commerce. SCDOC should ask, "does the credential, licensure, or certification exam have a credible link to high-demand industries and high-wage jobs that pay a self-sustaining wage? Labor market economists at the Georgetown University Center on Education and the Workforce define a self-sustaining wage as $35,000 or $17 per hour for a full-time job for individuals under age

45 and $45,000 or $22 per hour for individuals aged 45 or over.[9] Analyses of Bureau of Labor Statistics data conducted by the National Skills Coalition found that the median annual wage in the South is $35,904 — about $1,900 less than the national median of $37,799.[10]

SREB encourages SCDOE and SCDOC to set a goal that all career pathways will ultimately lead to jobs paying a self-sustaining wage as defined by the state — whether students are able to obtain such jobs immediately after graduation, after several years of work experience or after securing the next credential or degree in their pathways.

Step 3: Review by Industry Representatives
Once SCDOC has determined the credential have a credible link to high-demand industries and high-wage jobs, it is time for an external review by industry representatives. The initial questions to be asked of the industry are:

1. Would you or your company offer an interview or hiring preference to a candidate who held this credential, licensure or certification? (Yes/No)
2. Does the credential, licensure or certification exam help an employee advance in your industry? (Yes/No)
3. Can the credential, licensure, or certification exam potentially be offered as part of a system of stackable credentials? (Yes/No)

If the answer is yes to all three questions, industry should help the department in determining how the credentials are tiered, providing opportunities to strengthen the understanding of the tiered system and further support expectations for Career Readiness.

RECOMMENDATION #4—Engage Shareholders in an Annual Review of the Tiered System

To support the continuous improvement of the new tiered system, SREB strongly recommends revisiting the annual shareholder review of the provided certifications. As the state works to refine the review process, SREB would like to suggest the following:

- **Provide Trend Attainment Data for Each Certification**—As seen in Appendix A, the state already collects data on the number of students attempting and earning each certification. Appendix A provides a summary of the trends for each certification. Focus the use of this data to support two outcomes: 1.) use the data to remove certifications with limited participation and 2.) analyze the data to determine oversupply situations, where more students are earning certification than there is demand for them. While the state's list provides great flexibility, it is also one of the largest lists of certifications in our SREB region. The certification data should be used with shareholders to identify the number of students holding each certification and the opportunities to use those certifications in the career field.
- **Actively Review Blueprints and Resources Associated with New Certifications**—Upon reviewing the state's list, there are many new certifications that have been adopted in recent years; however, there has been limited engagement with business and industry to understand these certifications or identify how these certifications can be used to gain employment. The state will need to consider a

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[9] Carnevale, A. P., Strohl, J., Cheah, B., and Ridley, N. (2017). *Good jobs that pay without a BA*. Washington, DC: Georgetown University Center on Education and the Workforce.
[10] National Skills Coalition, 2018.

structure to engage business leaders in this review so that these certifications are requested in future job postings.

- **Provide Skill and Certification Gap Information**—As seen in Table 2: High-Value (Most Requested) Credentials for the Health Career Sector, there are certification gaps that can be seen in recent job postings. Use these occupational reports to engage both educators and business leaders to identify actions needed to overcome current credential shortages.

The components listed above are intended to have multiple outcomes, including:

- The refinement and simplification of the state's list, safeguarding industry valued credentials and focusing district efforts to provide certifications that matter.
- An expanded understanding of valued certifications by educators, supporting the promotion of both high school and postsecondary certification to students.
- An overview of new certifications for business and industry leaders, resulting in the requests for these certifications in future job postings.

RECOMMENDATION #5—Expand Cross-Agency Collaboration Efforts to Address Workforce Priorities

For a considerable time now, state agencies have worked to develop data systems. They have done so for reasons that vary from a genuine desire to know more about the talent pipeline to meeting federal requirements set forth in state accountability plans. In some states, however, this work took place within individual state agencies. The sharing of data between agencies to identify and pursue key issues to improve and enhance education and the workforce often does not occur. Additionally, data in education and workforce are collected and utilized differently inhibiting a state from moving education and workforce forward.

SREB believes that South Carolina would benefit from the creation and use of a cross-agency team focused on addressing education and workforce alignment. This study highlights the need for advances in data sharing and collaboration across all related agencies. SREB encourages the state to initiate efforts to select a focused team of agency leaders and data managers that include representatives from K-12, CTE, Postsecondary, Workforce, WIOA, Commerce and Policy Makers. The composition of this team aligns with the state's recommended members for the Education and Economic Development Coordinating Council, described in the state's Education and Economic Development Act.

SREB will be launching efforts to support all member states with the initial review of data systems and will provide opportunities for representatives to analyze available data related to top industry sectors for the state. SREB will host a series of face-to-face and virtual meetings to engage the cross-agency team and support focused collaboration that targets workforce needs. This is a unique opportunity for the state.

SREB encourages state leaders to support the efforts of this cross-agency team over the next six months and is hopeful that the state of South Carolina will agree to participate in future activities with an expanded team that can result in the design of data sharing policies and resources for future use.

Conclusion:

As the state moves forward to support the Tiered Credential System, SREB encourages state leaders to frequently monitor and evaluate the system's impact on the workforce. At a minimum, provide opportunities for shareholders to engage in the review of supply and demand data so that priorities can be established that increase the number of workers who are employed in high-wage and high-demand occupations. Supply data (those being earned by high school students) is readily available and should be compared with demand data (those requested in South Carolina job postings). SREB believes that the recommendations and work associated with this study will support the state to strengthen workforce development efforts and spark new opportunities for agencies to collaborate to enhance the economic vitality of the state.

Appendix A—South Carolina's List of Secondary Certifications by Tier

SREB's review of the full list of certifications has been provided as an attached excel file, referred to as Appendix A. This Excel file provides a summary of the most recent list of secondary certifications organized by Career Cluster area. Each tab provides a list of CTE certifications (Column F) that are currently available to high school students with proposed tier designation (columns G through I) and career readiness (CR) status (Column L) for each. In addition to the list of certifications, trend data has been provided that highlights the number of certifications attempted and passed from 2018-2021 (represented in Columns M through T).

Columns U and V provide 2019-2020 and 2020-2021 student enrollment data for each cluster.

SREB encourages the state to engage shareholders in the review of all certifications by Career Cluster Area. To support discussion and needed edits to the tier system, SREB has provided suggested edits to tier placement in Column J. Whenever possible, SREB has provided suggested tier edits based on designations by other states. In some cases, the suggested tier edit is designated with "B," representing the need to meaningfully bundle the certification with others to support Career Readiness. The B designates the need to "deflate" the proposed score to support high expectations for students and safeguard Tier 3 credentials, communicating that Tier 3 credentials have high value in the workplace.

The Career Cluster Tab for Manufacturing has been provided below as an example.

	Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
2	MAN					Manufacturing CLUSTER Enrollment															6,520	6,021
3	MAN				07	AWS			3		Yes	CR	248	213	273	234	127	94	287	257		
4	MAN				171	Certified Production Technician			3		No	CR										
5	MAN				345	CTECS: Welding Technology		2			No	NCR							90	47		
6	MAN				10	Electronics Technician			3		Yes	CR	11	11	4	4	14	1	8	3		
7	MAN				235	LEAN (Six Sigma) Manufacturing Certification			3	2	Yes	CR			62	62	41	41	29	29		
8	MAN				419	MSSC: Certified Logistics Technician			3		No	CR										
9	MAN				236	MSSC: CPT Maintenance Awareness			3	2	Yes	CR			11	9						
10	MAN				237	MSSC: CPT Manufacturing Processes and Production			3	2	Yes	CR			13	8						
11	MAN				238	MSSC: CPT Quality Practices			3	2	Yes	CR			24	19	9	9	10	4		
12	MAN				239	MSSC: CPT Safety			3	2	Yes	CR			51	48	11	11	30	12		
13	MAN				28	NCCER – Mechatronics--Deleted			3		Yes	CR	52	51	36	36	33	33	33	33		
14	MAN				31	NCCER – Welding Technology			3		Yes	CR	58	56	54	54	20	20	26	26		
15	MAN				33	NIMS			3		Yes	CR	114	114	83	82	44	43	123	112		
16	MAN				255	S/P2 – Welding Safety and Pollution		2		1	No	NCR							65	64		
17	MAN				172	Siemens Mechatronics Systems Certification			3		No	CR										

Appendix B—Sample Secondary "Stackable" Visuals

The Sample Secondary "Stackable" Visuals (Brochures) have been provided in PDF format. Samples have been provided for Business Services and Health Careers.

Appendix C—Occupational Gap Summaries for South Carolina's Top Industry Sectors

The tables provided in this appendix provide a sample of the certification gap data for occupations within each of the state's top industry sectors. The Certification Gap Summaries were created using JobsEQ reports for the state of South Carolina. SREB researchers identified occupational codes for each of the top industry sectors and analyzed the certification trends for each. These Certification Gap Summaries are based on labor market data from the fourth quarter of 2020. The certifications in **bold font** represent those currently available to high school students. The summaries below were used in the Shareholder Feedback Sessions that were provided on April 26, 28 and 30, 2021.

High-Value (Most Requested) Credentials for the Business Services Sector

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Secret Clearance	288	199
Professional in Human Resources (PHR)	96	136
Certification in Cardiopulmonary Resuscitation (CPR)	173	94
Project Management Professional (PMP)	93	81
Certified Public Accountant (CPA)	41	57
Society for Human Resource Management Certified Professional (SHRM-CP)	33	55
First Aid Certification	90	51
Notary Public	31	43
Certified Professional Coder (CPC)	15	33
Class A Commercial Driver's License (CDL-A)	11	24

High-Value (Most Requested) Credentials for the IT Services Sector

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Secret Clearance	231	155
Cisco Certified Network Associate (CCNA)	129	149
Project Management Professional (PMP)	33	49
Cisco Certified Network Professional (CCNP)	30	49
Microsoft Certified Solutions Expert (MCSE)	26	45
Microsoft Certified Solutions Associate (MCSA)	19	24
Certified ScrumMaster (CSM)	9	24
Systems Security Certified Practitioner (SSCP)	45	19

	Number of Candidates	Number of Postings
Microsoft Certified Professional (MCP)	11	18
GIAC Security Essentials Certification (GSEC)	19	17

High-Value (Most Requested) Credentials for the
Health Career Sector

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Basic Life Support (BLS)	2,166	2,323
Registered Nurse (RN)	1,707	1,801
Certification in Cardiopulmonary Resuscitation (CPR)	1,438	1,575
Certified Nursing Assistant (CNA)	1,328	1,026
Licensed Practical Nurse (LPN)	702	759
Advanced Cardiac Life Support Certification (ACLS)	626	756
First Aid Certification	154	210
National Phlebotomy Association Certified Phlebotomist	175	133
Certified Dental Assistant (CDA)	140	128
Nationally Certified Medical Assistant (NCMA)	33	113

High-Value (Most Requested) Credentials for the
Transportation, Logistics and Wholesale Trade Sector

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Class A Commercial Driver's License (CDL-A)	1,100	1,170
Commercial Driver's License (CDL)	637	546
Forklift Certified	293	289
HAZMAT	204	177
Class B Commercial Driver's License (CDL-B)	131	150
Transportation Worker Identification Credential (TWIC)	63	111
Certification in Cardiopulmonary Resuscitation (CPR)	128	107
First Aid Certification	101	104
Automotive Service Excellence (ASE) Certification	94	73
DOT Medical Card	53	59

**High-Value (Most Requested) Credentials for the
Construction and Architecture Sector**

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Commercial Driver's License (CDL)	**205**	**260**
OSHA 10	**149**	**167**
Engineer in Training (EIT)	**67**	**71**
Class B Commercial Driver's License (CDL-B)	**26**	**43**
EPA Section 608 Certification (EPA 608)	**33**	**40**
OSHA 30	**53**	**39**
First Aid Certification	**52**	**39**
Certification in Cardiopulmonary Resuscitation (CPR)	**58**	**36**
EPA Universal Certification	**20**	**32**
Project Management Professional (PMP)	**31**	**19**

**High-Value (Most Requested) Credentials for the
Diversified Manufacturing Sector**

High-Value (Most Requested) Credentials	Number of Candidates	Number of Postings
Commercial Driver's License (CDL)	**47**	**71**
Certified Welder	**54**	**68**
Forklift Certified	**92**	**63**
EPA Section 608 Certification (EPA 608)	**50**	**57**
Secret Clearance	**86**	**55**
First Aid Certification	**27**	**53**
EPA Universal Certification	**26**	**40**
Industrial Electronics Certification (IND)	**28**	**40**
OSHA 10	**15**	**26**
Certified Welding Inspector (CWI)	**14**	**20**

Additional data can be viewed by accessing the artifacts from each of the Shareholder Feedback Sessions. The links below provide access to the Action Agenda and all related artifacts for each session.

- Feedback Session for CTE Directors (4-26-2021) Action Agenda:
  https://tinyurl.com/SREB-SC-4-26
- Feedback Session for District and Postsecondary Leaders (4-28-2021) Action Agenda:
  https://tinyurl.com/SREB-SC-4-28
- Feedback Session for Industry and EOC Representatives (4-30-2011) Action Agenda:
  https://tinyurl.com/SREB-SC-4-30

Appendix D—Supply Data Overviews

Within this study, SREB researchers focused efforts to provide an overview of both supply and demand data for the state's top industry sectors. During the Builders' Sessions that were hosted in May of 2021, shareholders had opportunities to review the top ten high growth occupations and requested credentials by level of training for each industry sector. The top growth occupations represent the "demand" for workers for each sector. The provided "demand" data was created from JobsEQ reports for related occupations within each sector.

Next participants were provided with "supply" data, representing the number of students enrolled in secondary programs of study and the number of awards provided by two- and four-year institutions for the cluster area. The "supply" data poses an opportunity for the state to enhance discussions and collaborative efforts to strengthen the alignment between available training programs, related certifications and employment opportunities. The table below provides K-12 Enrollment Numbers from 2019-2020 and postsecondary awards from related JobsEQ Occupational Reports, representing data from 2018-2019.

Overview of Supply Data by Industry Sector

Industry Sector	K-12 Enrollment	Two-Year Awards	Four-Year Awards
Business Services	28,946	1,415	5,779
IT Services	43,337	497	1,012
Health Care	32,046	4,122	3,033
Transportation, Logistics and Distribution	5,884	1,695	2,854
Construction and Architecture	5,855	1,807	3,824
Diversified Manufacturing	6,520	2,872	149

Additional data can be viewed by accessing the artifacts from each of the six "builders' sessions." The links below provide access to the Action Agenda and all related artifacts.

- Business Services Action Agenda (5-19-2021): https://tinyurl.com/SREB-SC-Business
- It Services Action Agenda (5-19-2021): https://tinyurl.com/SREB-SC-IT
- Health Careers Action Agenda (5-20-2021): https://tinyurl.com/SREB-SC-Health
- Transportation, Logistics and Wholesale Trade Action Agenda (5-20-2021): https://tinyurl.com/SREB-SC-Transportation
- Construction and Architecture Action Agenda (5-21-2021): https://tinyurl.com/SREB-SC-Construction
- Diversified Manufacturing Action Agenda (5-21-2021): https://tinyurl.com/SREB-SC-Manufacturing

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY18	Certs Admin FY19	Certs Passed FY19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
GOV				350	Precision Exams: Leadership Principles II		2			N/A	NCR							0	0	Not Provided	21
HOSP					**Hospitality and Tourism CLUSTER Enrollment**															7,613	6,799
HOSP				09	Academy of Hospitality and Tourism		2			No	NCR					1	1				
HOSP				269	Certified Culinarian® (CC®)			3		Yes	CR										
HOSP				A9	Certified Fundamentals Cook® (CFC®)			3		Yes	CR										
HOSP				426	Certified Fundamentals Pastry Cook™ (CFPC™)			3		Yes	CR							1	1		
HOSP				210	Certified Guest Service Professional			3		No	**CR**			7	7						
HOSP				A61	Certified Guestroom Attendant			3		No	**CR**	1	1								
HOSP				271	Certified Hospitality & Tourism Management Professional (CHTMP)			3		Yes	CR										
HOSP				A63	Certified Maintenance Employee (HSC)			3		No	**CR**										
HOSP				270	Certified Pastry Culinarian® (CPC®)			3		Yes	CR										
HOSP				A62	Certified Restaurant Server			3		No	**CR**										
HOSP				A49	Cooking and Baking			3		Yes	CR										
HOSP				339	CTECS: Baking and Pastry		2			No	NCR							1	1		
HOSP				69	Culinary Arts Assessment/Certification			3		No	**CR**	55	37	43	33	**6**	**6**				
HOSP				43	Front Desk Representative (HSC)			3		No	**CR**										
HOSP				208	Guest Service Gold® Golden Opportunities (2015)			3		Yes	CR										
HOSP				207	Guest Service Gold® Making Connections			3		Yes	CR										
HOSP				209	Guest Service Gold®: Tourism (2018)			3		Yes	CR										
HOSP				415	Precision Exams: Event Planning & Management		2			No	NCR										
HOSP				416	Precision Exams: Lodging & Recreation		2			No	NCR										
HOSP				417	Precision Exams: Travel & Tourism		2			No	NCR										
HOSP				37	ProStart			3		Yes	CR	279	215	200	152	100	74	131	121		
HOSP				A71	S/P2 – Culinary Arts		2			No	NCR	5	5	32	32	3	3	26	26		
HOSP				A8	Secondary Culinary Graduate			3		No	**CR**							1	**1**		
HOSP				49	ServSafe® Food Handler			3	2	Yes	CR	1021	950	1566	1461	1228	1136	1,710	16,222		
	HUM			49										70	67	50	45	132	127		
		EDU		49														9	9		
			STEM	49														22	22		
HOSP		STEM		A15	ServSafe® Manager			3		Yes	CR	196	144	248	206	113	96	239	191		
	HUM													3	3	1	1				
HOSP				A14	Skills, Tasks, and Results Training (START) Certification			3		Yes	CR	2	1								
HOSP				426	Certified Fundamentals Pastry Cook (CFPC)-Added March 2021			3													
HOSP				447	American Meat Science Association (AMSA) Culinary Meat Selections & Cookery Certification-Added March 2021			3													

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY18	Certs Admin FY19	Certs Passed FY19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
HUM					Human Services/Family and Consumer Sciences CLUSTER Enrollment															12,673	13,008
HUM				204	Barber Assistant			3	2	No	CR			9	9						
HUM				66	Broad Field Family and Consumer Sciences Assessment/Certification			3		Yes	CR							6	4		
HUM				71	Family and Community Services Assessment/Certification		2			No	NCR	4	2	3	1						
HUM	HOS	STEM		360	HACCP (Hazard Analysis Critical Control Point) 4-Hour Certification			3		No	CR										
HUM				74	Nutrition, Food, and Wellness Assessment/Certification			3		Yes	CR			10	10						
HUM				68	Personal and Family Finance Assessment/Certification			3		No	CR			2	2						
HUM				205	Registered Barber Apprentice			3		No	CR										
HUM				A72	S/P2 – Cosmetology		2			No	NCR	21	21	65	65	30	30	19	19		
HUM				39	South Carolina Cosmetology License			3		Yes	CR	427	383	444	371	34	34	276	259		
HUM				A28	South Carolina Esthetician			3		Yes	CR	5	5	18	18			25	24		
HUM				A27	South Carolina Hair Braiding Registration			3		Yes	CR	7	7	45	45	21	21	67	67		
HUM				A42	South Carolina Master Hair Care License			3		Yes	CR	7	7								
HUM				55	South Carolina Nail Technician License			3		Yes	CR	81	63	71	57	5	5	35	35		
HUM				A26	South Carolina Registered Barber License			3		Yes	CR	3	2	10	6			4	1		
HUM	HOS	STEM		361	Food Safety Manager Training and Certification			3		No	CR										
HUM				448	Barbicide Certification--Added March 2021		2														
HUM				449	Lucas-Cide Certification--Added March 2021		2														
IT					Information Technology CLUSTER Enrollment															43,337	58,078
IT				02	Academy of Info. Technology			3	2	No	CR										
IT				160	ACE – Web Communications with Animate CC			3		No	CR					14	14	4	3		
IT				03	ARI – Industry Competency Exams (ICE)			3		No	CR										
IT				278	Associate of Information Security Certification (ISC)²			3		Yes	CR										
IT				A54	Autodesk User Certification for Maya			3		Yes	CR			49	39						
IT				273	CASP: CompTIA Advanced Security Practitioner			3		Yes	CR										
IT				291	CCSK: Certificate of Cloud Security Knowledge			3		Yes	CR										
IT				280	CCSLP: Certified Secure Software Lifecycle Professional			3		Yes	CR										
IT				282	CEH: Certified Ethical Hacker			3		Yes	CR										
IT				281	CHFI: Computer Hacking Forensic Investigator			3		Yes	CR										
IT				60	Cisco Certified Entry Networking Technician			3		Yes	CR	14	8	21	8	9	9	17	17		
IT				14	Cisco Certified Network Associate			3		Yes	CR							1	1		
IT				279	CISSP: Certified Information Systems Security Professional			3		Yes	CR										
IT				302	CIW Advanced HTML5 & CSS3 Specialist			3		Yes	CR					6	1				
IT	BUS			305	CIW Data Analyst			3		Yes	CR										

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY18	Certs Admin FY19	Certs Passed FY19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
IT				309	CIW Database Design Specialist			3		Yes	CR										
IT	MAR			307	CIW E-Commerce Specialist			3		Yes	CR										
IT				299	CIW Internet Business Associate			3		Yes	CR										
IT				308	CIW JavaScript Specialist			3		Yes	CR										
IT				301	CIW Network Technology Associate			3		Yes	CR										
IT	BUS			300	CIW Site Development Associate			3		Yes	CR							14	10		
IT	MAR			304	CIW Social Media Strategist			3		Yes	CR										
IT				303	CIW User Interface Designer			3		Yes	CR										
IT				306	CIW Web Design Specialist			3		Yes	CR										
IT				298	CIW Web Foundations Associate			3		Yes	CR							8	8		
IT				167	CIW Web Security Associate			3		No	**CR**					**41**	**7**	**5**	**2**		
IT				311	CIW Web Security Professional			3		Yes	CR										
IT				310	CIW Web Security Specialist			3		Yes	CR										
IT				01	CompTIA A+			3		Yes	CR	9	5			2	1	1	1		
IT				275	CompTIA Cloud Essentials			3		Yes	CR							14	2		
IT				274	CompTIA CySA+: Cybersecurity Analyst			3		Yes	CR										
IT				A7	CompTIA IT Fundamentals			3		Yes	CR	15	15	14	14			19	6		
IT				297	CompTIA Linux+/LPIC-1			3		Yes	CR	13	6								
IT				32	CompTIA Network+			3		Yes	CR			1	1	1	1	1	1		
IT				276	CompTIA PenTest+			3		Yes	CR										
IT				272	CompTIA Project+			3		Yes	CR										
IT				A52	CompTIA Security+ Certification			3		Yes	CR	4	4			46	1	1	1		
IT				A23	Computer Service Technician Certificate – CST			3		Yes	CR										
IT				340	CTECS: Computer Programming with C++		2			No	NCR										
IT				341	CTECS: Computer Programming with Visual Basic		2			No	NCR							2	2		
IT				342	CTECS: Information Support and Services		2			No	NCR							7	5		
IT				343	CTECS: Networking Systems		2			No	NCR										
IT				344	CTECS: Web and Digital Communications		2			No	NCR							2	2		
IT				292	CWNA: Certified Wireless Network Administrator			3		Yes	CR										
IT				293	CWTS: Certified Wireless Technology Specialist			3		Yes	CR										
IT				A91	Database Design & Programming with SQL			3		Yes	CR										
IT				A89	Database Foundations Certified Junior Associate			3		Yes	CR	1	1								
IT				283	GCIH: GIAC Certified Incident Handler			3		Yes	CR					1	1				
IT				284	GISP: GIAC Information Security Professional			3		Yes	CR										

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
IT				285	GSEC: GIAC Security Essentials			3		Yes	CR										
IT				277	Information Technology Security (ITS)			3		Yes	CR										
IT				A88	Java Foundations Certified Junior Associate			3		Yes	CR										
IT				295	Linux Essentials			3		Yes	CR										
IT				296	LPIC-1 Certified Linux Administrator			3		Yes	CR										
IT				A56	Microsoft Certified Solutions Associate (MCSA)			3		Yes	CR	2	2	2	2			1	1		
IT				84	Microsoft Technology Associate (MTA) Certification			3		Yes	CR	3	3	13	10	1	1				
IT				A21	Network Computer Technician Certification – NCT			3		Yes	CR			2	2						
IT				A22	Network Systems Technician Certification – NST			3		Yes	CR										
IT				294	OCPJP: Oracle Certified Professional, Java SE8/SE 7 Programmer			3		Yes	CR										
IT				47	Oracle			3		Yes	CR					7	7				
IT				A90	Oracle Certified Associate, Java SE8 Programmer			3		Yes	CR			4	4						
IT				257	PCAP Certified Associate in Python Program			3		No	**CR**							10	**3**		
IT				410	Precision Exams: Computer Programming II C#			3		No	**CR**										
IT				411	Precision Exams: Computer Programming II C++			3		No	**CR**										
IT				412	Precision Exams: Computer Programming II Java			3		No	**CR**										
IT				413	Precision Exams: Computer Programming II Python			3		No	**CR**							16	**7**		
IT				A92	Programming with PL/SQL			3		Yes	CR										
IT				A53	Systems Security Certified Practitioner – SSCP from (ISC)²®			3		Yes	CR										
IT				288	TestOut Client Pro Certification			3		Yes	CR					2	2				
IT				321	TestOut IT Fundamentals Pro		2			No	NCR							15	15		
IT				A19	TestOut Network Pro Certification			3		Yes	CR	11	3	10	7			8	7		
IT				A18	TestOut PC Pro Certification			3		Yes	CR	69	38	95	59	38	21	36	31		
IT				290	TestOut Routing Pro Certification			3		Yes	CR			2	0						
IT				A41	TestOut Security Pro Certification			3		Yes	CR										
IT				286	TestOut Server Pro 2016 Certification			3		Yes	CR										
IT				289	TestOut Switching Pro Certification			3		Yes	CR										
IT				A59	TestOut Windows Server Pro: Advance Services (Part 3)			3		Yes	CR										
IT				A57	TestOut Windows Server Pro: Install and Configure (Part 1)			3		Yes	CR										
IT				A58	TestOut Windows Server Pro: Manage and Administer (Part 2)			3		Yes	CR										
IT				287	TestOut Linux Pro Certification			3		Yes	CR										
IT				A24	Wireless Network Technician Certification – WNT			3		Yes	CR										
IT				459	Swift (CERTIPORT): Aoo Development with Swift Certifiication Level 1-- Added March 2021			3													

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
LAW					**Law and Public Safety CLUSTER Enrollment**															**3,584**	**3,546**
LAW				222	Basic Auto Extrication Firefighter			3		Yes	CR			28	28	27	27	42	38		
LAW				A29	Emergency Telecommunicator Certification			3		Yes	CR	42	42	27	27	22	22	39	35		
LAW				A11	ETC Certification Course		2			No	NCR	3	2			42	40	21	19		
LAW				324	Expert Rating: Legal Administrative Assistant Certification			3		No	**CR**										
LAW				231	Hazardous Materials Awareness (Firefighter)			3		Yes	CR			107	107	89	89	237	235		
LAW				232	Hazardous Materials Operations (Firefighter)			3		Yes	CR			99	97	95	88	156	152		
LAW				233	Hybrid Firefighter I Class Code 1402			3		Yes	CR			17	17	7	7	24	23		
LAW				234	Hybrid Firefighter II Class Code 1403			3		Yes	CR			13	13	5	5	8	8		
LAW				A70	National Incident Management System Certification			3		Yes	CR			149	145	155	133	146	145		
LAW				156	OSHA Firefighter--Deleted now under OSHA 63					Yes	**NCR**	22	22	24	24	**9**	**9**				
LAW				351	Precision Exams: Law Enforcement	1				No	NCR							5	1		
LAW				165	SCFA Certificate Auto Extrication –3330		2			No	NCR			52	52	21	21	53	53		
LAW				161	SCFA Certificate NFPA 1001 Firefighter I – 1196			3		Yes	CR			74	71	54	49	253	242		
LAW				162	SCFA Certificate NFPA 1001 Firefighter II – 1197			3		Yes	CR			59	58	33	32	70	70		
LAW				455	Precision Exams: Criminal Justice 1--Added March 2021			3													
LAW				456	Precision Exams: Criminal Justice 2--Added March 2021			3													
LAW				458	Professional Security Officer Certificate--Added March 2021			3													
MAN					**Manufacturing CLUSTER Enrollment**															**6,520**	**6,021**
MAN				07	AWS			3		Yes	CR	248	213	273	234	127	94	287	257		
MAN				171	Certified Production Technician			3		No	**CR**										
MAN				345	CTECS: Welding Technology		2			No	NCR							90	47		
MAN				10	Electronics Technician			3		Yes	CR	11	11	4	4	14	1	8	3		
MAN				235	LEAN (Six Sigma) Manufacturing Certification			3	2	Yes	CR			62	62	41	41	29	29		
MAN				419	MSSC: Certified Logistics Technician			3		No	**CR**										
MAN				236	MSSC: CPT Maintenance Awareness			3	2	Yes	CR			11	9						
MAN				237	MSSC: CPT Manufacturing Processes and Production			3	2	Yes	CR			13	8						
MAN				238	MSSC: CPT Quality Practices			3	2	Yes	CR			24	19	9	9	10	4		
MAN				239	MSSC: CPT Safety			3	2	Yes	CR			51	48	11	11	30	12		
MAN				28	NCCER – Mechatronics--Deleted			3		Yes	CR	52	51	36	36	33	33	33	33		
MAN				31	NCCER – Welding Technology			3		Yes	CR	58	56	54	54	20	20	26	26		
MAN				33	NIMS			3		Yes	CR	114	114	83	82	44	43	123	112		
MAN				255	S/P2 – Welding Safety and Pollution		2		1	No	NCR							65	64		
MAN				172	Siemens Mechatronics Systems Certification			3		No	**CR**										

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MRK					**Marketing CLUSTER Enrollment**															**7,736**	**8,813**
MRK				206	Bing Ads (Microsoft Advertising Certification)			3	2	Yes	CR			1	0						
MRK				346	CTECS: Marketing Communications		2			No	NCR							2	2		
MRK				347	CTECS: Marketing Management		2			No	NCR							2	2		
MRK				348	CTECS: Merchandising		2			No	NCR										
MRK				211	Facebook Certified Media Planning Professional			3	2	Yes	CR										
MRK				212	Google Advertising Fundamentals Exam (Google AdWords)			3	1	Yes	CR					27	19	10	10		
MRK				213	Google Analytics			3	1	Yes	CR										
MRK				388	Precision Exams: Advertising and Promotion	1				No	NCR										
MRK				389	Precision Exams: Digital Marketing	1				No	NCR										
MRK				390	Precision Exams: Real Estate	1				No	NCR										
MRK				391	Precision Exams: Social Media Marketing	1				No	NCR										
MRK				392	Precision Exams: Sports and Entertainment Marketing	1				No	NCR							11	11		
MRK				214	Retail Industry Fundamentals, National Retail Federation			3	2	Yes	CR										
STEM					**STEM CLUSTER Enrollment**															**10,933**	**9,361**
STEM				A55	Autodesk Inventor Certified User Exam			3		Yes	CR	68	58	217	172	63	63	70	60		
STEM				223	CATIA V5 Part Design Certificate			3		Yes	CR			5	5			1	1		
STEM				A44	CSWA– SolidWorks Associate Certification			3		Yes	CR	48	10	79	49	56	37	60	30		
STEM				76	Food Science Fundamentals Assessment/Certification			3		Yes	CR	1	1			1	1				
STEM				368	Precision Exams: Engineering Technology	1				No	NCR							3	3		
STEM				369	Precision Exams: Robotics I	1				No	NCR										
STEM				370	Precision Exams: Robotics II	1				No	NCR										
STEM				169	Pre–Engineering Certification			3		No	**CR**							18	**5**		
STEM				170	Robotics Certification			3		No	**CR**										
TRA					**Transportation, Distribution and Logistics CLUSTER Enrollment**															**5,884**	**5,534**
TRA				107	ASE Medium/Heavy Duty Diesel Engine			3		Yes	CR	17	12	10	4	7	4	6	12		
TRA				191	ASE: Auto Collision Repair – Mechanical and Electrical Components			3		Yes	CR	114*	59*	10	9	1	1				
TRA				193	ASE: Auto Collision Repair – Non–Structural Analysis and Damage Repair			3		Yes	CR			95	36	20	9	15	31		
TRA				192	ASE: Auto Collision Repair – Painting and Refinishing			3		Yes	CR			95	42	22	13	25	41		
TRA				190	ASE: Auto Collision Repair – Structural Analysis and Damage Repair			3		Yes	CR			5	5	1	1				
TRA				189	ASE: Auto Maintenance and Light Repair Certification Test (G1)			3		No	**CR**			51	39	**21**	**10**	**74**	100		
TRA				199	ASE: Auto Technology – Automatic Transmission/Transaxles			3		Yes	CR	686*	412*	18	18	16	11	29	29		
TRA				194	ASE: Auto Technology – Brakes			3		Yes	CR			346	215	201	151	23	385		
TRA				196	ASE: Auto Technology – Electrical/Electronic Systems			3		Yes	CR			32	32	36	31	55	59		

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TRA				197	ASE: Auto Technology – Engine Performance			3		Yes	CR			42	36	29	23		39	42	
TRA				198	ASE: Auto Technology – Engine Repair			3		Yes	CR			62	46	51	43		54	54	
TRA				201	ASE: Auto Technology – Heating & Air Conditioning			3		Yes	CR			20	19	23	19		35	35	
TRA				202	ASE: Auto Technology – Maintenance & Light Repair			3		Yes	CR			321	224	178	148		241	330	
TRA				200	ASE: Auto Technology – Manual Drivetrains			3		Yes	CR			15	13	16	10		35	39	
TRA				195	ASE: Auto Technology – Suspension & Steering			3		Yes	CR			109	75	54	46		75	84	
TRA				175	ASE: Automobile & Light Truck Certification Tests (A Series)			3		No	CR			37	37						
TRA				177	ASE: Collision Repair & Refinish Certification Tests (B Series)			3		No	CR			4	2						
TRA				178	ASE: Damage Analysis & Estimating Certification Test (B6)			3		No	CR										
TRA				182	ASE: Medium–Heavy Truck Certification Tests (T Series)			3		No	CR			6	4				11	16	
TRA				188	ASE: Non–Certification Assessments			3		No	CR										
TRA				183	ASE: Parts Specialist Certification Tests (P Series)			3		No	CR										
TRA				216	Briggs & Stratton Master Service Technician Certification			3		Yes	CR			6	6						
TRA				108	Commercial Driver's License Permit			3		Yes	CR			3	3	4	4				
TRA				249	Digital Multimeter (DMM) Certification 525			3	2	No	CR								1	1	
TRA				229	EPA Section 609 Certification			3		Yes	CR			23	23				81	81	
TRA				230	Forklift Operator			3	1	Yes	CR			62	60	18	18		48	49	
TRA				112	I–CAR Advance High Strength Steel (AHSole)			3	B	No	CR	1	1	3	3	12	12		10	10	
TRA				113	I–CAR Automotive Foams (FOM01)			3	B	No	CR					17	17		27	27	
TRA				114	I–CAR Automotive Lighting (LSC04e)			3	B	No	CR	18	16	7	7	53	53		35	35	
TRA				115	I–CAR Bolt–on–Exterior Panel Part 1 (EXT03e)			3	B	No	CR	21	21	17	17	76	68		62	66	
TRA				116	I–CAR Bolt–on–Exterior Panel Part 2 (EXT04e)			3	B	No	CR	6	6	10	10	64	55		59	62	
TRA				117	I–CAR Corrosion Protection (CPS01)			3	B	No	CR					11	3		20	36	
TRA				118	I–CAR Cosmetic Straightening Steel (STS01)			3	B	No	CR	2	2			86	76		39	41	
TRA				119	I–CAR Detailing (REF04)			3	B	No	CR					1	1		23	33	
TRA				120	I–CAR Hazardous Air Pollutant Reduction (HAP01e)			3	B	No	CR	5	5	1	1	30	29		28	28	
TRA				121	I–CAR Hazardous Material Storage and Disposal (HWD01e)			3	B	No	CR	43	42	10	9	30	30		20	21	
TRA				122	I–CAR Hazardous Materials, Personal Safety, Refinish Safety (WKR01)			3	B	No	CR	1	1	2	2	74	48		27	31	
TRA				123	I–CAR Intro to Construction Materials (ICM00e)			3	B	No	CR	53	50	44	44	108	104		101	101	
TRA				124	I–CAR Intro to Mechanical Repair Terms and Vehicle Protection (IMV00e)			3	B	No	CR	35	35	36	36	105	102		91	93	
TRA				125	I–CAR Intro to Mechanical System Terminology Part 1 (IMT01e)	1			B	No	NCR	66	64	58	58	116	115		89	91	
TRA				126	I–CAR Intro to Mechanical System Terminology Part 2 (IMT02e)	1			B	No	NCR	46	46	43	43	114	112		99	102	
TRA				127	I–CAR Intro to Personal Safety (IPS00e)	1			B	No	NCR	112	112	112	112	150	149		74	75	

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TRA				128	I–CAR Intro to Refinishing and Corrosion Protection Part 1 (IRC01e)			3	B	No	CR	44	44	55	55	144	140		81	85	
TRA				129	I–CAR Intro to Refinishing and Corrosion Protection Part 2 (IRC02e)			3	B	No	CR	36	36	48	48	112	109		81	86	
TRA				130	I–CAR Intro to Repair Process (IRP00e)			3	B	No	CR	54	54	51	49	138	133		82	83	
TRA				131	I–CAR Intro to Repair Terminology (IRT00e)	1			B	No	NCR	45	45	39	39	107	106		98	99	
TRA				132	I–CAR Intro to Safety Systems (ISS00e)	1			B	No	NCR	86	78	86	85	135	134		78	80	
TRA				133	I–CAR Intro to Tools, Equipment and Attachment Methods Part 1 (ITM01e)	1			B	No	NCR	46	42	66	66	144	143		91	93	
TRA				134	I–CAR Intro to Tools, Equipment and Attachment Methods Part 2 (ITM02e)	1			B	No	NCR	30	29	74	72	144	141		82	84	
TRA				135	I–CAR Intro to Vehicle Parts Terminology Part 1 (IVT01e)	1			B	No	NCR	56	53	66	66	128	127		100	101	
TRA				136	I–CAR Intro to Vehicle Parts Terminology Part 2 (IVT02e)	1			B	No	NCR	58	58	37	37	121	120		92	93	
TRA				137	I–CAR Movable Glass (GLA01)			3	B	No	CR					8	8		6	6	
TRA				138	I–CAR New Vehicle Technology and Trends 2016 (New16)	1			B	No	NCR					8	8		6	6	
TRA				139	I–CAR Plastic and Composite Repair (PLA03)			3	B	No	CR					35	35		46	50	
TRA				109	I–CAR ProLevel 1			3	B	Yes	CR	4	4	24	24	14	14		33	33	
TRA				110	I–CAR ProLevel 2			3	B	Yes	CR										
TRA				111	I–CAR ProLevel 3			3	B	Yes	CR										
TRA				140	I–CAR Refinishing Equipment (REF01e)		2		B	No	NCR	18	16	16	13	40	30		65	69	
TRA				141	I–CAR Removing and Installing exterior Trim, Pinstriping, and Decals (TRM03e)			3	B	No	CR	1	1	3	3	49	42		56	59	
TRA				142	I–CAR Removing and Installing Interior Trim (TRM02e)			3	B	No	CR	9	9	5	4	56	51		55	58	
TRA				143	I–CAR Surface Preparation and Masking (REF02e)			3	B	No	CR	17	15	4	4	32	25		56	61	
TRA				144	I–CAR Waterborne Products, Systems and Applications (REF07)			3	B	No	CR					1	1		13	13	
TRA				371	Precision Exams: Small Engineer Repair I		2		B	No	NCR										
TRA				77	S/P2 – Auto Collision Repair			3	B	Yes	CR	212	212	276	251	239	203		177	180	
TRA				78	S/P2 – Auto Technology			3	B	Yes	CR	295	295	498	486	412	409		532	541	
TRA				253	S/P2 – Heavy-Duty Diesel Safety and Pollution			3	B	No	CR								21	21	
TRA				159	S/P2 Ethics and You in the Automotive Industry			3	B	Yes	CR			264	260	223	223		222	222	
TRA	MAN			241	Snap-on/NC3: 504 Multimeter Certification			3	B	Yes	CR			55	51	126	115		120	126	
TRA				243	Snap-on/NC3: ShopKey Pro & SureTrack Advanced Level 2			3	B	Yes	CR					2	2		2	2	
TRA				242	Snap-on/NC3: ShopKey Pro Service & Repair Information Level 1			3	B	Yes	CR					16	16		18	18	
TRA				244	Snap-on/NC3: Verus Edge Lab Scope Operation & Data Management			3	B	Yes	CR										
TRA				245	Snap-on/NC3: Verus Edge Navigation & Scanner Operation			3		Yes	CR										
TRA				248	South Carolina Boater Education Certificate		2			No	NCR			53	40	1	1		8	8	
TRA	AGR			217	The American Boat and Yacht Council (ABYC)		2			Yes	NCR										
TRA				252	Yamaha Certification			3		Yes	CR			6	6	18	16		15	15	

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TRA	AGR			450	Snap-on/NC3: Battery, Starting and Charging Certification--Added March 2021			3	B												
TRA				451	Snap-on/NC3: Diesel Scanner Diagnostics Certification--Added March 2021			3	B												
TRA				452	Snap-on/NC3: Rotor Matching Master Technician Certificate --Added March 2021			3	B												
TRA				453	Snap-on/NC3: Tire Pressure Monitoring Systems Certificate--Added March 2021			3	B												
TRA				454	Snap-on/NC3: Wheel Serivce and Alignment Certification--Added March 2021			3	B												
					*Sub test areas were not provided																
					B--Designates Certifications that should be bundled--reducing those in tier 3 to either tier 1 or 2																
HLTH					**Health Science CLUSTER Enrollment**															32,046	31,137
HLTH				215	Biotechnician Assistant Credentialing Exam (BACE)			3		Yes	CR			38	8	17	4	12	12		
HLTH				A76	Career Safe OSHA 10–Hour General Industry (Healthcare) Credential [Now included with OSHA 10 General (63)]			3	1	Yes	**NCR**	389	386	576	556	**1147**	**1095**				
HLTH				166	Certified Clinical Medical Assistant			3		Yes	CR	21	16	13	12	11	7	18	13		
HLTH				A75	Certified Electronic Health Records Specialist			3		Yes	CR							1	1		
HLTH				A73	Certified Medical Administrative Assistant			3		Yes	CR					20	12	7	7		
HLTH				A74	Certified Medical Billing and Coding Specialist			3		Yes	CR	1	1	1	1			10	5		
HLTH				12	Certified Nurse Aide			3		Yes	CR	890	757	826	758	241	225	665	619		
HLTH				A66	Certified Patient Care Technician (CPCT)			3		Yes	CR	26	26	35	24	20	17	97	90		
HLTH				265	Certified Personal Trainer			3		No	**CR**										
HLTH	LAW			A68	Community Emergency Response Team		2			No	NCR							19	19		
HLTH				251	Direct Support Professional			3		Yes	CR							14	14		
HLTH				51	Electrocardiographic (EKG) Technician			3		Yes	CR	11	11	53	36			72	53		
HLTH				15	Emergency Medical Technician			3		Yes	CR	5	4	19	19	19	19	17	17		
HLTH	EDU	HUM		418	First Aid		2		1	No	NCR							28	28		
HLTH	HUM	EDU		44	First Aid/CPR/AED		2		1	No	NCR	3790	3748	2498	2489	2434	2310	2,097	2,040		
HLTH				18	First Responder			3		Yes	CR	41	41	96	93	201	200	69	68		
HLTH				A50	Heads Up: Concussion in Youth Sports		2			No	NCR	325	307	170	163	279	279	335	335		
HLTH				A93	Healthcare Providers Basic Life Support (BLS)			3	1	Yes	CR	1784	1752	2085	2070	2703	2649	3,175	3,135		
HLTH				A60	Heat Illness Prevention		2			No	NCR	322	320	141	141	393	391	501	487		
HLTH				24	National Health Science Assessment			3	2	Yes	CR	1196	756	1241	839	510	336	998	674		
HLTH				A51	Paid Feeding Assistants		2			No	NCR	104	102	90	90	31	31	25	25		
HLTH				35	Pharmacy Technician			3		Yes	CR	7	7	45	33	18	18	51	51		
HLTH				52	Phlebotomist			3		Yes	CR	12	12	47	29	8	8	13	10		
HLTH				266	Physical Therapy Aide			3		No	**CR**							10	**10**		

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HLTH				393	Precision Exams: Biotechnology	1				No	NCR							2	2		
HLTH				394	Precision Exams: Clinical Laboratory Technology	1				No	NCR										
HLTH				395	Precision Exams: Dental Assistant – Dental Science I	1				No	NCR										
HLTH				396	Precision Exams: Dental Assistant – Dental Science II	1				No	NCR										
HLTH				397	Precision Exams: Dental Assistant – Dental Science III		2			No	NCR										
HLTH				399	Precision Exams: Exercise Science and Sports Medicine	1				No	NCR										
HLTH				400	Precision Exams: Health Science Fundamentals	1				No	NCR							46	39		
HLTH				401	Precision Exams: Medical Anatomy and Physiology		2			No	NCR							2	2		
HLTH				402	Precision Exams: Medical Assistant – Anatomy and Physiology	1				No	NCR										
HLTH				403	Precision Exams: Medical Assistant – Clinical and Laboratory Procedures		2			No	NCR										
HLTH				404	Precision Exams: Medical Assistant – Medical Office Mgmt.		2			No	NCR										
HLTH				406	Precision Exams: Medical Forensics	1				No	NCR										
HLTH				407	Precision Exams: Medical Terminology		2			No	NCR										
HLTH	HUM			408	Precision Exams: Nutrition and Wellness	1				No	NCR										
HLTH				409	Precision Exams: Physical Therapy, Introduction	1				No	NCR										
HLTH				398	Precision Exams: Emergency Medical Technician (EMT)		2			No	NCR										
HLTH				405	Precision Exams: Medical Assistant – Medical Terminology	1				No	NCR										
HLTH	HUM			264	Sports Nutrition		2			No	NCR					14	14	253	237		
HLTH				263	Sudden Cardiac Arrest		2			No	NCR					72	72	325	309		
				446	Stop the Bleed (added March 2021)			3													
ALL				A78	Career Preparedness		2		B	No	NCR	12	4	35	26	7	7	11	11	N/A	N/A
ALL				323	Charlotte Works: Working Smart	1				No	NCR									N/A	N/A
ALL				262	FAA Part 107 UAV License	1				No	NCR					1	1	12	11	N/A	N/A
ALL				A94	Microburst EmployABILITY Soft Skills Certification			3	B	Yes	CR	411	383	2375	2100	4092	3535	5,021	4,721	N/A	N/A
ALL				63	OSHA 10 General			3	1	Yes	CR	1787	1603	2502	2395	3801	3595	11,089	10,432	N/A	N/A
OTHER					OSHA 10			1						1644	1547					N/A	N/A
					OSCHA 10 General On Line Modules (data from FY 20)			1								2119	2039			N/A	N/A
ALL				425	Skills USA Career Essentials Certification			3	2	No	CR									N/A	N/A
ALL				427	Career and Life Essentials --Added March 2021		2		1	No										N/A	N/A
ALL				428	Career Prep-A Virtual Career Guidance Center--Added March 2021		2		1	No										N/A	N/A
ALL				430	Leadership Essentials--Added March 2021			3												N/A	N/A
ALL				429	Soft Skills Pro-Industry Certificaion--Added March 2021			3												N/A	N/A
AGR					**Agriculture, Food and Natural Resources CLUSTER Enrollment**															13,469	13,251
AGR				421	Agricultural Mechanics and Technology		2			No	NCR							10	9		
AGR	HUM	STEM		A79	AMSA Food Safety and Science Certification			3		Yes	CR	1	1					8	6		
AGR				A83	AMSA Meat Evaluation Certification			3		Yes	CR					2	2	15	12		

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AGR				A80	BASF Plant Science Certification			3		Yes	CR	22	21	60	59	25	24	98	88		
AGR				A82	Benz School of Floral Design-Principles of Floral Design Certification			3		Yes	CR							1	1		
AGR				420	Ducks Unlimited Ecology Conservation and Management			3		No	CR							71	62		
AGR				228	EETC Principles of Small Engine Technology Certification			3		Yes	CR			36	21	12	9	71	70		
AGR				A81	Elanco Fundamentals of Animal Science Certification			3		Yes	CR	62	61	119	109	157	140	259	243		
AGR	HLTH			A86	Elanco Veterinary Medical Applications Certification			3		Yes	CR	44	42			69	67	110	98		
AGR				422	Environmental and Natural Resources		2			No	NCR							22	11		
AGR				423	Horticulture		2			No	NCR							3	2		
AGR				A84	NCLCA Principles of Livestock Selection & Evaluation Certification			3		Yes	CR			30	30	33	33				
AGR	TRA			34	Outdoor Power Equipment			3		Yes	CR			1	1			50	40		
AGR				260	Pesticide Applicators License			3		No	CR							9	9		
AGR				424	Plant and Animal Systems		2			No	NCR							32	28		
AGR				A87	Principles of Small Engine Technology Certification--Deleted					Yes	NCR	14	14	30	30	32	26				
AGR	BUS	FIN		A85	Southwest Airlines Professional Communications Certification	1				No	NCR	11	3	45	45	5	5	15	10		
AGR				258	TVMA (Texas Veterinary Medical Association) Certified Veterinary Assistant			3		No	CR										
AGR				261	Veterinary Assistance Certification			3		Yes	CR							11	10		
AGR				431	Equine Management & Evaluation--Added March 2021			3													
AGR				432	Hunter Education--Added March 2021		2			No											
ARC					Architecture and Construction CLUSTER Enrollment															5,855	5,543
ARC				54	ADDA – Certified Apprentice Drafter		2			Yes	NCR	5	3	—		2	0				
ARC	BUS	MRK		64	Certified Associate in Project Management (CAPM)			3		Yes	CR	4	4								
ARC				224	Certified LabVIEW Associate Developer (CLAD)			3		Yes	CR										
ARC				330	CTECS: Architectural Design		2			No	NCR										
ARC				325	CTECS: Building Construction		2			No	NCR							22	11		
ARC				326	CTECS: Carpentry		2			No	NCR										
ARC				327	CTECS: Electricity		2			No	NCR							15	13		
ARC				328	CTECS: HVAC Technology		2			No	NCR										
ARC				329	CTECS: Masonry		2			No	NCR										
ARC				331	CTECS: Mechanical Design		2			No	NCR							13	5		
ARC				17	EPA Section 608			3		Yes	CR	15	14	10	10	18	18	7	7		
ARC				46	HVAC Excellence			3		Yes	CR							5	5		
ARC	MAN			352	Level 1: Fundamentals Electricity	1				No	NCR										
ARC	MAN			354	Level 1: Fundamentals Fluid Power - Hydraulics	1				No	NCR										

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
ARC	MAN			355	Level 1: Fundamentals Industry 4.0	1				No	NCR										
ARC	MAN			353	Level 1: Fundamentals Mechanical Systems	1				No	NCR										
ARC				146	NATE – Air Conditioning			3		Yes	CR							4	4		
ARC				147	NATE – Air Distribution	1				Yes	NCR										
ARC				148	NATE – Commercial Refrigeration (Service Only)--Deleted	1				Yes	NCR										
ARC				149	NATE – Gas Heating--Deleted	1				Yes	NCR										
ARC				150	NATE – Ground Source Heat Pump Loop Installer (Service Only)--Deleted	1				Yes	NCR										
ARC				151	NATE – Heat Pumps--Deleted	1				Yes	NCR										
ARC				152	NATE – Hydronics Gas (Service Only)--Deleted	1				Yes	NCR										
ARC				153	NATE – Hydronics Oil (Service Only)--Deleted	1				Yes	NCR										
ARC				154	NATE – Light Commercial Refrigeration (Service Only)--Deleted	1				Yes	NCR										
ARC				155	NATE – Oil Heating--Deleted	1				Yes	NCR										
ARC				203	NATE – Senior HVAC Efficiency Analyst			3		No	CR										
ARC				25	NCCER – A/C Ref. Technology			3		Yes	CR	8	6	1	1			5	5		
ARC				26	NCCER – Carpentry			3		Yes	CR	58	58	44	44	38	38	26	26		
ARC				56	NCCER – Core			3		Yes	CR	206	201	262	254	133	75	249	239		
ARC				27	NCCER – Electricity			3		Yes	CR	29	29	16	13	10	8	5	5		
ARC				29	NCCER – Masonry			3		Yes	CR	12	12			1	1				
ARC				58	NCCER – NCCT National Construction Career Test			3		Yes	CR					9	9				
ARC				30	NCCER – Plumbing			3		Yes	CR					1	1				
ARC				240	NOCTI: HBI-Home Builders Institute Student Certification			3		Yes	CR			2	2			1	1		
ARC				363	Precision Exams: CAD Architectural Design II		2			No	NCR										
ARC				364	Precision Exams: CAD Architectural Design III		2			No	NCR										
ARC				365	Precision Exams: CAD Mechanical Design I		2			No	NCR										
ARC				366	Precision Exams: CAD Mechanical Design II		2			No	NCR										
ARC				367	Precision Exams: CAD Mechanical Design III		2			No	NCR										
ARC				362	Precision Exams: CAD Architectural Design I		2			No	NCR										
ARC	MAN			356	Precision Measurement Instruments Certification	1				No	NCR										
ARC				259	PV101 (Photovoltaic 101)		2			No	NCR					5	5				
ARC				A45	RCA–Basic Principles for Construction	1				Yes	NCR										
ARC				A46	RCA–Electrical Principles	1				Yes	NCR			1	1						
ARC				A48	RCA–Electrical Wiring	1				Yes	NCR										
ARC				A47	RCA–House Wiring	1				Yes	NCR										
ARC				254	S/P2 – Construction Safety and Pollution		2			No	NCR					5	5	60	58		

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
ART					Arts, Audio-Video Technology and Communications CLUSTER Enrollment															7,701	7,374
ART				A40	Adobe Certified Associate – Graphic Design & Illustration with Adobe Illustrator			3	2	Yes	CR	31	27	131	116	35	35	83	36		
ART				A39	Adobe Certified Associate – Print & Digital Media Publication with Adobe InDesign			3	2	Yes	CR	70	63	82	78	52	32	131	94		
	BUS								2					4	4	10	10	30	11		
ART				82	Adobe Certified Associate – Rich Media Communication with Adobe Flash----Deleted			3	2	Yes	CR	4	4	18	18	43	20	60	16		
ART				83	Adobe Certified Associate – Video Communication with Adobe Premiere Pro			3	2	Yes	CR	37	17	38	38	10	10	21	21		
ART				80	Adobe Certified Associate – Visual Communication with Adobe Photoshop			3	2	Yes	CR	182	155	261	206	186	146	326	231		
	BUS													24	22	36	31	13	11		
ART				81	Adobe Certified Associate – Web Communication with Adobe Dreamweaver			3	2	Yes	CR	13	0	32	5	20	7	44	19		
	BUS															2	1	6	2		
ART				65	Adobe Certified Expert--Deleted			3		Yes	CR	3	3	1	1	1	1				
ART				218	Apple Certified iOS Technician (ACiT)			3		Yes	CR					1	1				
ART				219	Apple Certified Mac Technician (ACMT)			3		Yes	CR										
ART				220	Apple Final Cut Pro X Professional Post-Production			3		Yes	CR					4	2				
ART				221	Apple Logic Pro Professional Music Production			3		Yes	CR										
ART	STEM			357	AutoDesk: Auto CAD		2			No	NCR							10	10		
ART	STEM			358	AutoDesk: Inventor		2			No	NCR										
ART	STEM			359	AutoDesk: Maya		2			No	NCR										
ART				227	Certified Technology Specialist (CTS)			3		Yes	CR										
ART				225	Certified Technology Specialist Design (CTS-D)			3		Yes	CR										
ART				226	Certified Technology Specialist Installation (CTS-I)			3		Yes	CR										
ART				72	Fashion, Textiles, and Apparel Assessment/Certification			3		Yes	CR					4	2	3	2		
ART				312	Flexography First Operator Certification FTA1			3		No	**CR**					**5**	**5**	**9**	**8**		
ART				75	Housing and Furnishings Assessment/Certification			3		Yes	CR										
ART				73	Interior Design Fundamentals Assessment/Certification			3		Yes	CR							8	3		
ART				372	Precision Exams: 3D Animation		2			No	NCR										
ART				373	Precision Exams: Apparel Design & Production I		2			No	NCR										
ART				374	Precision Exams: Apparel Design & Production II		2			No	NCR										
ART				313	Precision Exams: Design & Visual Communications	1				No	NCR					5	4				
ART				316	Precision Exams: Digital Photography Intro		2			No	NCR										
ART				314	Precision Exams: Digital Print Design		2			No	NCR										

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
ART				319	Precision Exams: Graphic Communications Advanced			3	2	No	CR										
ART				318	Precision Exams: Graphic Communications Intermediate		2			No	NCR										
ART				317	Precision Exams: Graphic Communications Intro		2			No	NCR					1	1	7	6		
ART				320	Precision Exams: Screen Printing		2			No	NCR										
ART				375	Precision Exams: Television Broadcasting I		2			No	NCR										
ART				376	Precision Exams: Television Broadcasting II		2			No	NCR										
ART				A12	PrintED®–GAERF®			3		Yes	CR										
ART	IT			460	Adobe Certified Professional (ACP) Using Adobe Animate--Added March 2021			3	2												
ART	IT			461	Adobe Certified Professional (ACP) Visual Effects & Motion Graphics Using Adobe After Effects--Added March 2021			3	2												
ART	IT			463	Adobe Certified Professional Visual Design Specialist (ACP-VDS)--Added March 2021			3	2												
ART	IT			464	Adobe Certified Professional Web Design Specialist (ACP-WD)--Added March 2021			3	2												
BUS					**Business Management and Administration CLUSTER Enrollment**															28,946	22,391
BUS				A77	Business Office Technology		2			No	NCR	3	3	10	4						
BUS				332	CTECS: Administrative Services		2			No	NCR							6	6		
BUS				333	CTECS: Business Information Management		2			No	NCR							15	11		
BUS				334	CTECS: General Management		2			No	NCR							33	20		
BUS				335	CTECS: Human Resource Management		2			No	NCR										
BUS				336	CTECS: Operations Management		2			No	NCR										
BUS				A31	Digital Literacy and Wellness	1				No	NCR	408	408	878	786	915	915	651	621		
BUS				168	Entrepreneurship and Small Business Certification		2			No	NCR			120	97			79	54		
BUS		FIN		19	IC 3 (Internet and Computer Core Certification)			3	1	Yes	CR			11	11	2	2				
	IT			19								28	13	33	20	47	33	35	24		
BUS				85	Microsoft Digital Literacy Certification	1				No	NCR	72	72	144	144	1	1				
BUS				92	MOS Office 2010 – Access 2010--Deleted			3	B	Yes	CR					2	2	2	2		
BUS				88	MOS Office 2010 – Excel 2010-Deleted		2		B	No	NCR	4	4	14	14						
BUS	FIN			89	MOS Office 2010 – Excel 2010 Expert-Deleted			3	B	Yes	CR										
BUS				91	MOS Office 2010 – Outlook 2010-Deleted		2		B	No	NCR										
BUS				90	MOS Office 2010 – PowerPoint 2010-Deleted		2		B	No	NCR	4	4	15	15	1	1				
BUS				86	MOS Office 2010 – Word 2010-Deleted		2		B	No	NCR	20	10	40	40	1	1				
BUS				87	MOS Office 2010 – Word 2010 Expert-Deleted			3	B	Yes	CR										
BUS				105	MOS Office 2016 – Access 2016			3	B	Yes	CR										
BUS				102	MOS Office 2016 – Excel 2016		2		B	No	NCR							3	3		
BUS	FIN			103	MOS Office 2016 – Excel 2016 Expert			3	B	Yes	CR										

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
BUS				106	MOS Office 2016 – Outlook 2016		2		B	No	NCR										
BUS				104	MOS Office 2016 – PowerPoint 2016		2		B	No	NCR							3	3		
BUS				100	MOS Office 2016 – Word 2016		2		B	No	NCR										
BUS				101	MOS Office 2016 – Word 2016 Expert			3	B	Yes	CR										
BUS				A36	MOS: Microsoft Office Access 2013			3	B	Yes	CR	2	1	2	1	4	2				
BUS				A33	MOS: Microsoft Office Excel 2013		2		B	No	NCR	131	89	64	40	9	7				
BUS				A38	MOS: Microsoft Office OneNote 2013		2		B	No	NCR	2	1								
BUS				A35	MOS: Microsoft Office Outlook 2013		2		B	No	NCR										
BUS				A34	MOS: Microsoft Office PowerPoint 2013		2		B	No	NCR	348	302	128	104	40	31	85	51		
BUS				A37	MOS: Microsoft Office SharePoint 2013		2		B	No	NCR	2	2	6	5						
BUS				A32	MOS: Microsoft Office Word 2013		2		B	No	NCR	342	268	108	91	28	19	11	4		
BUS				247	OSHA 10 General -Deleted [Now included with OSHA 10 General (63)]			3	1	Yes	**NCR**					73	71	45	45		
	FIN																	3	3		
		MRK														20	20	24	24		
BUS	Fin	MRK		377	Precision Exams: Accounting I	1				No	NCR							14	14		
BUS	FIN	MRK		379	Precision Exams: Business Communications I	1				No	NCR										
BUS				380	Precision Exams: Business Management	1				No	NCR										
BUS				315	Precision Exams: Desktop Publishing I	1				No	NCR										
BUS				414	Precision Exams: Desktop Publishing II		2			No	NCR										
BUS	FIN	MRK		381	Precision Exams: Digital Business Applications	1				No	NCR										
BUS	MRK			382	Precision Exams: Exploring Business & Marketing	1				No	NCR							39	39		
BUS	FIN			383	Precision Exams: General Financial Literacy	1				No	NCR										
BUS	FIN	GOV	MRK	349	Precision Exams: Leadership Principles I	1				No	NCR										
BUS	FIN			384	Precision Exams: Personal Financial Responsibility	1				No	NCR							33	33		
BUS	FIN			158	QuickBooks Certified User			3		Yes	CR							10	10		
BUS	FIN	MRK	IT	440	Microsoft 365 Certified TEAMS Administrator Associate--Added March 2021			3													
BUS	FIN	MRK	IT	435	MOS: Microsoft Office Access Expert 2019--Added March 2021			3													
BUS	FIN	MRK	IT	436	MOS: Microsoft Office Excel Associate 2019--Added March 2021			3													
BUS	FIN	MRK	IT	437	MOS: Microsoft Office PowerPoint Associate 2019--Added March 2021			3													
BUS	FIN	MRK	IT	438	MOS: Microsoft Office Word Associate 2019--Added March 2021			3													
BUS	FIN	MRK	IT	439	MOS: Microsoft Office Word Expert 2019--Added March 2021			3													
BUS	FIN	MRK	IT	441	Office 365--Added March 2021			3													
BUS	FIN	MRK	IT	442	TOSA DigiComp--Added March 2021			3													

Clstr 1	Clstr 2	Clstr 3	Clstr 4	Cert ID (SRPG)	CTE Certification	Tier 1	Tier 2	Tier 3	Suggested Tier Edits	Currently CR Approved	CR Status	Certs Admin FY18	Certs Passed FY 18	Certs Admin FY 19	Certs Passed FY 19	Certs Admin FY20	Certs Passed FY20	Certs Admin FY21	Certs Passed FY21	19-20 Enrollment	20-21 Enrollment
BUS	FIN	MRK	IT	444	TOAS Illustrator--Added March 2021			3													
BUS	FIN	MRK	IT	443	TOSA InDesign--Added March 2021			3													
BUS	FIN	MRK	IT	445	TOSA Photoshop --Added March 2021			3													
BUS	GOV	MRK		434	PMI Project Management Ready--Added March 2021																
					B--Designates that certifications should be bundled as either Tier 1 or 2																
EDU					**Education and Training CLUSTER Enrollment**															4,395	4,581
EDU				A64	Advanced Child Care Training		2			No	NCR			1	1			7	7		
EDU	HUM			40	American Red Cross–Babysitting			3	1	No	NCR	23	21	1	1						
EDU				A65	Child Development Associate Credential			3		Yes	CR										
EDU				67	Early Childhood Education Assessment/Certification			3		Yes	CR	152	113	111	70	1	1	13	10		
EDU				70	Education Fundamentals Assessment/Certification			3		Yes	CR	13	9	14	9			8	8		
EDU				A17	ParaPro Assessment			3		Yes	CR			12	8	4	3	6	4		
EDU				268	Praxis Core			3		Yes	CR							3	3		
EDU	HUM			385	Precision Exams: Child Development		2			No	NCR										
EDU	HUM			386	Precision Exams: Interpersonal Relationships	1				No	NCR										
EDU				267	SC 15-Hour Health and Safety Pre-Service Certificate			3		Yes	CR					33	33	78	77		
EDU				59	South Carolina Early Childhood Credential			3		Yes	CR	7	7	39	39	14	14	33	33		
EDU				A13	Teen Babysitting Class	1				No	NCR			1	1			21	10		
EDU	HOSP	HUM	STEM	433	Kid's Nutrition Specialist Cetrification--Added March 2021			3	2												
FIN					**Finance CLUSTER Enrollment**															13,447	16,984
FIN				08	Academy of Finance		2			No	NCR					1	1				
FIN				337	CTECS: Accounting		2			No	NCR							15	11		
FIN				338	CTECS: Business Finance		2			No	NCR							5	0		
FIN				A30	Financial Literacy	1				No	NCR	297	276	789	697	948	876	1,256	1,221		
FIN				250	Sage 50 Peachtree Accounting Certification			3	2	Yes	CR										
FIN				246	SC Property and Casualty Producer License			3		Yes	CR										
FIN				A10	W!SE – Financial Literacy Certification Program (FLCP)		2			No	NCR	3454	2892	3961	3371	1159	1108	488	350		
FIN				322	ICEV Personal Financial Literacy Certification		2			No	NCR							3	2		
FIN				378	Precision Exams: Accounting II		2			No	NCR							2	2		
FIN				387	Precision Exams: Banking and Finance	1				No	NCR										

Top Occupations for High School Graduates with Median Salaries

Customer Service Representatives $32,800
Office Clerks, General $28,700
Secretaries and administrative Assistants (Except legal, medical and executive) $37,900
First-Line Supervisors of Office and Administrative Support Workers $51,800
Receptionists and Information Clerks $28,900
Shipping, Receiving and Inventory Clerks $33,500
Medical Secretaries and Administrative Assistants $33,400
Executive Secretaries and Executive Administrative Assistants $54,900
Billing and Posting Clerks $36,300
Property, Real Estate, and Community Association Managers $57,100

Top Occupations for Those with Postsecondary Credentials

General and Operations Managers $87,600
Personal Service Managers, All Other; Entertainment and Recreation Managers, Except Gambling; and Managers, All Other $112,500
Chief Executives $169,500
Sales Managers $113,900
Management Analysts $76,700
Human Resources Specialists $57,100
Project Management Specialists and Business Operations Specialists, All Other $70,400
Training and Development Specialists $57,200
Purchasing Agents, Except Wholesale, Retail, and Farm Products $64,700
Compliance Officers $62,400

SOUTH CAROLINA

CTE

CAREER AND TECHNICAL EDUCATION

Business Services Sector

Programs, Certifications and Employment Opportunities

High School Programs of Study and Certifications

- **Administrative Services Program**

Initial Courses	Related Certifications
Administrative Support Technology	-Business Office Technology -PE
Integrated Business Applications	-Microsoft Office Suite Certifications -CTECS Administrative Services -IC3
Integrated Business Applications 2	-Various Certifications for Computer Applications
Business Principles and Management	-PE Business Principles

*PE—Precision Exams

- **Human Resources Management**

Initial Courses	Related Certifications
Fundamentals of Human Resource Management	-PE Business Communication -Southwest Communications
Business Law	-CTECS Human Resources

*PE—Precision Exams

- **Business Information Management**

Initial Courses	Related Certifications
Image Editing	ACA** Photoshop
Digital Publication Design	ACA Illustrator

**Adobe Certified Associate

- **General Management**

Initial Courses	Related Certifications
Accounting 1	-Financial Literacy -PE Level 1 Accounting -QuickBooks Certified User
Entrepreneurship	-CTECS General Management -Entrepreneurship and Small Business
Business Principles and Management	-PE Business Principles

*PE—Precision Exams

- **Operations Management**

Initial Courses	Related Certifications
Virtual Enterprise 1	
Virtual Enterprise 2	-CTECS Operations Management

*PE—Precision Exams

Opportunities for Continuing Education

One- and Two-Year Programs

- Accounting

- Accounting with Office Specialist

- Administrative Office Technology

- Administrative Office Technology with Medical Emphasis

- Business Administration

- Bookkeeping

Four-Year Programs

- Business Administration

- Finance

- Marketing

- Accounting

- International Business

- Human Resource Management

- E-Commerce

- Management Analysis

Top Occupations for High School Graduates with Median Salaries

Pharmacy Technicians ($33,600)
Medical Secretaries and Administrative Assistants ($33,400)
Personal Care Aides ($22,900)
Home Health Aides ($22,900)
Veterinary Assistants and Laboratory Animal Caretakers ($29,100)

Top Occupations for Those with Some Training (1 Year or Less)

Licensed Practical and Licensed Vocational Nurses ($44,100)
Nursing Assistants ($26,900)
Medical Assistants ($32,000)
Dental Assistants ($40,000)
Massage Therapists ($36,200)

Top Occupations for Those with Postsecondary Credentials

Associate Degree (2 Year Program)
Dental Hygienists ($61,500)
Radiologic Technologists and Technicians ($55,400)
Physical Therapist Assistants ($60,800)
Life, Physical, and Social Science Technicians, All Other ($52,900)
Medical Dosimetrists, Medical Records Specialists, and Health Technologists and Technicians, All Other ($38,300)
Bachelor's Degree (4 Year Program)
Registered Nurses ($66,100)
Environmental Scientists and Specialists, Including Health ($55,800)
Physical Therapist Assistants ($60,800)

SOUTH CAROLINA
CTE
CAREER AND TECHNICAL EDUCATION

Health Sciences Sector

Programs, Certifications and Employment Opportunities

High School Programs of Study and Certifications

- **Biomedical Sciences (Project Lead the Way)**

Initial Courses	Related Certifications
PLTW—Principles of Biomedical Science	
PLTW—Human Body Systems	
PLTW—Medical Innovations	-Biotechnician Assistant Credentialing Exam (BACE) -PE Medical Assistant (403) -PE Medical Forensics (406) -PE Biotechnology (393) -PE Clinical Laboratory Technology (394)

*PE—Precision Exams

- **Sports Medicine**

Initial Courses	Related Certifications
Sports Medicine 1	-Heads Up -Heat Prevention
Sports Medicine 2	-BLS -Sudden Cardiac Arrest

- **Emergency Medical Services**

Initial Courses	Related Certifications
Emergency Medical Services 1	
Emergency Medical Services 2	-Community Emergency Response Team -First Responder -BLS -Sudden Cardiac Arrest -PE* Emergency Medical Technician (398)

**Precision Exams

- **Health Science and Practical Nursing**

Initial Courses	Related Certifications
Health Science 1—Foundations of Healthcare Professionals	-Heads Up -PE 400
Health Science 2—Advance Healthcare Applications	-BLS PE Medical Assistant-Clinical and Laboratory Procedures (403) -PE-Medical Assistant—Medical Office Management (404) -Paid Feeding Assistant -Sudden Cardia Arrest

*PE—Precision Exams

Opportunities for Continuing Education

One- and Two-Year Programs

- Nursing Assistant
- **Physical Therapy Assistant**
- **Pharmacy Technician**
- **Phlebotomist**
- **EKG Technician**

Four-Year Programs

- Nursing
- Physical Therapy
- Athletic Trainer
- Exercise Physiology
- Pharmacy
- Medical Laboratory
- Biomedical Science
- Hospital Administration
- Health Informatics

South Carolina's High School Credential

South Carolina has roughly 100,000 students with disabilities serviced under the Individuals with Disabilities Education Act (IDEA), of which the majority are able to earn a State high school diploma. Given the varying levels of student achievement, some students are unable to complete this required high school coursework. As a result, there is a need to provide an alternative option for students with disabilities to demonstrate their ability to transition into the work community.

The uniform, state-recognized SC High School Credential is aligned to a newly created course of study for these students with disabilities whose Individualized Education Program (IEP) team determines this course of study is appropriate.

QUICK FACTS

Section 59-39-100 was amended to include:

1. flexibility in identifying and creating personalized diploma pathway options for all students.

2. an employability credential for applicable students with disabilities.

The SC High School Credential:

- is **not** a SC High School Diploma.

- is **not** for all students with disabilities.

- is a career-based educational program.

- began with the freshman class of 2018 with an expected completion date of 2022.

- is aligned with the Profile of the SC Graduate.

SC High School Credential Overview

24 units of coursework aligned with the SC College-and Career-Ready Standards

Units	Courses
4	ELA
4	Math
2	Science
2	Social Studies
4	Employability Education
1	PE/Health (or equivalent)
1	Technology
6	Electives

AND

- ☑ Career portfolio that includes a multimedia presentation project.

- ☑ Work readiness assessment results that demonstrate the student is ready for competitive employment.

- ☑ Work-based learning/training that totals at least 360 hours.

The Forgotten Middle

Middle-skill jobs, which require education beyond high school but not a four-year degree, make up the largest part of America's and South Carolina's labor market.

Key industries in South Carolina are unable to find enough sufficiently trained workers to fill these jobs.

Jobs and Workers by Skill Level, South Carolina, 2015
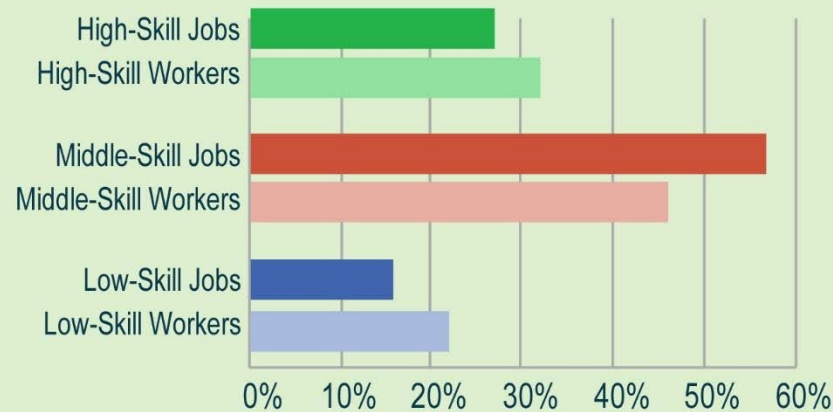
Source: NSC analysis of Bureau of Labor Statistics Occupational Employment Statistics by State, May 2015 and American Community Survey data 2015.

43-235. Employability Credential for Students with Disabilities. A. Introduction and Purpose. (1) This regulation, as governed by S.C. Code Ann. Section 59-39-100, will promulgate the program components and criteria for a state-recognized Employability Credential for applicable students with disabilities for whom such a credential is appropriate. (2) Pursuant to the regulatory requirements of Section 59-39-100, beginning in the 20 I8-19 school year, students with disabilities entering grade nine may attain a uniform diploma through one of the recognized personalized pathways; or may attain a uniform Employability Credential. Nothing contained in this regulation restricts any student from obtaining a state high school diploma. Nothing contained in this regulation restricts local school boards of trustees from awarding students with a certificate of attendance for students with disabilities who do not meet the requirements for earning either a state high school diploma or an Employability Credential. (3) Beginning no earlier than the end of the child's eighth grade academic school year, or later if deemed appropriate by the student's individualized education program (IEP) team, and updated annually thereafter, the IEP team must determine if the child's expected high school outcome will be to attain a state high school diploma or a state-recognized Employability Credential. The course of study identified in the IEP must match this determination. (4) The South Carolina Department of Education (SCDE), as the state educational agency (SEA); all local educational agencies (LEAs); all state-operated programs (SOPs); and all other public programs providing special education and related services as outlined in the Individuals with Disabilities Education Act (IDEA) must follow and comply with all statutory and regulatory requirements of the IDEA as outlined in 20 U.S.C. Section 1400 et seq., and the Code of Federal Regulations (C.F.R.), Chapter 34, Part 300. In addition to the statutory and regulatory requirements, this regulation further delineates requirements for attaining a state-recognized Employability Credential. B. Definitions. (1) Employability Credential is defined as a state-recognized certificate which demonstrates a student has completed requirements indicating the student has developed s kills and knowledge to prepare him or her for postsecondary employment and/or education as well as, community-based Jiving, as appropriate. (2) Work-based learning/training is defined as a paid or an unpaid opportunity to develop work skills, work expectations, and work behaviors. Work-based learning/training can occur in a school (e.g., school-based) and/or community setting (e.g., community-based). (3) Competitive employment as described in 34 C.F.R. Section 361.5(b)(11) means work- (a) To be in the competitive labor market that is performed on a full-time or part-time basis in an integrated setting which is a setting that consists of individuals who are not disabled that are in comparable positions as the individual with a disability; and (b) For which an individual is compensated at or above the minimum wage, but not less than the customary wage and level of benefits paid by the employer for the same or similar work performed by individuals who are not disabled. (4) Employability education is defined as instruction, services, and supports that will prepare the student to attain a job after completion of the Employability Credential. This will encompass career exploration, vocational education, functional skill development needed for the workplace, and a focus on job-readiness skills. Employability education may include Career and Technical Education programs and services. (5) Work readiness assessment is defined as a formal assessment (e.g., norm-referenced or criterion referenced) that measures a student's skills set in relation to skills that are necessary for competitive employment in the community. C. Requirements. (1) Minimal Course Requirements: The Employability Credential is designed for students with disabilities for whom the IEP team determines mastery of a career-based educational program (that includes academics, independent work experience, daily living skills, and self-determination skill

competencies) is the most appropriate way to demonstrate his or her skills and provide a free appropriate public education (FAPE). To attain the Employability Credential, the student must meet the graduation requirements of one unit of physical education/health (or equivalent) and one unit of technology course; a student must adhere to the local attendance policy; and a student must complete a total of 24 earned units that include the following: (a) Course work aligned with the South Carolina College and Career-Ready Standards for English Language Arts (four units), Mathematics (four units), Science (two units), and Social Studies (two units); (b) Four units of Employability Education; and (c) Six electives. (2) Minimal Required Components: In addition to completing coursework outlined in Section A above, to receive an Employability Credential, a student must: (a) Complete a career portfolio that includes a multimedia presentation project; (b) Obtain work readiness assessment results that demonstrate the student is ready for competitive employment; and (c) Complete work-based learning/training that totals at least 360 hours, in which: (i) Work-based learning/training may be school-based, community-based, and/or paid or unpaid employment; (ii) Work-based learning/training must be aligned with the student's interests, preferences, and postsecondary goals and individual graduation plan; and (iii) Paid employment must be at a minimum wage or above and in compliance with the requirements of the Federal Fair Labor Standards Act. (3) LENSOP Requirements. (a) The LEA and SOP must develop and maintain policies and procedures related to the state recognized Employability Credential. This must include mechanisms for monitoring students' progress toward attainment of the Employability Credential and mechanisms for monitoring proportionate numbers of Employability Credentials relative to the LEAs or SOPs' students with disabilities child count and graduation rate. (b) The decision to accept the Employability Credential does not relieve the LEA or SOP from providing a FAPE to the student until age 21 as defined in R. 43-243(ll l)(C) or until the student receives a regular high school diploma as defined in S.C. Code Ann. Section 59-39-100. (c) The LEA or SOP must explain and provide annual written notice to the parent, guardian, or adult student that the Employability Credential is not a state high school diploma. For the purposes of this part, an adult student is defined as a student who has reached the age of majority as defined in Reg .43-243(Ill)(F)(l). (d) An IEP team's decision to identify the Employability Credential as the student's expected high school outcome must be based on data to include, but not be limited to, longitudinal information of student grades, standardized achievement assessments, informal and formal transition assessments, adaptive behavior assessments, and work readiness assessments. The decision must be made only after the IEP team considers a continuum of program options that may allow the student to pursue a diploma.

D. Monitoring, Enforcement, and Program Information. (l) The SEA will develop and maintain policies, procedures, and guidance documents (to include a rubric and guidelines used to identify and assess the employability skills of the students) that are based on appropriate standards as related to the Employability Credential. Mechanisms for overseeing attainment of the Employability Credential shall be in place to monitor proportionate distribution of the Employability Credentials relative to the LEAs or SOPs' students with disabilities child count and to ensure that students with disabilities receive a FAPE. (2) State Monitoring. As outlined in 34 C.F.R. Sections 300.600 et seq., and provided for by the IDEA, the state shall monitor the implementation of educational programs for students with disabilities. (3) Enforcement. The state retains all rights for enforcement of this regulation and of all other applicable federal and state statutes, regulations, policies, and procedures related to the education of students with disabilities, including but not limited to the IDEA, the Every Student Succeeds Act, the Education Department General Administrative Regulation in 2 C.F.R. Section 200.300. (4) The

South Carolina State Board of Education authorizes the SCDE to develop and propose special education policies and procedures as necessary to meet these and other applicable federal requirements. HISTORY: Added by SCSR 42-5 Doc. No. 4752, eff May 25, 2018. 43- 2 3 6. Career or Technology Centers/Comprehensive High Schools. Career or technology centers and/or comprehensive high schools shall, based on local needs, offer a variety of courses that will constitute a career major. These career majors are contained in the clusters defined and communicated to school districts by the Office of Career and Technology Education in conjunction with federal and state funding for career and technology courses and program s. School districts will offer in high schools and/or career or technology centers a full complement of courses within a minimum of two career clusters to enable students to complete an approved sequence of Career and Technology Education coursework leading to a career goal. A student will have "completer" status upon meeting the requirements of the approved sequence, -which must require at least three Carnegie Units. HISTORY: Amended by State Register Volume 21, Issue No. 7, eff July 25, 1997; State Register Volume 27, Issue No. 2, eff February 28, 2003; State Register Volume 41, Issue No. 5, Doc. No. 4697, eff May 26, 2017

43-234. Defined Program, Grades 9-12 and Graduation Requirements. Each school district board of trustees must ensure quality schooling by providing a rigorous, relevant curriculum for all students. Each school district must offer a standards-based academic curriculum organized around a career cluster system that provides students with individualized education pathways and endorsements. I. Requirements for Earning a South Carolina High School Diploma A. The student must earn a total of twenty-four units of credit as follows: Unit Requirements English language arts 4.0 mathematics 4.0 science 3.0 U.S. History and Constitution 1.0 economics 0.5 U.S. Government 0.5 other social studies LO physical education or Junior ROTC 1.0 computer science 1.0 foreign language or career and technology education 1.0 electives 7.0 24.0 total B. Students shall have the opportunity to earn endorsements within each high school diploma pathway however, earning an endorsement is not a requirement for graduation. Endorsements shall identify a particular area of focus, beginning with the freshman class of 2018-19. The earning of a graduation endorsement shall be based upon the following criteria: 1. Students shall meet all requirements for earning a South Carolina high school diploma as set forth above and within this regulation. 2. Students may earn one or more endorsements in pathways approved in guidelines set by the State Board of Education (SBE). School districts may apply to the SBE to have additional endorsements approved. 3. English I, II, III, IV or their course equivalents (customized English I, II, III, IV as approved by the SBE through the locally designed course process as mentioned in 11.H.l) or higher level courses (Advanced Placement, International Baccalaureate, Dual Credit, etc.) must be taken to receive an endorsement. C. The South Carolina Department of Education (SCDE) has the authority to develop guidelines approved by the SBE in accordance with provisions of this regulation. D. The student must pass a classroom examination on the provisions and principles of the United States Constitution, the Declaration of Independence, the Federalist papers, and American institutions and ideals. This instruction must be given for a period of at least one year or its equivalent, either within the required course U.S. History and Constitution or within another course. (For specific regulations regarding the end-of-course test for U.S. History and Constitution, see Reg. 43-262, Assessment Program.) As part of the high school curriculum regarding the United States government required credit, students are required to take the civics test as defined as the one hundred questions that officers of the United States Citizenship and Immigration Services use to demonstrate a knowledge and understanding of the fundamentals of United States history and the principles and form of the United States government. E. The student must pass a high school credit course in science in which an end-of-course examination is administered. F. The student must be enrolled for a minimum of one semester immediately preceding his or her graduation, except in case of a bona fide change of residence. Units earned in a summer school program do not satisfy this requirement. II. Provisions for Schools in the Awarding of High School Credit A. A school may award and accept credit in units of one-fourth, one-half, and a whole. B. A school may award one unit of credit for an academic standards-based course that requires a minimum of 120 hours of instruction. A school may award one-half unit of credit for an academic standards-based course requiring a minimum of 60 hours of instruction and one-fourth unit of credit for an academic standards-based course requiring a minimum of 30 hours of instruction. C. A school may award credit for courses that have been approved by the SCDE in a proficiency based system. A proficiency-based course may also be offered for one-fourth, one-half, or one unit if the system. specifies these units. Each school district that seeks to implement a proficiency-based system must submit a plan to the SCDE that provides procedures for establishing and developing a proficiency-based system including the method for determining proficiency. The SCDE must

approve the district-submitted plan prior to the district's use of the proficiency-based system. Districts are accountable for making sure that the academic standards and the individual learning needs of the students are addressed. D. A school may award credit for those gateway courses that are a part of the End-of-Course Examination Program only if a student takes the course approved by the school in which he or she is enrolled and meets all the stipulated requirements of the End- of-Course Examination Program. (For specific regulations regarding end-of-course tests, see Reg. 43-262, Assessment Program.) E. A school may award credit only for courses in summer programs-either district-wide or schoolsite programs-that meet all the regulatory requirements for courses offered for students in grades nine through twelve. A district-wide summer school program may meet the administrative certification requirement by employing a district supervisor as well as a lead teacher for each school site. F. A school may award credit for a course that is approved by the district-whether that school offers the particular course or not-ifthe student receives prior approval. G. A school may award credit toward the high school diploma for a course that the student takes in an approved adult education program if the course is granted approval by the local superintendent or his or her designee. H. A school may award credit for locally designed courses under the following conditions: I. Locally designed core subject-area courses used as graduation units of credit must be aligned with the state academic standards for the particular subject area and must be approved by the local board of trustees andthe State Superintendent of Education. 2. Locally designed elective courses must be approved by

the local board of trustees. No more than two units may be awarded to a student for released-time classes in religious instruction. 3. Locally designed Career and Technical Education (CATE) courses funded with state or federal CATE monies must be approved by the SCDE's CATE office. I. A school may award credit for the American Sign Language course as the required unit in a foreign language. J. A school may award credit for a college course that students in grades nine through twelve take under the district's dual credit arrangement. K. A student who has earned the one-half credit in Keyboarding by the 2017- 18 school year will be awarded one-half unit of credit for Computer Science. III. Dual Credit Arrangement A. District boards of trustees may establish a policy allowing students to take college courses for units of credit toward the high school diploma. The district policy may allow for courses to be offered by an institution of higher education through a cooperative agreement. B. A three-semester-hour college course transfers as one unit of credit. C. Tuition costs and any other fees are the responsibility of the individual student or his or her parent(s) or legal guardian unless otherwise specified in local school district policy. D. Students enrolled in a South Carolina public school may take only courses that are applicable to baccalaureate degrees, associate degrees, or certification programs that lead to an industry credential offered by an appropriate regional accrediting agency recognized by the U.S. Department of Education. IV. Transfer Students A transfer student is one who enrolls in a South Carolina public school after having been enrolled in another school in this state or in a school in another state. Credits that he or she earned at the former school may be accepted and applied toward the South Carolina high school diploma. (For specific regulations see Reg. 43-273, Transfers and Withdrawals.) V. Instructional Program School districts must organize high school curricula around a minimum of three clusters of study and cluster majors. Such curricula must be designed to provide a well-rounded education that fosters artistic creativity, critical thinking, and self-discipline through the teaching of academic content and skills that students will use in postsecondary study and in the workplace. Students must declare an area of academic focus, also known as a career major, within a cluster of study before the endof the second semester of their tenth-grade year. Each year, schools must offer a range of

adults in South Carolina by county who possess a postsecondary degree or industry credential; 3. high school graduates who are gainfully employed in the State within five and ten years of graduating from high school; and 4. outcome data regarding student achievement and student growth that will assist colleges of education in achieving accreditation and in improving the quality of teachers in classrooms.

VII. Reporting Requirements A. High School Completers 1. Each school issuing the state high school diploma must submit to the State Superintendent of Education on or before May 1 the following data on its previous year's completers: a. the number of the school's completers who entered the freshman class of a postsecondary institution-either in South Carolina or out of state-and on whom such an institution has sent the school a first-term transcript or summary grade report, b. a breakdown of all postsecondary courses that this group of completers passed during their term, c. a breakdown of all postsecondary courses that this group failed during their first term, d. a breakdown of all postsecondary courses for which this group received a grade of "no credit" during their first term, and e. the number of the school's completers who did not enter a postsecondary institution but who instead chose a postsecondary alternative such as employment or military service or for whom no information is available. 2. Each school must use the official form to submit the required data on its previous year's completers. B. Career and Technology Education Completers Each district must survey all its high school graduates who are identified as career and technology education completers to determine their placement status with regard to employment, postsecondary education, and military service. A career and technology education completer is a student with an assigned Classification of Instructional Programs (CIP) code who has earned at least three units of credit in CATE courses leading to a career goal. The district must conduct the survey ten months after graduation each year and must submit the results annually to the SCDE for the purpose of federal and state accountability requirements. C. Student Records 1. Each school must have an appropriate means of reporting academic achievement to parents. 2. Each school district must maintain accurate student data according to the pupil accounting system prescribed by the SCDE. 3. Each school district must file a record of all dropouts that specifies for every student the name of the school in which he or she was enrolled and gives the following information on the student: his or her name, grade, race, sex, date of birth, free/reduced meals status, English proficiency status, and migrant status. 4. Each district superintendent must verify the accuracy of the student enrollment, attendance, membership by category, and dropout reports submitted to the SCDE's Office of Finance. *5.* Each school must comply with the Family Educational Rights and Privacy Act regarding student records (20 U.S.C. Section 1232(g)). D. Course Records for Students 1. Each district superintendent must verify the accuracy of course records for students. 2. The name and code number of every course that each student takes must be entered into the student data collection system active master scheduler at the time the student takes the course. Courses may not be added to the student's course history (transcript) without first being entered into the scheduler. 3. Courses offered in nontraditional settings such as online courses, courses offered in conjunction with a college or technical college (i.e., dual credit), and courses offered by the school through the district, state, or another type of provider must be included in the active master scheduler. E. Longitudinal Data System The Revenue and Fiscal Affairs Office, working with the Office of First Steps to School Readiness, the SCDE, the South Carolina Commission on Higher Education, the Department of Social Services, the South Carolina Technical College System, the Department of Commerce, the Department of Employment and Workforce, and other state agencies or institutions of higher education, shall develop, implement, and maintain a universal identification system that includes, at a minimum, the following information for measuring the continuous improvement of the state public education system and the college and career readiness and success of its graduates: 1. students graduating from public high schools in the State who enter postsecondary education without the need for remediation; 2. working-aged

required college- and career-ready courses in the core subject areas as listed in the SCDE's Activity Coding System to meet the needs of all students in a four-year graduation cohort. For students whose academic needs are greater than those courses offered by their school, Virtual SC courses, if available, must be offered by the district to the students in order to graduate with the four year graduation cohort. A. Career Clusters School districts must use the sixteen clusters for reporting purposes but may modify these clusters (for example, Arts and Humanities in place of Arts, Audio -Video Technology, and Communications). The sixteen state clusters are the same as the sixteen federal clusters: Agriculture, Food, and Natural Resources Architecture and Construction Arts, Audio-Video Technology, and Communications Business, Management, and Administration Education and Training Finance Government and Public Administration Health Science Hospitality and Tourism Human Services/Family and Consumer Sciences Information Technology Law, Public Safety, Corrections, and Security Manufacturing Marketing, Sales, and Service Science, Technology, Engineering, and Mathematics Transportation, Distribution, and Logistics B. Schools must also offer instruction in each of the following areas: l. Advanced Placement: Schools whose organizational structure includes grades eleven and twelve must offer Advanced Placement courses. (For specific regulations regarding the Advanced Placement program, see Reg. 43- 258.1, Advanced Placement.) 2. Alcohol, tobacco, and other drugs: Schools must provide age-appropriate instruction regarding the dangers in the use and abuse of alcohol, tobacco, and other drugs. Instruction must emphasize the negative effects that the use of such substances can have on the total community. 3. Career and technology education: Schools must offer CATE courses. Students who plan to complete a CATE program must earn at least three units in an approved sequence of CATE courses leading to a career goal. 4. Driver education: Schools must provide a complete program of driver education, including classroom and behind-the-wheel phases, each semester on an elective basis for eligible students. (For specific regulations regarding driver education, see Reg. 43-242, Driver Training.) 5. Environmental studies: Schools must include environmental studies as a part of their instructional program. 6. Financial literacy: Schools must include financial literacy as a part of the instructional program. 7. Foreign language (modem and classical languages): Schools must offer levels 1 and 2 of at least one modem or classical language. Most state four-year colleges/universities require at least two units of the same modern or classical language for admission. 8. Health education: Schools must have a program of instruction in comprehensive health education. (For specific requirements regarding health education, see Reg. 43-238, Health Education Requirement.) At least one time during the entire four years of grades nine through twelve, each student shall receive instruction in cardiopulmonary resuscitation (CPR) which must include, but not be limited to, hands-only CPR and must include awareness in the use of an automated external defibrillator (AED) except that virtual schools may administer the instruction virtually and are exempt from any in-person instructional requirements. 9. Physical education: The required physical education course in secondary schools shall occur over two semesters (year -lo n g schedule) or two nine weeks (semester block schedule) or the equivalent. For one semester, a personal fitness and wellness component must be taught, and for one semester, a lifetime fitness component must be taught either over the semester or in two nine-week divisionsor the equivalent. 10. Visual and performing arts: Schools must offer courses in the visual and performing arts.

(Omitted certain school/facility and program requirements not directly related to diploma/graduation requirements)
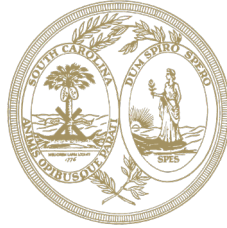
SOUTH CAROLINA
COMMISSION ON HIGHER EDUCATION

November 19, 2020

To: Members, Advisory Committee on Academic Programs (ACAP)

From: John Lane, DMA, Director of Academic Affairs

<u>Cambridge International</u>

Background

South *Carolina Code of Laws, 1976* as amended, §59-29-190, prescribes requirements for acceptance of students' advanced placement scores "in each post-secondary public college in South Carolina in the manner specified by the Commission on Higher Education in conjunction with the State Board of Education." Accordingly, the Commission adopted and revised policies from 1985 through 2016, including the addition of International Baccalaureate policy in 2007, comprising the *[Policy for the Award of Credit for AP and IB](#)*.

At the November 29, 2018 ACAP meeting, *[Cambridge Assessment International Education](#)* ("*Cambridge International*," "*CI*") representatives introduced *Cambridge International* as a potential advanced placement option for adoption by CHE. *Cambridge International* is a learner-centered not-for-profit division of the University of Cambridge providing an instructional system aligning "curriculum, teaching & learning, and assessment, serving grades K–12." To help explain how *CI* could serve South Carolina students better, representatives invited Aiken County School District educators to present findings since the district's adoption, attesting to student success with AICE, the Advanced International Certificate of Education Diploma. In addition, *Cambridge International* provided specific evidence from Florida of interventions for underserved students, including improvements in high school graduation rates, college and career readiness, and post-secondary attendance. As a result of committee discussion, staff convened an *ad hoc* committee in 2019 (September and December) and early 2020 for further study, including review of CI materials and exams by institutional faculty who provided favorable feedback. Members included chief academic and enrollment management officers, representatives from the South Carolina Department of Education (SCDE), and from *Cambridge International*. Participants reviewed adoption in a number of states and current recognition by other SC state education agencies, including the SCDE (see [South Carolina Uniform Grading Policy 2019](#)) and the Education Oversight Committee (see [2018-2019 Accountability Manual](#)). The Office of the Governor has also provided endorsement.

Ad hoc committee members agreed to prepare a draft for adoption based on the *CHE International Baccalaureate* policy template (see attachment).

At the June 9, 2020 ACAP meeting, committee members discussed the recommendation, possible amendments, and the Cambridge assessments' potential to suggests students' postsecondary success.

The representative from the Governor's Office provided background information and affirmed support. The Cambridge International representative responded to questions with available information. Upon discussion, the committee tabled consideration to request and review additional data. During fall 2020, the CI representative and Commission staff provided August 2020 data to inquiring committee members of CI student success at Florida State University. Committee members reviewed findings with their faculty and academic officers and discussed data and remaining questions with Commission staff.

Scoring

Cambridge International provided a summary to explain its scoring system in relation to AP and IB:

1. The Cambridge International *AS* Level and the IB *Standard* Level vary. For example, the *AS* Level recommends 180 student contact/learning hours, while the IB *Standard* Level stops at 150. At the *A* Level, Cambridge requires 360 hours; the IB *Higher* Level stops at 240.

2. There is considerable research showing that Cambridge International *AS* Level students are performing as well as AP students when looking at GPA, persistence, and completion, and better than IB students (see attached full article). For a compilation of US research, please see this blog post from our head of research in the UK.

3. High schools in the US are limited in their ability to offer Cambridge International *A* levels given the four-year structure. Only in rare instances are high schools able to offer the *A* level—over 80% of the Cambridge courses/exams in the US are at the *AS* level. The students earning the AICE diploma are doing so primarily through the *AS* Level courses.   Discounting the *AS* level in policy will render US students unable to have their exceptional skills recognized, including current and future South Carolina students.

4. The majority of US Cambridge International students over the past 15 years have attended higher education institutions in the Florida state university system and were awarded credit by exam on *AS* levels at a grade of e or higher. If the Florida institutions, including the state flagship institutions, were not seeing these students succeed in their first year on the subsequent courses, the state university system would have called for a review and changed their credit policies. The Florida statute requires a policy review every five (5) years to ensure appropriateness. The policy still receives significant support from the state's technical experts.

5. Several states in the region have either recently adopted or renewed (long-standing) policies for *Cambridge International* exams, specifically and deliberately including the *AS* Level: Florida, Mississippi, Virginia, and the University of North Carolina system. The state of Washington passed legislation requiring policy for *AS* and *A* Levels in the last year, and the North Carolina Community College System has policy in draft form at the e/E. These policies do encompass their state flagship institutions. These policies were adopted not just to recognize the knowledge and skills *Cambridge International* students have demonstrated, but to also support state goals in recruiting and enrolling talented students very likely to succeed. As a result of the policy difference, SC institutions would likely not be a favorable destination for out-of-state Cambridge International students; and it will greatly disadvantage current and new Cambridge International students from SC secondary schools.

Accordingly, the draft proposes scores of E or higher on any AS and A level Cambridge Assessment International Education course examination.

International Baccalaureate Score

For Advanced Placement tests, a minimum score of three is awarded credit (rf. SC §59-29-190; CHE Policy). For International Baccalaureate Higher Level exams, a minimum score of four is awarded credit. Statute requires a minimum score of three to be awarded, which is specific for AP exams. The IB minimum score of four on Higher Level exams is broadly recognized as on par with the AP score of three and as such does not contradict statute. This confirmation is proposed in the policy draft for clarification only, and represents no change to Commission AP or IB policy.

Recommendation

Staff recommends the Advisory Committee on Academic Programs favourably commend to the Committee on Academic Affairs and Licensing endorsement of Cambridge Assessment International Education.

South Carolina Commission on Higher Education
Policies on Advanced Placement, ~~and~~ International Baccalaureate, and Cambridge Assessment International Education Credit Awards

Advanced Placement Credit Award Policy

Each public institution of higher education shall give credit in appropriate courses for scores of three or higher on pertinent Advanced Placement examinations.

As used above, the phrase "appropriate courses" means those courses offered by the institutions which parallel the content covered by the AP exam. The phrase "pertinent examination" means those examinations whose content parallels that of the institutional course.

1. In no instance shall an institution be required to award more than six to eight credits in any one discipline area.

2. For purposes of this policy, history is defined as consisting of two disciplines:
    American History and non-American History.

3. Because of the major overlap in course content between the two English AP exams, English Language and Composition and English Literature and Composition, the awarding of AP credit in English should be treated separately from that of other disciplines as follows:

    a. if a student receives a score of "3" or "4" on either English AP exam, credit would be awarded for English Composition I (ENG 101)[1] or an introductory composition equivalent;

    b. if a student receives a score of "3" or "4" on each English AP exam, or a "3" on one and a "4" on the other, credit would be awarded for English Composition I and II (ENG 101 and 102) or their introductory composition equivalents;

    c. if a student receives a score of "5" on either or both English AP exams, credit would be awarded for both English Composition I and II (ENG 101 and 102) or their introductory composition equivalents.

4. Because of the interdisciplinary nature of the AP Seminar and Research courses, institutions are encouraged to award general elective credit for scores of 3 or higher on those AP exams; however, if the institution offers a comparable course, credit may be awarded for that course.

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[1] This document uses the South Carolina Technical College System's course titles.

International Baccalaureate Credit Award Policy

Each public institution of higher education shall give credit in appropriate courses for scores of four or higher on any higher-level IB course examination.

The amount of college course credit awarded for a higher-level IB course will be equivalent to the credit hour value of the college course for which the IB credit is being accepted.

~~The Policies on Advanced Placement and International Baccalaureate Credit Awards shall be referenced in the institution's academic catalogue and made available to the public on the institution's website.~~

N.B.   An IB minimum score of four on higher-level exams is broadly recognized as equivalent with an AP score of three, and therefore supports statutory intent.

Advanced Placement Policy initially approved by CHE July 1985
Revision approved by CHE January 1995
Revision approved by CHE May 5, 2016

International Baccalaureate Policy initially approved by CHE October 4, 2007
Revision approved by CHE May 5, 2016

Draft language proposal based on CHE IB policy:

Cambridge Assessment International Education Credit AICE Award Policy

Each public institution of higher education shall give credit in appropriate Cambridge International courses for scores of E or higher on a Cambridge International Advanced AS and A Level examination.

The amount of college course credit awarded for a ~~higher-level~~ Cambridge Assessment International Education AS and A Level examination ~~course~~ will be equivalent to the credit hour value of the college course for which the Cambridge Assessment International Education credit is being accepted.

The Policies on Advanced Placement, ~~and~~ International Baccalaureate Credit Awards, and Cambridge Assessment International Education shall be referenced in the institution's academic catalogue and made available to the public on the institution's website.

Success in the US:

Are Cambridge International Assessments Good Preparation for University Study?

By Stuart Shaw and Clare Bailey

Introduction

This article focuses on the research being conducted by University of Cambridge International Examinations (Cambridge) to ensure that its international assessments prepare students as well as Advanced Placement and International Baccalaureate for continued studies in colleges and universities. The primary purpose of the research is to highlight the predictive validity of Cambridge examinations and other students' characteristics to predict preparedness for and continued academic success at US universities. Predictive validity is a measurement of how well a test predicts future performance and entails the comparison of test scores with some other measure for the same candidates taken some time after the test (see Anastasi 1988, Alderson, et al. 1995). For tests that are used for university selection purposes it is vital to demonstrate predictive validity.

The research reported here uses data collected from three years' worth of students enrolled at Florida State University (FL). The data include information about each student's performance at high school, ethnicity, gender, and first-year Grade Point Average (GPA). Multilevel modelling has been applied to the data using the statistical software package MLwiN to investigate the relationships between the variables, and in particular to determine which are the best indicators of academic success at university while taking into account the effects of individual high schools.

High School Acceleration Programs

Advanced Placement (AP) has been a staple in US education for more than 50 years. Designed to promote excellence in secondary education, the program desires to allow motivated students to work at their optimum capability. Nearly 1 million US students now take at least one AP exam during their secondary careers. As Harvard (MA), Yale (CT) and Princeton (NJ) Universities were active participants in the study that led to the creation of AP, the acceptance of this credential is nearly universal among American universities.

In the late 1960s the International Baccalaureate (IB) was founded. While initially established as a single program for internationally mobile students, the program has flourished throughout the world, but nowhere greater than in the United States. By 2005 over 1,000 secondary schools in North America offered the IB curriculum. The IB had to work diligently to have US universities provide recognition similar to that provided to AP.

Cambridge provides international qualifications for five to 19-year-olds. While Cambridge has been offering examinations for 150 years, it is relatively new in offering its curriculum in the United States. The four-year Cambridge curriculum and exams leading to an Advanced International Certificate of Education (AICE) Diploma were introduced in Florida's Bay High School a little more than 15 years ago. Cambridge is experiencing the same curve of recognition as IB experienced in the 1970s and 1980s.

The Cambridge Acceleration Program

Cambridge offers the International General Certificate of Secondary Education (IGCSE), which is a two-year qualification aimed at 14- to 16-year-olds. Cambridge IGCSE encourages learner-centered and inquiry-based approaches to learning. It has been designed to develop learners' skills in creative thinking, inquiry and problem-solving, giving learners a sound preparatory basis for the next stage in their education. More than 70 subjects are available for study, and schools may offer any combination of these subjects. In some IGCSE subjects, there are two course levels, known as the Core Curriculum and the Extended Curriculum. The Extended Curriculum includes the material from the Core Curriculum, as well as additional, more advanced material.

Cambridge also offers the international Advanced Subsidiary (AS)/Advanced (A) Level which is a two-year international qualification aimed at the 16–18 age range and is intended to follow the IGCSE. The A-Level courses are designed to be flexible, and can be structured in a variety of ways:

Option 1: Candidates can take all papers of the Cambridge International A Level course in the same examination session, usually at the end of the second year of study.

Option 2: Candidates can take a "staged" assessment route—taking the Cambridge International AS Level in one examination session and completing the final Cambridge International A Level at a subsequent session. (The staged assessment route is not possible in all subjects. For example, the outcomes awarded for Cambridge International AS Level language syllabi cannot be carried forward to Cambridge International A Level).

Option 3: Candidates can take the Cambridge International AS Level only, either at the end of a one-year or two-year course. The Cambridge International AS Level syllabus content is half a Cambridge International A Level program.

Cambridge awards a Cambridge AICE Diploma to students who have passed a prescribed number of subject examinations at A level and/or the AS level. To qualify for a Cambridge AICE Diploma, students must pass at least one examination from each of three subject groups to include mathematics and sciences, languages (both foreign and first), and arts and humanities. In the US, Cambridge International AS and A level examinations are sometimes referred to as "Cambridge AICE" or "AICE" examinations. Students passing AS and A level examinations may be awarded entry-level or intermediary-level university course credit by examination or advanced standing at US colleges and universities.

For the benefit of readers who may not be familiar with the UK secondary school and university system, we include a tabulated comparison of secondary education in the UK and the US as an appendix on page 16.

High School Indicators for Success

Given the increase in the number of applications for admission to colleges and universities for the limited number of seats in freshmen classes, students and universities in the US must consider all available indicators of success in higher education. There are many ways students can gain recognition to contribute towards their university application. The standard high school exam in the US is the SAT (formerly known as the Scholastic Aptitude Test) although in some states an alternative, the ACT (American College Testing), is more popular. (Concordance tables are published to find equivalences so that SAT scores can be used for the minority of students who take the ACT). In this article we are studying students in Florida, where the majority take the SAT exam. Although standardized test scores have varying significance in the admission decisions of all students who qualify for admission at universities in the US, all potential US university students must submit results of college entrance exams, either SAT

or ACT, in order for an application to be considered complete in many universities. In addition to this, students can choose to take other exams, such as those that are part of the IB, the AP or Cambridge's International A level program, AICE.

The College Board encourages universities to use SAT and high school grades when making admission decisions. However, high school grades are not necessarily a good means of comparing students' experiences and achievements at university. This is because high school grades reflect the standards and quality of a particular school or schooling system. These standards differ according to school area or region (e.g., urban or rural) and even individual schools. Moreover, inter-school effects are not always reflected in high school grades (Burton and Ramist 2001).

The primary purpose of the SAT is to measure a student's potential for academic success in college. In this context, a number of studies that attest to the predictive validity of the SAT have been undertaken. (For a useful summary relating to the predictive utility of SAT, ACT and high school GPA (HSGPA) as indicators of university success see Cohn, et al. 2004).

Cohn, Manion and Morrison (2004) used SAT scores, HSGPA and high school class rank to determine how well these predict college GPA. Data were collected from 521 students enrolled on Principles of Economics at the University of South Carolina in 2000 and 2001. They examined the frequency distribution of key variables and regression analysis (no multilevel model), with students grouped according to gender and race. It was found that having a SAT score of more than 1,100 (out of a possible 1600) and a class rank of more than 70 gave a predicted college GPA of around 3.0.

A large-scale national validity study of the revised SAT (incorporating an additional section in writing and minor changes in content to the verbal and mathematics sections) was undertaken by Kobrin, Patterson, Shaw, Mattern, and Barbuti (College Board, 2008). Their studies were based

on data from 150,000 students entering 110 US four-year colleges and universities in the fall 2006 and completing their first year of college in May/June 2007. The writing section was shown to be the single most predictive section of the test for all students. The analyses also found the writing section to be the most predictive across all minority groups. The studies also revealed that:

- SAT is a strong predictor of how students perform in their first year at university

- SAT is a stronger predictor than high school grades for all minority groups (African American, Hispanic, American Indian, and Asian)

- the recently added writing section is the most predictive of the three SAT sections.

Culpepper and Davenport (2009) studied a sample of 32,103 first-year students who were enrolled in one of 30 colleges or universities in 1995. They compared the attainment of students from different racial/ethnic backgrounds, and found that an African-American student with the same HSGPA, SAT or ACT score as a white student was likely to have a lower college GPA.

However, not all studies have produced evidence that the SAT identifies the students most likely to succeed at university. Lenning (1975) carried out three studies to determine whether ACT was as good a predictor of college grades as SAT for highly-selective institutions. Although only three such institutions were studied, they found that ACT scores could be at least as predictive, and likely more predictive, of college grades at highly selective institutions than SAT scores.

Noble and Sawyer (1987) considered the ACT scores and HSGPA for students enrolled at 233 institutions across 2812 courses in October 1985. They computed regression statistics for each course. They found that including HSGPA gave a stronger prediction of college GPA.

Noble (1991) conducted a study of 30 colleges, mainly located in central and southern US, with a higher than representative proportion of public colleges. It was found that ACT is a reasonable predictor of college success, and that including HSGPA improves the predictive validity.

A study by Betts and Morrell (1999) also indicated that HSGPA (as well as SAT scores) are significant predictors of university GPA.

Methodology and Analysis

This study takes a case study approach using data from Florida State University (FSU). Denscombe (2003) describes the key characteristics of case study research: spotlight on one instance; in-depth study; focus on relationships and process; natural setting; and multiple sources and methods. (For detailed explanations and discussions of case study research, see Denscombe, 2003; Bell, 2005; Cohen, Manion and Morrison, 2007; and Sharp, 2009).

FSU is a publicly-supported institution located in the state capital of Tallahassee. FSU is a comprehensive, national graduate research university with 40,255 students, 8,557 of whom are graduate students. FSU is home to the National High Magnetic Field Laboratory and the arts program—dance, film, music, and theatre—is widely regarded within the US. Recently FSU added a College of Engineering and a College of Medicine. It also has a College of Law.

Research Hypotheses

The four principal hypotheses tested in this study may be stated in the following way:

Hypothesis 1: Students who follow either the AP or IB or the Cambridge AICE or no credit program achieve differentially on first-year university GPA (given the same SAT scores).

Hypothesis 2: The differences in first-year university GPA between males and females vary for students who follow each of the four programs (given the same SAT scores).

Hypothesis 3: The differences in first-year university GPA between student ethnic groups vary for students who follow each of the four programs (given the same SAT scores).

Hypothesis 4: The differences in first-year university GPA between student ethnic groups and between genders vary for students who follow each of the four programs (given the same SAT scores).

Data and Measurement Issues

The SAT score (total SAT score, SAT-Tot) has been used as the choice of measure for the high school performance. A point worthy of note is when students take the SAT. If students take the SAT late junior year or early senior year, then any additional acceleration program, may have an effect on their score.

The concept of tertiary level academic success used here is determined by the persistence of a student within the university with a specific GPA. The definition of university GPA employed is based on the accumulation of all previous semesters' work.

> Recognizing how groups of individuals can be nested can help build a more realistic picture, giving insight into where and how effects are happening, and this is what multilevel modelling aims to do…

==To fit the multilevel models we used data based on records of more than 8,500 students who entered FSU during the academic years 2007–2008, 2008–2009 and 2009–2010.==

Four datasets representing secondary educational programs were obtained from enrollment and admission staff at the university. The largest data set (n = 6,382) contained information on students with only the SAT (or ACT) score (hereafter referred to as having "no credit"). The three other data sets contained information on students with Cambridge AICE credit (n = 144), with AP credit (n = 1,188) and IB credit (n = 806). Figure 1 shows student data in terms of relative proportions by race.

Figure 1: Proportion of Students by Race

Unreported, 88, 1%
Native Hawaiian, 15, 0%
Native American, 53, 1%
Hispanic, 1,128, 13%
Asian, 296, 3%
Black, 1,054, 12%
White, 5,886, 70%
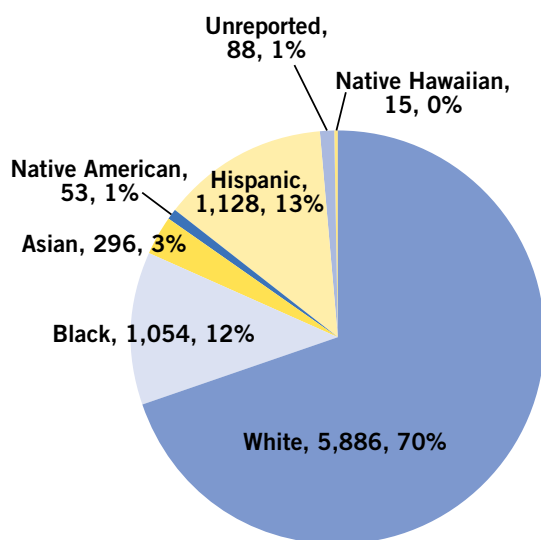
Column headings for each of the four datasets include: FSU student number, year enrolled, race, gender, FSU GPA, high school GPA, SAT verbal, SAT math, SAT total, ACT (if applicable), high school attended, type of exam program followed (if applicable). The explanatory variables are set out in Table 1.

The four data sets were combined into an overall matrix. The structure of the data, which contain students from (i.e., "nested within") a number of high schools, suggests the use of multilevel models. The multilevel software package MLwiN (Version 2.02 Rasbash, et al. 2005) was therefore used.

Table 1: Explanatory Variables Definition

Generic data requirements	
Variable	**Explanation**
FSU student number	Unique student identifier
Race	1 = white, 2 = black, 3 = Asian, 4 = Native American, 5 = Hispanic, 6 = unreported, 7 = Native Hawaiian/other Pacific Islander
Gender	M = male, F = female
FSU GPA	Possible values from 0 to 4
High school GPA	Possible values from 0 to 4 (or in some cases more than 4)
Matriculation year	Year first enrolled at FSU
SAT verbal	SAT score for critical reading component
SAT math	SAT score for math component
SAT total	Total SAT score
ACT composite	ACT score
High school code	Local high school identifier
Type of credit	Exam program followed – Cambridge AICE, AP, IB or no credit
Credit hours	Number of hours credit gained on a college course

Multilevel Modelling

==Multilevel modelling is a way of finding a line of regression through different groups, nests or hierarchies of data (unlike standard multiple regression techniques which assume that the observations are independent, which is not the case here). Multilevel modelling takes account of the context in which a variable exists.== It is often ==used in sociological applications== because individuals are affected by or defined by the groups they belong to. For example, patients receiving the same treatment for the same condition at different hospitals may experience different patient outcomes; students in different classes or in different schools may obtain different exam results. Recognizing how groups of individuals can be nested can help build a more realistic picture, giving insight into where and how effects are happening, and this is what multilevel modelling aims to do (see Goldstein 2011 or Bryman and Hardy 2009 for a more detailed description of multilevel modelling).
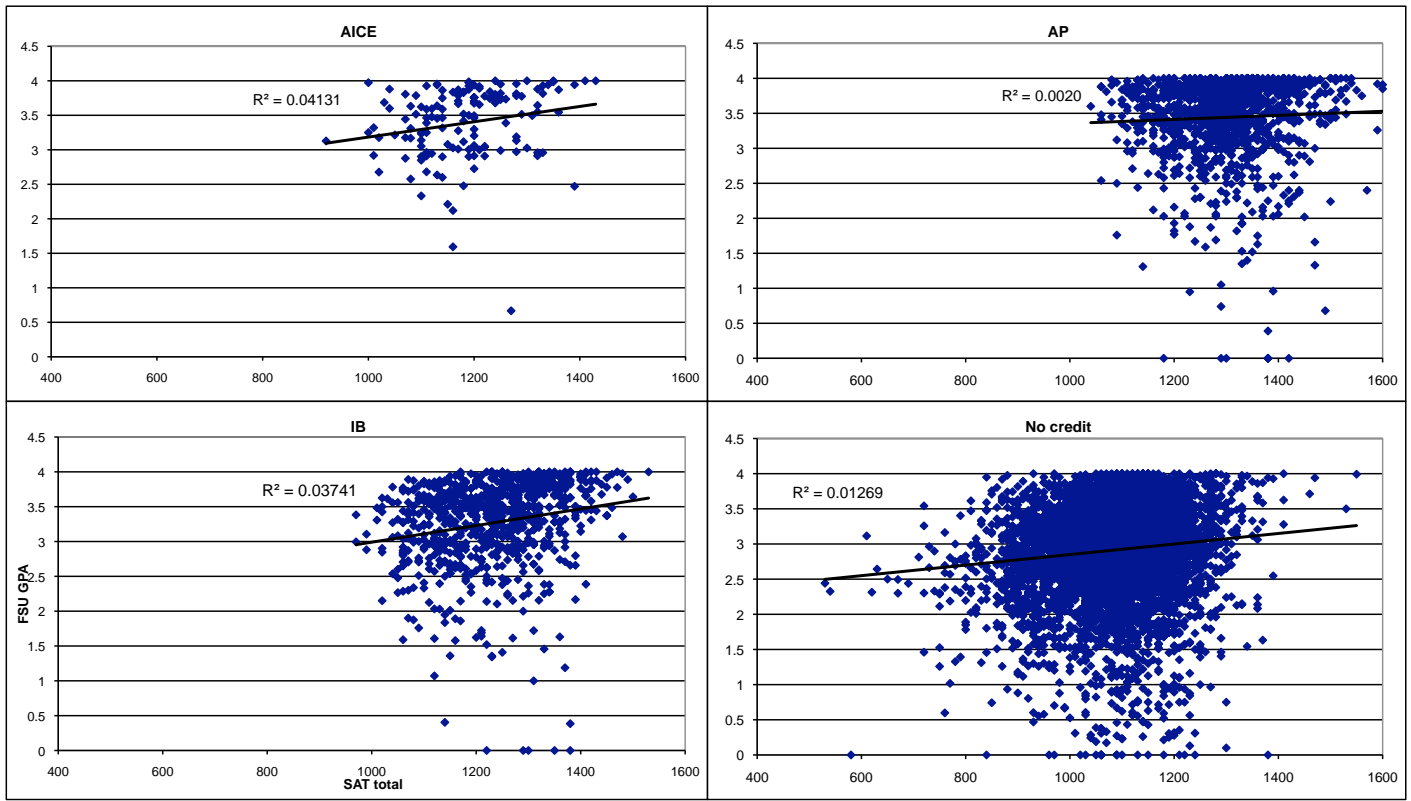
Not using a multilevel model as a result of failing to recognize hierarchical structures makes it more likely that a significant difference is reported when in fact the difference is non-significant (i.e., a false positive or type 1 error); standard errors of regression coefficients will be underestimated, leading to an overstatement of statistical significance.

As the outcome variable (FSU GPA scores—first-year examination marks) is continuous, the model fitted was:

$$y_{ij} = \beta_{0ij}x_0 + \beta_1 x_{ij}$$
$$\beta_{0ij} = v_{0j} + \varepsilon_{0ij}$$

where y_{ij} is the predicted outcome variable (FSU GPA score) for individual i in high school j, β_{0ij} is a constant, β_1 is the independent contribution of the predictor variable to the dependent variable, x_{ij} is a predictor variable, v_{0j} is high school level residual error and ε_{0ij} is individual level residual error.

Multilevel models have been used in several predictive studies to take into account the hierarchical structure of educational assessment data. For example, Bell and Dexter (2000) used multilevel modelling to investigate the comparability of IGCSE and GCSE (the UK equivalent of IGCSE) and suggested that a wide between-school variation can make results misleading. However, this is the first study to our knowledge that uses multilevel modelling to compare the predictive validity of different types of high school exam programs in the US.

Figure 2 shows the total SAT scores and the FSU GPA for each student in the dataset according to the exam program followed. It can be seen that there are a number of outliers at the FSU GPA level—students who perform well in their SAT score but who do not do so well in their first year of college. In every case where students exhibit a zero score for their GPA it was noted that these were new students yet to receive a GPA. According to university admission staff, any instances of low GPA scores are representative of underperforming students experiencing academic difficulties. It may be assumed, therefore, that these are special cases which a model could not reasonably predict. Consequently, any student with a GPA of less than 1.0 was excluded from the data set. It should also be noted that most of the student GPAs shown in Figure 2 fall within the two–four range (though this range is wider for "no credit" students). The SAT scores for students with no credit are considerably lower than those of the other three groups.

Findings

In each of the tables that follow, regression coefficients are statistically significant if they equal twice or more the value of the standard error (shown in brackets). Statistically significant effects are shown in bold type. It should be noted that throughout the analysis school effects appeared to be much smaller than individual-level effects, in other words, there is no statistical difference between schools.

Hypothesis 1: Educational Program

Using the refined dataset (excluding FSU GPA scores less than 1.0 and with the 488, or 5.7 percent of candidates missing SAT-Tot scores replaced with equivalent ACT) the model investigates the factors associated with the course of program study (Table 2a).

Table 2a: Effect of Educational Program on FSU GPA

Base – Cambridge AICE	Regression Coefficient (Standard Error)
AP	0.061 (0.060)
IB	-0.105 (0.063)
no credit	**-0.478 (0.058)**

A student taking Cambridge AICE is predicted to get, on average, 0.478 higher on their FSU GPA than a student taking no extra exam program. There is some evidence that a student taking Cambridge AICE is predicted to get higher in their FSU GPA than a student taking IB, but because of the smaller sample size of the Cambridge AICE cohort, it is difficult to be certain about this.

The same analysis is performed, but compares the performance of students who have equivalent SAT scores. This is known as 'controlling for SAT score' and gives a more reliable picture as it enables us to focus on the only factors that are affecting the outcome.

Controlling for total SAT score we can see that, given equivalent SAT scores, the Cambridge AICE exam is associated with, on average, 0.142 higher on their FSU GPA than the IB, and 0.389 higher than having no extra credit (Table 2b).

Table 2b: Effect of Educational Program (given equivalent SAT scores) on FSU GPA

Base – Cambridge AICE	Regression Coefficient (Standard Error)
AP with SAT	-0.026 (0.058)
IB with SAT	-0.142 (0.060)
no credit with SAT	**-0.389 (0.056)**

Hypothesis 2: Gender

Table 3a shows that, compared to having no extra credit, the Cambridge AICE is associated with on average 0.465 higher FSU GPA, controlling for the effects of gender. There is some evidence to say that a male having Cambridge AICE does slightly better, on average, than a male with IB.

Table 3a: Effect of Gender on FSU GPA

Base – Cambridge AICE, male	Regression Coefficient (Standard Error)
AP	0.091 (0.060)
IB	-0.095 (0.063)
no credit	**-0.465 (0.058)**

Considering the effect of gender and equivalent SAT scores on FSU GPA Table 3b shows that the Cambridge AICE is associated with, on average, 0.354 higher GPA than no credit, controlling for gender and given equivalent SAT scores. It is also associated with, on average, 0.139 higher GPA than the IB, after controlling for gender and given equivalent SAT scores.

Table 3b: Effect of Gender (given equivalent SAT scores) on FSU GPA

Base – Cambridge AICE, male	Regression Coefficient (Standard Error)
AP	-0.0096 (0.057)
IB	-0.139 (0.059)
no credit	**-0.354 (0.055)**

Controlling for gender and SAT score closes the gap in FSU GPA between males and females for all groups of exam program.

Hypothesis 3: Race

Table 4a shows that black students perform, on average 0.305 points lower on their FSU GPA than white students, after controlling for examination program.

Controlling for race and SAT score (Table 4b), we see that black students perform on average 0.25 points less well on their FSU GPA compared with white students, which is better (a smaller gap in performance) than when SAT score is not controlled for.

Table 4a: Effect of Race on FSU GPA

Base – Cambridge AICE, white	Regression Coefficient (Standard Error)
AP	0.072 (0.057)
IB	-0.090 (0.059)
no credit	**-0.433 (0.055)**
Black	**-0.305 (0.020)**
Asian	**-0.115 (0.033)**
Native American	0.083 (0.077)
Hispanic	**-0.060 (0.019)**
Unreported	-0.041 (0.060)
Hawaiian	-0.030 (0.144)

Cambridge AICE students get, on average, 0.12 higher on FSU GPA than IB students, after controlling for race and SAT score, which is now significant. Asian and Hispanic students also do less poorly compared to white students, given equivalent SAT score, than if SAT score is not considered.

Table 4b: Effect of Race (given the same SAT scores) on FSU GPA

Base – Cambridge AICE, white	Regression Coefficient (Standard Error)
AP	0.005 (0.056)
IB	**-0.120 (0.058)**
no credit	**-0.377 (0.054)**
Black	**-0.250 (0.021)**
Asian	**-0.109 (0.033)**
Native American	0.101 (0.077)
Hispanic	**-0.048 (0.019)**
Unreported	-0.054 (0.060)
Hawaiian	-0.014 (0.143)

Controlling for SAT score closes the gap in FSU GPA for all groups except IB.

Hypothesis 4: Gender and Race

This model shows that black students have an FSU GPA that is on average 0.319 points lower than that of white students after controlling for gender (Table 5a), which is a slightly larger gap than when gender is not considered.

Controlling for gender means Hispanics have a slightly smaller FSU GPA.

Table 5a: Effect of Gender and Race on FSU GPA

Base – Cambridge AICE, white, male	Regression Coefficient (Standard Error)
AP	0.104 (0.056)
IB	**-0.080 (0.059)**
no credit	**-0.417 (0.054)**
Black	**-0.319 (0.020)**
Asian	**-0.100 (0.033)**
Native American	0.072 (0.076)
Hispanic	**-0.062 (0.019)**
Unreported	-0.044 (0.059)
Hawaiian	-0.061 (0.142)

Controlling for gender, race and SAT score we see that black students have an FSU GPA that is 0.249 points lower than white students, which is a smaller gap in performance compared to when SAT score is not controlled for (Table 5b). Cambridge AICE students achieve, on average, 0.118 higher on FSU GPA than IB students, after controlling for race, gender and SAT score. There is also a smaller gap in performance between Asian and Hispanic students compared to white students, given equivalent SAT score and after controlling for gender, than if SAT score is not considered.

Table 5b: Effect of Gender and Race (given the same SAT scores) on FSU GPA

Base – Cambridge AICE, white	Regression Coefficient (Standard Error)
AP	0.021 (0.055)
IB	**-0.118 (0.057)**
no credit	**-0.343 (0.053)**
Black	**-0.249 (0.020)**
Asian	**-0.091 (0.033)**
Native American	0.092 (0.075)
Hispanic	**-0.047 (0.019)**
Unreported	-0.060 (0.059)
Hawaiian	-0.044 (0.141)

Discussion

The study has explored the link between high school quality (in terms of the educational program followed) to first-year university academic achievement using data supplied by FSU. The primary purpose of the research has been to highlight the predictive power of Cambridge AICE, and other students' characteristics in terms of preparing students for university and predicting freshman student performance at university.

The foregoing analysis has enabled researchers to test a number of hypotheses. The models show that following an examination program results in, on average, a better GPA than not following any extra credit.

In particular, the study has revealed that:

- there is no evidence of any statistical difference between Cambridge AICE and AP students on all of the tests carried out

- after controlling for SAT score, Cambridge AICE students achieve a higher GPA, on average, than IB students and students having no extra credit

- after controlling for gender and SAT score, Cambridge AICE students achieve a higher GPA, on average, than IB students and students having no extra credit

- after controlling for race and SAT score, white students achieve a higher GPA than black, Asian and Hispanic students. Cambridge AICE students achieve a higher GPA, on average, than IB students and students having no extra credit

- after controlling for gender, race and SAT score, Cambridge AICE students achieve a higher GPA, on average, than IB students and students having no extra credit.

Study Limitations

The focus of the research has been a case study. Although a case study methodology is not without its criticism (being a bounded investigation which suggests that outcomes are not readily generalizable), "compared to other methods, the strength of the case study method is its ability to examine, in-depth, a 'case' within its 'real-life' context" (Yin 2006, 111). Its adoption, therefore, is justified as a mode of situated inquiry, favoring uniqueness over generalizability.

The size of the data set was large—more than 8,500 students. This means the significance we can attach to the findings is increased. Even where the subsets were small—for example, of Cambridge AICE students there were 144—they were still sufficiently large for the analyses to be carried out. There were some subsets that were small, for example Native American and Hawaiian, which increases the risk of Type II errors. (This is the error of failing to observe a difference when in truth there is one—a false negative).

A common challenge in studies of this type is controlling for selection bias. The choice of educational program is not necessarily random. High schools have different characteristics and in mixed Cambridge/non-Cambridge high schools students may have a choice. Students also may choose a high school based on its use of program. It is not clear what determines the choice of acceleration mechanism. Is choice of educational program influenced by type of high school, extrinsic and intrinsic motivational aspects, institutional ethos, affective characteristics, parental status, socioeconomic constraints? Clearly information of this kind would enhance our understanding of future predictive validity findings.

Future Work

Further multilevel modelling work will include investigation of other variables that may explain student performance. One such measure of success relates to university enrollment status (as of the second fall after high school graduation), as well as university retention, that is, re-enrollment in a second year at the same institution (Robbins, et al. 2006). Other measures for consideration might include class type (whether Cambridge students do better with certain types of classes) or if certain behavioral measures, such as engagement

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The foregoing analysis has enabled researchers to test a number of hypotheses. The models show that following an examination program results in, on average, a better GPA than not following any extra credit.

It is not clear what determines the choice of acceleration mechanism. Is choice of educational program influenced by type of high school, extrinsic and intrinsic motivational aspects, institutional ethos, affective characteristics, parental status, socioeconomic constraints?

==with research or study abroad, may be enhanced.== Apart from the freshman year cumulative GPA measure of achievement, other university performance outcomes could be explored, for example, four-year cumulative GPA scores; freshman year attrition rates; and four-year graduation rates. Additionally, it would be informative to compare SAT critical reading and SAT mathematics scores in the above analyses, as there is some evidence that one is a better predictor of college success than the other.

All of the variables used for the above analyses come from university admission records. Student transcripts from the administrative archives of the university provide information about university career (type and number of exam passed, frequency of study, credit hours, etc.) and data relating to some characteristics of the high schools attended (type of school, final grades). However, a questionnaire given to students when they enter university would enable the collection of additional information on the students' characteristics such as reasons for choice of educational program and familial socioeconomic status.

A valuable, longitudinal exercise would be to track an entire cohort of Cambridge students from one particular high school through to final year of study. Questionnaire surveys together with interviews throughout the duration of an AICE program of study could be undertaken in order to determine extent of workload, attitudes to course/assessment and teachers'/students' perceptions of the course. This would be accompanied by follow-up interviews with students at university, the findings from which could be triangulated with GPA scores achieved at the end of the first year of undergraduate study and also at graduation.

Given the smaller numbers in the AICE, AP and IB groups, the case study nature of the research and the possible presence of unknown confounding variables between groups it would be unwise to draw conclusions about the relative predictive strength of the three acceleration programs. Further work will be required to collect more data from FSU and other US universities. Cambridge has already obtained considerably smaller datasets from the universities of Maryland, Virginia and Michigan and the process of data collection is expected to continue over time.

Before leading a research team in the area of mainstream international examinations, **STUART SHAW** worked on a range of Cambridge ESOL products with specific skill responsibilities for writing. He is particularly interested in demonstrating how Cambridge Assessment seeks to meet the demands of validity in their tests.

A background in applied mathematics, **CLARE BAILEY** obtained a Ph.D. in mathematical modelling from Loughborough University, UK. She currently performs analysis and validation on a range of ESOL examinations and is interested in how numbers and data can be used to reveal an underlying picture of behavior.

	UK				US			
AGE	TYPE OF INSTITUTION	YEAR	MAIN EXAMINATION	COMMENTS	TYPE OF INSTITUTION	GRADE	MAIN SUBJECTS/ EXAMINATION	COMMENTS
14-15	SCHOOL	10		First year of GCSE/IGCSE course	HIGH SCHOOL	9	5 core subjects plus electives	• Students gain a Diploma in G12. • Credits for core and elective studies. • Minimum number of credits needed; in Florida 24 • Many G11/12 pupils on Advanced Placement (AP) or Dual Enrolment (DE) as part of the credits • SAT taken in G11 and again in G12 if not good enough
15-16	"	11	GCSE/IGCSE (6-11 subjects)	Vocational courses also possible	"	10	5 core subjects plus electives	
16-17	SIXTH FORM or COLLEGE	12	AS (4-5 subjects)	Entry based on good grades in 4/5+ GCSEs/ IGCSEs	"	11	5 core subjects plus electives	
17-18	"	13	A2 (3 subjects)	The 'best' three AS subjects	"	12	3 core subjects plus electives	
18-19	UNIVERSITY	FIRST	First Year	Entry based on AS/A2 grades or points equivalent.	COLLEGE	FRESHMAN	LIBERAL STUDIES	• Entry based on High School grades converted into GPA plus SAT score (plus in Florida community service). • They apply before receiving their Diploma • Offer based on minimum GPA plus SAT scores in G12 • ~20% of students go to college
19-20	"	SECOND		"	"	SOPHOMORE	ASSOCIATE DEGREE	
20-21	"	THIRD	BACHELOR DEGREE	"	"	JUNIOR		
21-22	"	ONE	POST GRADUATE	Entry based on good first degree	"	SENIOR	BACHELOR DEGREE	

* IGCSE is the international counterpart of GCSE. As with GCSE, IGCSE is also available to candidates in the UK

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POLICY ANALYSIS

Chronic Absenteeism: A key indicator of student success

ALYSSA RAFA

For students to succeed academically, they must be present and engaged at school. Nationwide, approximately 6.8 million— or one in seven—students miss 15 or more days during the school year.[2] By most definitions, these students are considered 'chronically absent.' Research shows that

NATIONWIDE, APPROXIMATELY ONE IN SEVEN STUDENTS MISSED 15 OR MORE DAYS OF INSTRUCTION IN 2013-14.[1]

chronic absenteeism can affect academic performance in later grades and is a key early warning sign that a student is more likely to drop out of high school.[3] Several states enacted legislation to address this issue, and many states are currently discussing the utility of chronic absenteeism as an indicator of school quality or student success (SQSS) in their accountability systems under the Every Student Succeeds Act (ESSA). This policy brief provides information for policymakers and state education leaders on the research, key issues and policy options available to address chronic absenteeism and improve attendance.

Understanding Chronic Absenteeism

States use several measures to track student attendance, including average daily attendance (ADA), chronic absenteeism and truancy. ADA refers to the percentage of students who attend school each day and is widely used by states to demonstrate attendance. ADA figures do not, however, reveal whether absences are concentrated among a small group of students with many absences, or dispersed amongst a larger number of students with fewer absences. As a result, ADA may mask chronic absenteeism problems because it will not identify students with excessive absences.[4]

While ADA is defined very clearly, definitions of chronic absenteeism vary. For purposes of data collection and reporting in the Civil Rights Data Collection, the federal government defines chronic absenteeism as missing 15 or more days of school per year. State definitions differ; some states base

Chronic absenteeism is most prevalent among students in poverty, students with disabilities, students of color, students who are mobile and students who are involved in the juvenile justice system.

Several states are using chronic absenteeism as an indicator of SQSS in their ESSA state plans.

WHAT'S THE DIFFERENCE?*

Average Daily Attendance A measure of the percentage of students in attendance each school day.	**Chronic Absenteeism** A measure of how much school a student misses for any reason— including excused, unexcused and discipline-related absences.	**Truancy** A measure of a student's unexcused absences only.

*While official state definitions vary, the definitions provided reflect the common understanding of each term.

the definition on the number of days missed, while others define it in terms of percentage of time missed. For those states with percentage thresholds, chronic absenteeism is generally defined as missing 10 percent or more of the school year—approximately 18 days—depending on the length of the school year.[5] While these varying definitions can create difficulties in data comparison and analysis, at the root of *all* definitions is the common understanding that chronic absenteeism includes all days of missed instruction, regardless of the reason.

Truancy measures a student's unexcused absences— omitting absences that are excused and/or related to disciplinary measures. Due to a growing body of research that suggests missed instructional time inhibits student success, regardless of the cause of absence, some states have started to use chronic absenteeism as a primary measure of attendance. Additionally, ESSA now requires states to collect and report data on chronic absenteeism in their annual report cards.

Who is Chronically Absent?

High school students with **disabilities** are **1.4 times** as likely to be **chronically absent** as high school students without disabilities. Compared to their white peers in elementary school, **Native students** are **1.9 times** as likely, and **black students** are **1.4 times** as likely, to be **chronically absent**.

While chronic absenteeism affects students from all backgrounds at all grade levels, data indicate that some student groups are disproportionately affected. Chronic absenteeism is most prevalent among the youngest and oldest students, particularly those who already face significant academic challenges, including students living in poverty, students with disabilities, students of color, students who are mobile and students who are involved in the juvenile justice system.[6] These student groups are often targeted with efforts to close the achievement gap, but unless such students are present and engaged, the impact of those efforts will likely be diminished.

Why are Students Chronically Absent?

Students miss days of school for a host of reasons. Research studies indicate that students missing 10 percent or more of the school year typically struggle with various barriers to attendance. In addition to the demographic factors mentioned above, these barriers may include, but are not limited to: poor health, family and work responsibilities, limited transportation options and unsafe routes to school, bullying and other safety issues, homelessness, ineffective school discipline, undiagnosed disabilities or disengagement from the school system. It is challenging to collect data on why students miss school, which impedes efforts to determine the root cause of chronic absence. However, developing a better understanding of these potential causes could inform more effective interventions.

The Link Between Chronic Absenteeism and Student Success

Chronic absence is a proven sign of academic risk, as students who miss school are less likely to meet key academic milestones. Further, since students who already face significant academic challenges are disproportionately affected, persistent chronic absence has the potential to exacerbate the achievement gap. There is great potential to make headway in closing that gap, improving graduation

rates and providing a higher-quality education to all students, if issues of chronic absenteeism are addressed effectively.

Evidence from several state-specific studies suggests that, even as early as preschool, chronic absenteeism is related to lower academic achievement.[7] Students who are chronically absent in kindergarten and first grade are much less likely to achieve reading proficiency by third grade.[8] By the sixth grade, chronic absenteeism becomes one of the primary indicators that a student will drop out of high school;[9] a study in Utah showed that students who were chronically absent for any year between eighth grade and twelfth grade were more than seven times more likely to drop out.[10]

The consequences of chronic absenteeism can persist through higher education and adulthood. High school drop-outs are more likely to experience poverty and diminished health, and have an increased risk of being involved in the criminal justice system.[11] Beyond high school, chronic absenteeism can predict lower levels of persistence and success in college.[12]

State Action to Address Chronic Absenteeism

Research on the effects of chronic absence on student success has drawn the attention of policymakers and state education leaders throughout the nation. Many states have enacted policies to address chronic absenteeism in recent years. State action can be categorized into four general areas: attendance improvement plans, public awareness initiatives, data usage and early warning systems, and school improvement efforts.

State Plans to Guide Attendance Improvement

To spur better attendance, some state leaders instituted requirements for the development of attendance improvement plans and attendance monitoring teams.

- In 2015, policymakers in **Connecticut** enacted legislation aimed at reducing chronic absenteeism at the local level by requiring the establishment of district and school attendance review teams where rates of chronic absenteeism are high. The legislation also required the Connecticut Department of Education to develop a Chronic Absenteeism Prevention and Intervention Plan for use by local and regional boards of education.[13]
- Similarly, **Indiana** enacted legislation in 2013 requiring that the Indiana Department of Education provide resources and guidance to school districts concerning evidence-based practices and effective strategies to reduce absenteeism. This guidance includes an overview of the research on the predictors and effects of student absenteeism, as well as information on effective, research-based interventions.[14]
- A 2016 **Oregon** law requires the Oregon Department of Education to develop a state plan to, in part, provide schools and school districts with guidance and best practices for tracking, monitoring and addressing chronic absences.[15]

Public Awareness Initiatives

Another strategy states use to combat poor attendance is to increase public awareness of the problem. While several public awareness campaigns revolve around Attendance Awareness Month each September, some states institute year-long strategies to raise public awareness of poor attendance.[16]

- In addition to working directly with districts to reduce absenteeism, the **Arkansas** Make Every Day Count initiative, led by the Arkansas Campaign for Grade Level Reading, releases public service announcements on local radio stations and provides messaging tools–including handouts, buttons, banners and posters–to districts to reinforce the importance of attendance.[17]
- The Every Student Present! campaign in **New York** is a partnership between government, non-profit and educational organizations targeted toward school administrators, parents and community partners that aims to shed light on how chronic absence impacts student success. The campaign includes efforts to publish articles in education membership organization

publications, distribute informational materials, collaborate with youth advocacy organizations and develop a website to help local groups systematically address chronic absenteeism.[18]

■ In **Utah**, Voices for Utah Children leads a public awareness campaign focused on educating stakeholders about the relationship between attendance and achievement. This campaign is centered around Attendance Awareness Month and aimed at the state's teachers' union, parent teacher association, elected officials and community leaders.[19]

Data Usage and Early Warning Systems

Federal law now requires that states collect and report data on chronic absenteeism. States, schools and districts can use that data to identify problems of chronic absence and intervene as needed. The U.S. Department of Education defines an early warning system as "a system based on student data to identify students who exhibit behavior or academic performance that puts them at risk of dropping out of school."[20] Schools that implement early warning systems often use data to track attendance, behavior and course performance indicators. These indicators trigger interventions and provide a mechanism to identify those students who may be off track. There are several examples of states that use chronic absence data effectively and/or have incorporated measures of chronic absence into their early warning systems.

■ **Hawaii** provides on demand access to chronic absenteeism data at the school level and designates school officials with access to a list of students who miss more than 5 percent of the school year. This data is incorporated into the risk measures used in the state's early warning system.

■ The **Massachusetts** Early Warning Indicator System collects a wealth of data on students in first-12th grade and provides information to districts about whether their students are on track to meet their academic goals. Student attendance is included as an indicator for evaluating whether students require an intervention.[21]

■ The **Rhode Island** Department of Education includes information on chronic absenteeism for the state, districts and public schools as part of a publicly accessible, user friendly data resource called InfoWorks.[22]

■ The **Virginia** Early Warning System monitors student progress by tracking several warning signs, including 10 percent absenteeism in the first 20 days of school, in the first grading period and over the entire year.[23]

School Improvement

The strong link between chronic absenteeism and poor academic performance led some states to require this measure in the school improvement plans of low-performing schools. Many of the previously mentioned state guidance plans were developed with this effort in mind.

■ As part of their 2013 chronic absence legislation, **Indiana** required that schools with a B grade or lower include a strategy to reduce absenteeism in their school improvement plan.[24]

■ As part of efforts to improve third-grade literacy, **Iowa** now mandates that school districts include measures of chronic absenteeism in elementary schools in their school improvement plans.

■ **New Jersey** added chronic absenteeism to its latest school performance reports, and any school with more than a 6 percent chronic absenteeism rate is advised to pay closer attention to attendance trends.

■ In **Virginia**, high schools identified under the state accountability system as "in need of improvement" are required to use the Virginia Early Warning System to monitor whether students are on track to graduate.

ESSA and Chronic Absenteeism

ESSA requires that annual state report cards include the chronic absenteeism information submitted for purposes of the Civil Rights Data Collection. ESSA also provides increased flexibility to states to incorporate chronic absenteeism directly into state accountability systems as one indicator of SQSS. Finally, ESSA provides flexibility to school districts to use their Title II professional development fund allocations

to train staff on issues "related to school conditions for student learning," including chronic absenteeism.[25]

ESSA Accountability Systems

As a part of state accountability systems, ESSA requires five indicators: four specified academic indicators and one measure, chosen by the state, of SQSS. Taken together, this accountability structure is intended to provide a more holistic measure of school performance.

The SQSS indicator must be given less than "substantial weight" in accountability calculations, with the four other measures receiving "much greater weight" in the aggregate.[26] Research suggests that chronic absenteeism serves as a good measure of school performance under accountability systems because it is measurable, it provides meaningful differentiation between schools and because reductions in chronic absence are linked to improvements in academic achievement. Chronic absenteeism is a measure that meets the requirements of an SQSS indicator and because ESSA requires reporting of chronic absenteeism in state report cards, states that use this measure for SQSS should have the data readily available.

Under the No Child Left Behind (NCLB) Act, states could apply for waivers to customize their accountability systems, and a few states chose to use chronic absenteeism as a measure of school and student performance under those waivers.[27] For example, **California**'s CORE districts received a federal waiver and created the School Quality Improvement Index, including chronic absenteeism as one of the five social-emotional and culture-climate factors.[28]

Policy Considerations

- ▪ **Adopt a standard state definition of chronic absence.** Varying definitions create unnecessary difficulties in data comparison and analysis. Research suggests that a definition using a specified percentage of missed

instructional days is preferable to one using a specified number of days, because a percentage threshold promotes earlier identification of students to trigger intervention.[29]

- ▪ **Use data effectively** by collecting longitudinal attendance data, calculating chronic absence rates, breaking the data down by sub group, and providing schools and districts with the ability to target resources and interventions based on those data. Consider incorporating chronic absenteeism data into early warning systems to provide timely interventions to at-risk students.[30]
- ▪ **Consider incorporating chronic absenteeism into ESSA-required state accountability plans**, as research shows that improvements in attendance boost efforts to close achievement gaps. Incorporating this measure will encourage schools to adopt and implement effective interventions to reduce chronic absenteeism. This measure meets the law's requirements, is closely linked to student achievement and is valid and reliable.[31]
- ▪ **Use Title II training funds** to train school personnel in addressing issues related to school conditions for student learning, including chronic absenteeism.[32]
- ▪ **Use coordinated and cross-sector approaches** to understand and address the root causes of chronic absenteeism. States may consider creating an inter-agency task force or commission to determine how resources and information can best be leveraged across sectors. Key partners in addressing this issue include education departments, health departments and organizations, homelessness organizations, children's advocacy organizations and juvenile justice departments.
- ▪ **Encourage schools and districts to institute parental engagement initiatives.** Research suggests that low cost communication with parents—including a simple mailing—can help reduce absenteeism. A Harvard study showed that a single mailing to the parents and guardians of chronically absent students in Philadelphia improved attendance in all grades K-12.[33]

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